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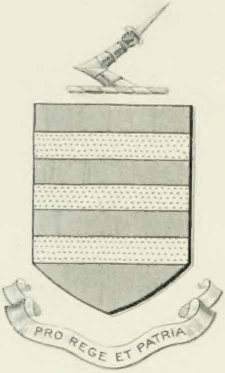

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THE JOURNAL

OF THE

American Medical Association

A MEDICAL JOURNAL CONTAINING THE

Official Record of the Proceedings of the Association, and the Papers Read at the Annual
Meeting, in the Several Sections, together with the

MEDICAL LITERATURE OF THE PERIOD

Edited for the Association under the Direction of the Board of Trustees

BY

GEORGE H. SIMMONS, M.D.

VOLUME XXXIV 1

JANUARY — ~~JUNE~~ MARCH

1900

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CHICAGO
AMERICAN MEDICAL ASSOCIATION PRESS.
1900

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The Journal of the
American Medical Association

Vol. XXXIV CHICAGO, ILLINOIS, JANUARY 6, 1900. No. 1

Original Articles.

APPENDICITIS FROM A MEDICAL STANDPOINT.*

BY I. N. LOVE, M.D.
Ex-president Mississippi Valley Medical Association; President American Medical Editors' Association.
ST. LOUIS.

Every appendix vermiformis, healthy or diseased, is a law unto itself. As its anatomy varies so also does its pathology. McBurney's is not always the only point at which to look for the appendix. It may deviate to the left, up or down, in fact it has been found in almost every region of the abdomen, and I once saw a man who, having, after a long illness, passed fecal matter mingled with the urine from his bladder, was operated on for supposed prostatic abscess and recto-urethral fistula without avail. A suprapubic operation revealed a previous appendiceal abscess, the appendix having rested on the bladder, adhesions occurred and ulceration into the bladder followed. None but the experienced would have dreamed of looking here for an appendicitis.

Indeed, we must remember that the various parts of the human anatomy vary as widely as do individuals, viewed from any standpoint. The primary necessity for a case of appendicitis is to have a physician in charge who can make a prompt diagnosis. It may be said that this is the case in all forms of disease, but it is more so for the successful management of appendicitis than for almost any other lesion.

Let us all remember that every case of abdominal pain, cramps or pain in the intestines is a possible appendicitis; that any history of a previous typhoid fever, inflammation and congestion of the bowels or ovaries, and peritonitis is a possibly unrecognized appendicitis, and that every victim of indigestion, particularly intestinal, is on the verge of appendiceal inflammation at all times, particularly if he eats to excess or goes on a debauch. Let us keep in mind too that the victim of la grippe, the uric acid diathesis, and he who worships at the shrine of the "Three L's"—laziness, luxury and lust—is prone to the disease under consideration as well as the athlete. Appendicitis has been classified as catarrhal, ulcerative and perforative, but it is well to realize that an attack is inflammation of the appendix and it is impossible to draw sharp lines of distinction.

We physicians must learn, and we must teach the fact to the laity, that an attack of indigestion, cholera morbus, diarrhea, accompanied by pain in the abdomen, intestinal cramps, etc., must be treated intelligently along the lines of helping Nature to get rid of offending material, always recognizing pain as Nature's signal that something is wrong, and that it is our duty not to cover up and mask the sign but to coax and coddle it by simple means, securing its help in locating its cause.

I do not hesitate to say that the physician who would administer sedatives or pain-killers to a patient before making an approximate diagnosis, even though it demanded an all-night visit, should be condemned as much as for dosing and deserting a woman in labor, without making the examination necessary to determine the position of the child or the stage of the labor, with a view to obtaining his own quota of sleep. The patients to whom I have referred are mistreated unless the attendant secures a thorough clearing out of the bowels—at least of the colon and stomach—before applying remedies which check peristalsis, and this can be best and most easily accomplished by means of hot water used freely internally, from both directions, and externally in the form of a hot all-over bath or the hot wet-pack. The stomach may be well washed out by the drinking of one or two pints of hot water, or by the stomach-tube; as water is ejected and the washing is complete; another pint or two may be introduced, and quiet enjoined on the patient, with the head low, an ice-cloth to the mouth, a mustard plaster over the "pit of the stomach," will result in the water's retention; stomachic tranquillization will follow, and pyloric relaxation will soon convey the water into the bowel. If now repeated, large high-up enemas—and no syringe is complete without a long rectal tube—should be given, one-half gallon, more or less, of hot water freely mixed with soap; the water to be 101 F.; there will be a pronounced peristaltic wave of all down the line, and irritating matters, undigested food, ptomains, etc., will be freely carried out, and whether we have a case of appendiceal trouble, beginning typhoid fever or what not, our patient is in better shape. A colon and ileum loaded with fecal matter is a good riddance, no matter what we have before us. Lavage of the colon or free flushing will start the current from the stomach downward.

As evidencing the value of colon lavage, Bidder, Schmidt, Zolesky, Rosenberg, Krull, Lowenthal, Barlura and others have clinically reported that the flow of bile, urea and, indeed, of all the secretions, is greatly increased. The eminent and painstaking specialist in gastro-intestinal disease, Dr. Fenton B. Turck, of Chicago, after numerous careful experiments and laborious effort in the treatment of the abdominal viscera through the colon in a large number of patients, has proven that the high-up introduction of water of a temperature of 131 F.—owing probably to the favorable arrangement of the nervous mechanism and the reflexes of the colon—into the colon, increases the blood-pressure; the kidneys are stimulated—elimination of urea almost uniformly doubled—hepatic function increased, greatly increased leucocytosis induced, all the effects resulting in a general accelerated metabolism, oxidation and elimination; in short, the result is general cell activity.

Surely an all-night séance, if need be, with the acutely ill, resulting in a clearing away of fermenting food, etc., cumulated fecal matter, ptomains, etc., whether the patient be in the incipient stage of acute appendicitis, typhoid fever, scarlet fever or it matters not what, places him in a position more favorable to a mild course and prompt recovery.

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*Read before the Mississippi Valley Medical Association, Chicago, Oct., 1899.

I feel that I am justified in ascribing the uniformly favorable termination of my intestinal cases for several years back to the fact of having given them the benefit of complete, prompt intestinal evacuation by means of repeated colon lavage. I have found it well in some to administer broken doses of calomel triturates—$^1/_8$ gr. every hour, washed down by a glass of hot water, for seven to twelve hours, followed by half a tumbler of a saline water; this is in conjunction with the colon lavage.

We must not take the word of the patient or his attendants regarding the evacuation of the bowels or anything else pertaining to the case, until we have corroborated the evidence by all our five senses. After our diagnosis is made, at least approximately—and I claim that [illegible] should remain with our patient until this is done—we may be safe in giving some potent pain-reliever if the suffering demands it, but opium should not be administered in any form—the same as in administering chloroform or ether—until radical interrogation of the kidneys and general idiosyncrasy establishes the fact of its safety; it should not be given at all unless we are absolutely sure that we are safe in ruling appendicitis out of our calculations.

Three deaths definitely, and possibly more—observed within a year—from uremia, superinduced by morphin in cases of acute indigestion, complicated with crippled kidneys which were not previously suspected, emphasize in my mind the point made above. Had the hastily summoned physicians met the emergency properly, they would have made their call an all-night investigation instead of a hasty and reckless use of the Mephistophelean morphin in the hypodermic syringe. At this point let me urge with all the emphasis at my command that the hypodermic syringe is mightier than the sword in the hands of the ignorant, the lazy, the thoughtless or the backboneless doctor. After the alimentary canal has been entirely emptied—and not till then—we can thoroughly investigate it, and the complete intelligence and acute sensibility of the patient is essential to this investigation. On general principles it is very exceptional when a victim of abdominal disease, medical or surgical, is not better, either before diagnosis or after, without opium than with it.

Let it not be forgotten that the pain of an appendicitis may be anywhere in the abdomen, and it is often least marked at the real site of the appendix—at least in the beginning. We all know how hard it is to definitely locate the intense pain of an ulcerating tooth, and we must keep in mind the scattered reflexes of the abdominal canal. It is natural for the referred pain [illegible] to appear near the navel or in the vicinity of the stomach, and not above the diaphragm, as it is in gall-bladder and bile-duct disturbances, nor near the end of the pelvis or the thigh, as in irritation of the urinary bladder. [illegible] In Morris' [illegible] ganglia are excited to the point of radical appendicitis [illegible] as disturbed by a stone in the bladder. Palpation with the fingers of both hands, [illegible] the abdomen, is the only method for obtaining evidence in a case.

Robert T. Morris, the first authority in America on appendicitis, relates in some of his literature the remarkable case of one fellow-student in college days, who was instructed to examine a woman in the dispensary service. Morris says: "My companion introduced his finger into the vagina, and after poking about for a while informed the instructor that the uterus felt just like the middle ounce of mush in a pailful of mush. I have little doubt that to-day this man can make out not only the different parts of the uterus on palpation, but also the ovaries and oviducts, and perhaps the ureters if he has taught his finger tips with as much care as he would employ in teaching a setter pup to retrieve birds."

I have been amazed almost uniformly, when called to cases under the care of some medical attendants, to find that they have not made a thorough investigation by first emptying the colon and then palpating the abdomen with one hand, with the forefinger of the other introduced up through the rectum. Here let me urge a more liberal education of the sense of touch on the part of the physician—it took me ten years to unlearn the excessive importance of the fever thermometer. It is often valuable, but the pulse is a hundred-fold more so, whether the lesion be abdominal, pulmonary, cerebral or cardiac, and I fear the clinical thermometer has been largely responsible for the absence of pulse-knowledge in our profession during the last two or three decades. Let us cultivate the *tactus eruditus* which will enable us to almost close our eyes and make a good diagnosis. We may take points from those specially skilled diagnosticians in our profession, who have made the affliction of blindness intensify their sense of touch and hearing to such a degree as to develop them almost to the point of being wizards of diagnostic wisdom. The eminent Dr. Babcock, of Chicago, is a shining illustration of this thought.

I have studied the question under discussion carefully for many years, but three years ago a loved one of mine fell a victim to appendicitis, and for eighteen months suffered constantly, during which time I practically relinquished work, giving attention to this case. I very naturally devoted myself to the special study and observation of the subject.

I do not propose in this paper to consider or quote the views of other men—and there has been no line written nor thought enunciated that I have not carefully read and weighed—but my own conclusions, and I must say that they are not of a character to make me proud of my profession as a whole, viewed from the standpoint of appendicitis. It appals me to recall the advice freely given to me by men very prominent in our profession, against surgical interference, some going so far as to say that they had never had a patient operated on and had never lost one.

No physician's dictum is worth anything on the subject unless he has been a persistent student and placed himself in a position to have exhausted the entire literature of the subject and to have seen many hundreds of cases, viewing them calmly, medically and surgically without prejudice, keeping in mind the thought in relation to the victim: "Put yourself in his place." Prominent authority has well said: "An immense amount of bad advice is given to appendicitis patients by physicians who are not informed, and who do not know the contents of the text-books of our authorities upon the subject. It is not the fault of physicians, but of society in demanding of physicians so much information upon so many subjects that it is a physical impossibility for them to cover the ground." This may be true, but society does not demand that a physician should assume to know things of which as a matter of fact he is completely ignorant. God help the family or the patient under the care of a universal specialist who is so busy that he can never go to a medical society and get the benefit of other men's views and experiences, and have the helping effect of criticism!

Moving as we do, in a narrow groove, going from house to house, where our word is law and few dare say nay, we run great risk of becoming dogmatic autocrats, saturated with the idea that we know it all. I sometimes think it would be fortunate for us and for humanity, as well as science, if every medical case had two physicians instead of one. Then, as in legal cases, where there are always two attorneys pitted against each other, each would be stimulated by the other to his best. Indeed, considering the supernumerary physicians in every community there would be fewer idle ones under such conditions.

Unfortunately for us and for our patients, we as it is, are counsel, judge and jury, and sometimes executioner, I fear. I believe a law should be passed that no capital operation should be performed until at least three to five experienced and well-equipped practitioners shall have passed on the case—the major number to be established surgeons—and no two of them in the same medical college. I believe further that every hospital, private as well as public, should be rigidly inspected by legalized competent authority, and that not only should every licentiate to practice medicine be made to pass a proper examination, but that every practicing physician should have to give evidence every five years of his ability to continue in the work. Unless a physician be especially skilful and dexterous in the handling of tools, the knife, the scissors, the needle and thread—a good mechanic, an artist—he ought not to do surgery of any kind. A good surgeon with a deft, delicate hand had far better graduate from a manual training school, serve a short apprenticeship to a tailor, a carpenter, a sculptor and a draughtsman, than to have spent years with the classics and delving into bacteriologic lore. John Hunter, Ephraim McDowell, Marion Sims, Lawson Tait, Joseph Price and Robert T. Morris are striking examples of born surgeons, plus work. And, by the way, we may well ask if we are not "stuffing" too much in our four or five years at medical college, and losing much by relinquishing the old-fashioned apprenticeship of three or four years as understudy to a good preceptor.

If these are the requisites for the general surgeon, they are doubly so for the one who does abdominal work. Except in rare cases the general physician should not do surgery, and the general surgeon should not do pelvic or abdominal surgery any more than he should do eye surgery. In sparsely settled neighborhoods, for a little time to come, in emergencies, the physician should be equipped to do anything and everything; but rapid transit is eliminating distance so fast that all will soon be in reach of the special skill of those in large centers. As a matter of fact there is no reason why the country surgeon, if well endowed for the work, should not utilize the numerous post-graduate facilities open [illegible] for every demand. Lawson Tait, the provincial surgeon of England, Ephraim McDowell and Marion Sims, the country surgeons of America, should stand as examples to all rural workers as to their possibilities. In every community, self-interest and humanity demand that the physicians get together and take stock as to their respective capacities and divide up the work. There is not a section in America to-day where there is not a liberal supply of physicians, and no one man need be so overcrowded as not to do good work. We must all remember that the man in our profession who is in the work for the money that is in it is unworthy. The misfortune is that the numerous "wild-cat medical colleges" of the land, which have inveigled the untutored and ill-prepared from a thousand hills into the realm of medicine, are largely responsible for many evils in our guild.

Unfortunately there are too many who are surgically ambitious, not that they are specially graceful and well equipped along these lines, but the Bob Sawyer spirit in them prompts a love of the chances for the grand-stand appeals to the groundlings—the "vulgar herd" who think that the man who can carve and leave his trail in blood is the really great man in the profession. As a matter of fact we should realize that this same vulgar spirit of the mob prompts them to idolize the brutal victor in a prize fight or enjoy a hanging, and we should more of us determine to devote ourselves to the less appreciated, but really more skilful field of diagnosis, therapeutics, physiology and pathology, and leave the realm of surgery to the born mechanic-artist, and give him our earnest co-operation and support. I sometimes fear that the prospect of larger fees allures men into the domain of surgery, men whose fingers are all thumbs, and who are as awkward in handling the scalpel as "the Man with the Hoe" would be in wielding the poet's pen, the painter's brush or the sculptor's chisel.

This brings me to the relation of the specialist in internal medicine and the surgeon, which is surely a delicate one. We should demand of the surgeon, if he expects our support, that he be worthy of it by first of all fitting himself by knowledge and experience gained for the work, under master surgeons, and after not less than ten years of general work we should demand absolutely—and it takes ten years to develop a man's special fitness—that he limit himself to surgery. How else can we co-operate? Surely if he accepts our case of surgery sent to him as a surgical expert, he should decline our patients who go to him for medical service allured by the thought that our reference of cases to him announced his general superiority. Any other course is not honest but hoggish.

Furthermore, I insist that any patient under the care of a good physician, a good diagnostician, competent to know when surgical interference is demanded, and just and generous enough to give his patient the benefit of expert manual and mechanical skill, still needs the constant care of his physician along medical lines so that he should remain with the surgeon, if he be not in attendance on some infectious disease at the time, the two in conjoint care of patient and equally responsible, no visit to be made—except in emergencies— by either without the presence of the other. The physician is responsible for the diagnosis, for the selection of the surgeon, for the work as done, and is entitled to exactly the same fee as that of the surgeon if his reputation be as great, and larger if it be greater.

Indeed, in all cases, a physician, the same as a surgeon, should charge a fee for attendance, in harmony with the severity of the case, the responsibility involved, the value of the life, the ability of the patient to pay and commensurate with his own reputation. In such cases bills should be rendered synchronously and payments made equally, neither being a preferred creditor. The question of commissions cannot be discussed by honorable men, but the time has long since passed when the surgeon should deem himself the grand "Pooh Bah" and [illegible] of the profession, [illegible] the risk, very properly, of being considered a "Jack at all trades" and good at none.

When doctors and surgeons arrive at a full knowledge of not only how to spell the word reciprocity, but its full meaning and the golden rule—"as ye would that [illegible] do unto you, do ye even so to them"—as well, there will be more good [illegible] and a smaller number of poor surgeons with a goodly number of good ones, and the latter will not need to cut rates with each other for surgical operations, and make visits in large numbers in competition with medical men. Keeping in mind our duty to ourselves, to humanity and to God, there need be no trouble regarding the relations of the physician and the surgeon, but I hope I will be understood when I say that I believe the misinterpretation of our Code of Ethics protects mediocrity, general incompetence and almost criminal ignorance and recklessness [illegible]

Physicians in almost every community are passing as [illegible] protected by the [illegible] of membership in our societies—who are painfully incompetent, and in many cases they are more devoted to the discussion of our Code of Ethics than they are to science. Unfortunately nerve, audacity, secret societies, church connections and a love of lucre secure them cases for medication, manipulation and evisceration.

Reckless surgery in incompetent hands has been responsible for much of the aversion of the public to surgical interference, in many cases demanding it. Happily for physicians, their work and results from incompetence are not so apparent.

I have taken it for granted that every member of this learned body is familiar with abdominal surgical literature, and those who have made that which is authoritative have written as ideal surgeons working under proper conditions, and I take it that that is what every man who does surgery should be and can be if he tries, and if he can not, then he should abdicate in favor of the man who can.

Considering surgical interference in appendicitis to mean interference by men as capable as Tait, Price, Robert T. Morris, Reed, McMurty, J. B. Murphy, Ochs-[illegible] I [illegible] that [illegible] the earliest possible diagnosis should be made, and the appendix should at once be removed. Handled medically, the mortality is about 25 per cent., but of the seventy-five out of one hundred who recover, we can never know [illegible] have recurring attacks, and how many remain [illegible] life chronic invalids or die of other diseases [illegible]

[illegible] abdominal surgeons, I mean—the mortality announced—and I have personally observed the truth of the claims made by some of our best men—is from 1 to 3 per cent.; but even say it is 10 or 20 per cent., are we not all anxious to [illegible] of a hundred. I insist that with the light we now have and the record now made, if a surgeon makes a poorer showing there must be something wrong with his methods, and he should, in the name of God and humanity, correct them, and unless he does he should be made amenable to the [illegible] as applied to his patient, his instruments, his entire paraphernalia and his personality, should be eliminated. [illegible]

At this point let me remrk that there is either something in sepsis and infection or there is not, and if there is, no man should be permitted to attend surgical cases, or parturient women, who gives his services to cases of scarlet fever, diphtheria or other forms of real or supposed infectious diseases. With the knowledge we now have I assert—in all kindness—that the physician or surgeon who attends both infectious and surgical or obstetric cases is either ignorant or reckless, and in either case is open to charges of malpractice, and since the world is well supplied with doctors there is no emergency excuse that can be presented in extenuation.

Are we not correct in insisting that those surgeons who work in sacred regions—speaking anatomically—and where a single germ may be fatal, when elsewhere the general result would be but little affected, shall guard themselves against carrying infection, and so limit their work and husband their physical and psychic resources as to always be in such good form that their five senses, the sixth also—common sense—but most of all the seventh—moral sense—shall be acutely alert and their hands shall have their fullest cunning? The victim of excessive fatigue, drink, drugs or disease is in poor form for practicing medicine, but least of all, surgery. The half-sick doctor in charge of a patient is an epitome of the blind leading the blind, and all these points are arguments in favor of every medical and surgical worker limiting his labors and having a pride as the years pass in not doing more work but better work, and having his patrons say, "how well you do your work," not "how cheap," and realize that there will be one or more months in every year that his services are not available, as he is taking his proper vacation, recreating and seeing how the good workers the world over do their work.

I have seen surgery almost from the time I was 14 years old, and at the hands of masters, and I know well that the happy-go-lucky, careless, modifiedly maniacal manifestations of Jack the Ripperism operating seemingly for the emotional pleasure—almost suggesting the insanity of sadism—the knock-down-and-drag-out, the sloppy, unclean type of surgeon, as well as the overworked, fagged-out general practitioner, and the man who has had only limited opportunities for gaining knowledge of the best pathology and technic and securing proper practice and skill in a general way, should be called down and not permitted to invade the abdominal cavity. Too many men read the records made by the masters, then browse around for a week or ten days in some clinical amphitheater and fancy themselves full-fledged experts in abdominal work, when as a matter of fact they can not interpret the pathologic conditions they may find any more definitely than they can correct them.

In observing the work of those most successful in abdominal surgery, I have noticed that the abdominal incision was usually small—about 1½ inches—the instruments few, and few or no other hands permitted to touch the field, the material or the instruments used, and quickness of work was uniform, so that the abdominal interior was exposed the briefest possible time.

It has been my good fortune, during the past two years, to have had a goodly number of appendicitis cases under my care. In every one that I have seen *de novo*, I have made my diagnosis before leaving the house, and have always advised operation, urging it where the conditions and symptoms justified, and in all my patients where surgery has been accepted it has been successful. In cases where I felt that while an operation was indicated, yet it was not urged in order to save life, and where it was declined, I have had no deaths, but they were mostly in children, and I am not sure but that they might have been typhlitis stercoralis; though in several cases such impairment of the intestinal diegestive functions followed as to suggest the need of operation, but it was declined. It is difficult to prevail on parents—or anyone else for that matter—to have a child undergo so formidable an operation unless danger is imminent. This fact is a strong argument in favor of prompt operation where the conditions permit, rather than wait for a chance to interfere in the interval between attacks.

I have seen a number of sad cases at the eleventh hour, after several days' illness, where no diagnosis had been made until it was too late. He is a brave surgeon and an honest one who will give such an unhappy case a chance for his life. All too frequently surgery is blamed for a death which should be charged to medical incompetence. Only a few days ago a hurried summons took me to an unhappy woman with placenta previa, who was not far from death's door, having been treated for weeks with pills and potions, when the evidence that either interference or reference to a surgeon was demanded, was overwhelming. My colleague, to whom I referred her, may not be able to save her life, but he deserves all praise for the effort where the chances are so greatly against him; but what shall we say of the masterful inactivity of her medical attendant?

I have been repeatedly surprised to see patients in whom the symptoms were not urgent, temperature under 100, pulse not over 90, and yet operation revealed a gangrenous appendix, which clearly demonstrates the difficulty of determining the conditions without laparotomy. What a changed picture a few hours would have shown in these cases.

I take the following from my case book: J. M., a fine, robust fellow, aged 19, taken on Friday with pain in the bowels, sent for a physician Saturday morning, and was given opiates. He was visited again on Sunday morning, and the treatment continued. Friends called me at 3 o'clock that day. I found a pulse of 120, temperature 103.5; local and general evidence revealed a clear case of appendicitis. I tried to reach the previous physician before giving an opinion, but failed. As there was no time to lose, I advised immediate removal to the hospital and operation. This was done at 5 p.m., the suffering of the patient being intense, temperature 104.5, pulse 140. Dr. John Young Brown, a former pupil of Price, and a worthy ex-president of this Association, to whom I am under great obligations for uniformly successful service in many cases, operated, revealing a sloughing appendix, a mass of gangrenous omentum, and an abdomen full of serum and organized lymph. He cleansed the cavity with warm, normal salt solution, and drained with a wick of gauze in a rubber tube. In an hour temperature was almost normal, pulse 90, and it did not go higher. The young man was up and about home at the end of three weeks. Without the operation he would have been dead within twenty-four hours.

A series of chronic cases has come to me which is quite instructive. One will represent the class. W. B. S., a physician of marked intelligence and experience, consulted me for chronic indigestion and general ill health. I examined all his organs, by exclusion locating his trouble in his abdomen. I had my diagnosis made, but in the hope of having the evidence so strong as to be able to clearly demonstrate to him his condition, I emptied his alimentary canal by purgation and high-up enemas, soon leaving a flat collapsed abdomen, and a completely empty intestine. Without difficulty I demonstrated an enlarged tender adherent appendix, which I determined on as the long-standing cause of illness. As Morris says, "an inch and a half incision and a week and a half in bed" returned him to his professional work. But a few months have passed; he has gained considerably in weight, is the picture of health, is happy and has no "nerves." His ill health dated from a supposed typhoid fever of ten years before, when a boy—an overlooked appendicitis. The diagnosis made evident a history of repeated severe attacks of intestinal indigestion which were really recurring attacks of acute appendiceal inflammation. This case, with the others of the group, demonstrates the importance of surgical interference from a medical standpoint in these pathologic appendices which serve as reflex irritants to the alimentary canal, engendering general indigestion, ptomain poisoning, auto-infection, neurasthenia, imperiling life and making it not worth the living, aside from the surgical peril of a recurring inflammatory explosion. The surgeon was as essential to the proper management of my patient's general intestinal indigestion, from a medical standpoint, as the dentist would have been had he had a mouth full of decayed teeth.

Were I to have appendicitis in my own person, or that of a patient—with or without history of previous attacks—having determined that no chance of perforation was imminent, I would have the intestinal canal cleared out completely, as far as compatible with safety, and diagnosis definitely made along the lines suggested in the outset of this essay, the pain controlled by hot or cold applications—ice-bags, etc., but not too heavy—and by a snug, firm, abdominal bandage. Before applying the binder I would cover the entire abdomen with a sheet of oiled silk next to the skin, on top of this a layer of cotton batting. It is surprising how completely we can subdue peristalsis by these means and to the same degree relieve abdominal pain.

The absolute withholding of all food—not even sick-room slops being permitted—for several days or a week, or even longer, in some cases, will be well. Many of my colleagues recall the experience of Dr. Tanner, who fasted for nearly or quite forty days some years ago, demonstrating the possibilities in this direction. Our acutely ill patients are all the better for several days of absolute abstinence from all food. The intestine being entirely freed from undigested food, fermenting fecal matter, gas and ptomains, and nothing being eaten to re-arouse alimentary activity, surely the conditions are ideal for perfect intestinal rest.

In discussing appendicitis we must rule out of consideration those cases of typhlitis stercoralis, where there is only a mild degree of irritation or inflammation of the cecum associated with lodgment of feces, whose subjects are usually constipated, and cured within a few days by intestinal flushing, quiet and proper diet. When I hear medical men report a large array of cases of appendicitis cured medically, I am prone to think they have taken an exaggerated view of some of their cases of typhlitis stercoralis. These are not infrequently met with in constipated women, more particularly young boys guilty of errors of diet. The very fact that the majority of these terminate favorably and do not recur, as Wm. Pepper remarks, is opposed to the belief that they are all dependent on appendix disease. And yet we must be ever on the alert, for even these without marked constitutional symptoms, with almost normal pulse and temperature, have been known to develop perforating ulceration of the cecum; Fitz reports three such cases and Osler has reported two.

The truth of the matter is, the very elect can not say as readily what are the pathologic conditions present about an irritated cecum and appendix before abdominal section as a rule. [illegible] appendicitis is primarily a surgical disease, and if a special [illegible] surgeon be available in case I am attacked, I shall be operated on; if not I shall [illegible], starve, rest my intestinal canal, apply the [illegible], and let the [illegible] except [illegible] and trust to God and the *vis medicatrix Natura*.

In brief, ideal surgery—if available—with 1 or 2 per cent. mortality is better than 20 or 25 per cent. mortality under medical or expectant treatment; but the latter is to be preferred to the chances of surgical interference at the hands of average general surgeons or practitioners. Under the above plan, if my patient dies I will feel as my old friend, the late Dr. [illegible], used to say, that "I had let him die honest."

Were I ten years younger I would, on account of my strong convictions on this question, go to some of the surgeons mentioned above and become a pupil for a year or more, if necessary, providing my hand could grasp their superb technic, that I might devote my remaining years to all sides of this question. As it is, I shall continue to study and observe these interesting problems in the hope that I may be helpful in the equally important realm of diagnosis as related to their elucidation, and I trust that my co-workers will bear with me if they deem my position as here presented too radical.

OBSERVATIONS ON ASCH OPERATION FOR DEVIATION OF CARTILAGINOUS SEPTUM.*

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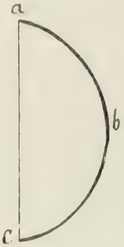
It is not so very long ago, not too long for the older ones among us to readily remember, that deviation of the septum was considered a veritable bugbear by the majority of rhinologists. The methods then in vogue to remedy this deformity were few and not generally satisfactory so as to lead to permanent results and relief of the train of symptoms produced by the more or less pronounced nasal stenosis. It is beyond the limits of this paper to enumerate all the different methods that have been devised, beginning with the compressing forceps of Adams, or even with the procedures of the older surgeons, as Dieffenbach, Bolton, Gunn, Chassaignac and many others: nor do I propose to enter into any discussion of the etiology, pathology and symptomatology of this deformity and its local and general consequences for the patient. An immense progress, as far as the relief from stenotic and other conditions is concerned, which are produced by projections from the septum of whatever nature, was made when Bosworth, in 1886, devised his [illegible] saw. He opened up an entirely new field of nasal surgery by this procedure, and it looked as if all the difficulties resulting from anomalies of the septum had been overcome at once. However [illegible] and [illegible], this did not entirely turn out as it was expected to be. There remained still that large class of cases in which the triangular cartilage was bent toward the one side or the other, or sometimes in the shape of an S toward both sides, with the one or more of the consequences of stenosis, which could not be relieved by sawing off a part. These were the cases in which most of the older methods failed, for the reason that the natural resiliency of the cartilage was not overcome. The other methods then in vogue can be divided into two groups, according to their general principle. They either attempted to simply push the curved cartilage by force into the normal position and keep it there by all kinds of devices, or they fenestrated the triangular cartilage at its most projecting portion by cutting a more or less extensive piece out of it, sometimes with preservation of the mucous membrane on one or both sides. It can not be denied that either of these methods may have been successful in certain cases, but in the majority the results were not permanent, for in principle both methods are wrong. The deviated cartilage has an enormous resiliency, which can not be overcome by simply bending it in the opposite direction and holding it there for a little while. Compare a piece of good strong watch-spring (*a*, *b*, *c*, Fig. 1), and have the two ends firmly fixed to unyielding supports (*a* and *c*), the main piece forming a slightly curved arch (*a, b, c*). Is it possible to press this spring into the straight line (*a* and *c*) and keep it there? This is not possible without breaking the spring, and thereby destroying its resiliency. And, furthermore, we all remember, from our first lesson in geometry, that between two points (*a* and *c*) the shortest is the straight line; all others are of necessity longer. Now, this applies directly to the subject under consideration. The resiliency of the cartilage must be first completely destroyed before it can be expected to be pushed into its proper place and be kept there, and this can only be done, as in the case of the watch-spring, by fracturing it and incidentally gaining sufficiently thereby to adjust the longer arch into the shorter straight line.



In my earlier days I have used the different methods one after another, and had finally adopted the method of Roberts,[1] described in 1884. It consists in the main in making a long incision with a curved bistoury along the crest of the deviation, supplementing it, if necessary, by additional incisions and then keeping the straightened septum in place by steel pins, which are introduced through the unobstructed nostril in front of the incision, then carried across it, and finally buried in the mucous membrane of the vomer. This method was more satisfactory to me than others, but was given up for the operation devised by Dr. M. J. Asch, when I became acquainted with it, because it has given me such uniformly good results and appeared to me so much in advance of every other method described at that time, that I have used it since to the exclusion of other methods. The method was originally described by Dr. Asch,[2] and modified from time to time, as described by Dr. Emil Mayer,[3, 4] and the originator himself[5]. As this method has neither in this country nor abroad become sufficiently known to the profession, as is evidenced by the fact that even text-books that have only lately appeared do not make any mention of it, it may not be out of place to describe its technic as practiced at this time.

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*Presented in the Section on Laryngology and Otology, at the Forty-ninth Annual Meeting of the American Medical Association, held at Denver, Colo., June 7-10, 1898.

† [illegible]

The instruments as devised by Asch and used at present are the following: A pair of scissors or cutting forceps. They are made in two sizes, the blades being at the distal end of two strong shanks, which curve outward from the lock and meet again in front. One blade is narrow and blunt, the other triangular and sharp. (Fig. 2.) Through this arrangement they act on the principle of the button-hole scissors. There is also made a pair of angular scissors (Fig. 3) which may be used to advantage in deviations that lie low down on the floor of the nose or in those requiring an incision downward. There are two strong compressing forceps (Fig. 4), with two long or short blades respectively. The blades have a perfectly smooth inner surface, are attached at an obtuse angle to the branches of the forceps, which form a curve between the lock and the blades proper, thus excluding any danger of crushing the membranous septum of the nose upon closure and also leaving a space of 1.5 mm. between the closed blades, thereby preventing any injury to the mucous membrane from too close approximation. There are also blunt and sharp separators (Figs. 5 and 6) to break up any adhesions that may exist between the deviation and the inferior or middle turbinate body and to detect the existence of obstructions posterior to the deviation, and to destroy them if this should be necessary. A set of [illegible] hollow [illegible] tubes, with perforated walls, completes the outfit. The original tubes (Fig. 7) were somewhat smaller—only five in a set—and more rounded; the shape and size of the present tubes (Fig. 8), with more flattened walls, and six of them forming a set, were suggested by Dr. Emil Mayer and are generally known as the Mayer tubes. They are, as experience has shown, better adapted to the purpose for which they are used and are, as I understand, in general also preferred by Asch himself.

For the operation the patient is prepared in the usual manner, as it is ordinarily performed under general anesthesia. It is needless to say that all instruments, as well as the hands of the operator, must be carefully sterilized. Asch [illegible] the [illegible] before operating with an antiseptic spray. I personally omit this, as the nasal chambers beyond the vestibulum have been proved to be free of pathogenic germs in most cases; whereas, if they should contain them, the ordinary spray would not be possessed of any germicide action. However, I always have the skin of the face, and particularly of the nose, the upper lip and of the vestibulum thoroughly sterilized by scrubbing with soft soap, alcohol and 1-1000 solution of bichlorid of mercury, with the object of reducing the possibility of contact infection to a minimum, and with this end in view insist also on shaving, especially of a moustache, as it is impossible to thoroughly sterilize this nidus of infection carriers. The operation is usually done with direct light, but may also be performed with the reflected.

As soon as the patient is completely under the influence of the anesthetic the head is well drawn over the head of the table so as to prevent any blood from entering the larynx. The blunt separator is now introduced into the narrowed nasal fossa, to sever any adhesions that may exist between septum and turbinates, and to discover the presence of posterior obstructions. If found they are opened with the sharp instrument, which is constructed after the fashion of a gouge. Should at this stage a brisk hemorrhage occur, which is however rare, it is readily controlled with an iced spray. The strong cutting scissors are now introduced parallel to the floor of the nose, the narrow blunt blade into the narrow side just over the line of greatest convexity, while the sharp blade within the concavity is just opposite the narrow edge, so that a plane drawn through their two edges would form a right angle with the plane of the septum. This is a very important rule. By now firmly compressing the handles of the instrument the blades are [illegible] into the [illegible] into the opposite side with a distinct and audible snap. The scissors are now completely withdrawn and reintroduced without delay, but in a vertical direction, and their blades pointing upward and as near as possible at a right angle with, and preferably just opposite to, the center of the line of the first incision. The second incision is then made by firmly closing the handles, leaving two incisions

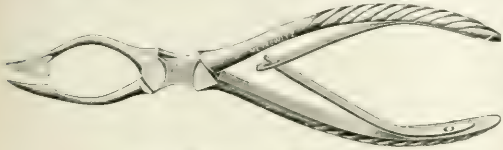
Fig. 2.—Asch's Straight Septum Scissors.

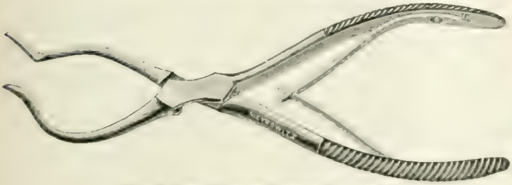
Fig. 3.—Asch's Curved Septum Scissors.

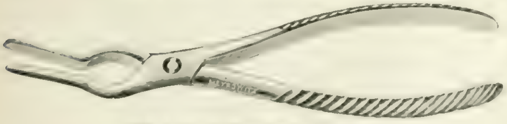
Fig. 4. Asch's Compressing Forceps.

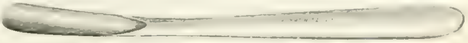
Fig. 5. Asch's Blunt Separator.

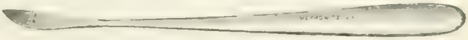
Fig. 6. Asch's Sharp Separator.

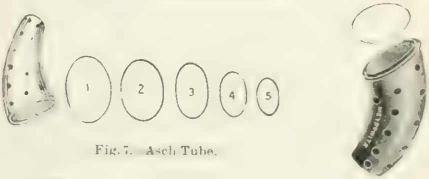

Fig. 7. Asch Tube.

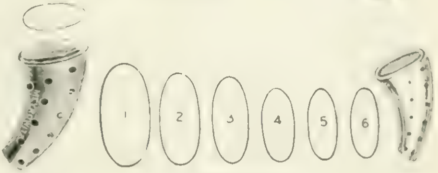

Fig. 8.—Mayer Tube.

[illegible] [illegible] [illegible], and the instrument is then withdrawn from the nose. The four segments resulting from the [illegible] [illegible] are now forcibly pressed across the median line into the concavity by the finger introduced into the [illegible] side, care being taken that they are thoroughly fractured at their base, as on this fracturing process depends the destruction of the resiliency of the deviated part of the septum, and consequently the success of the operation. The compressing forceps is now introduced, one blade in each nostril, and the segments of the septum compressed by closing it firmly, thereby not only straightening the septum still further, but also causing the broken segments to overlap each other in the concavity. (*b*, Fig. 9.) By this process of overriding, the second condition of success, in addition to destroying the resiliency, is given to shorten the longer line of the deviated to the shorter one of the straight septum. (Fig. 9.) Thus the geometric axiom that the straight line between two points is the shortest, to which reference was made, is carried out.

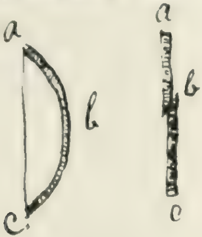

Figure 9.

By this time the hemorrhage is usually quite brisk, but is controlled to some extent by the blades of the compressing forceps. It should be understood, however, that the forceps is simply meant as a compressing forceps, and any rolling, rocking or wabbling motion should entirely be avoided, as possibly inviting serious complications. If the segments are thoroughly broken at their base by the finger, the resiliency of the cartilage is completely destroyed, and it is not necessary to seize each one of the four segments separately with the forceps and to subject them to a twisting motion, sufficient to loosen its articulation, as recommended by H. H. Butts.[6] After removal of the forceps, an iced antiseptic—or sterile—solution is sprayed in both nostrils, and a tube introduced into each side, the largest one that can be introduced into the previously stenosed side without exerting any force, and a smaller one into the other nostril, thus providing by even pressure, arrest of the hemorrhage and a support of the straightened septum. And it should here be stated that the vulcanite tubes are used exclusively as supports of the straightened septum until it has become fixed in its new position, and not to force it over to the other side. If this should become necessary the operation is not well done, and will probably be not entirely successful, and the tubes will be more or less productive of pain while they are worn.

After introduction of the tubes the operation is finished, the patient [illegible] to bed, iced cold compresses [illegible] [illegible], and after his rallying from the anesthetic [illegible] [illegible] [illegible] every half hour. Twenty-four hours after the operation the tube from the wider side is removed and not replaced, [illegible] and cold applications are continued. Twenty-four hours later the tube on the other side is removed, the nostril thoroughly cleansed with a spray, and the tube, after thoroughly cleansing and sterilizing, is reintroduced. If this process is painful, cocain is applied in 4 per cent. solution, and if it should appear that the tube is difficult to introduce or cause pain, a smaller one is selected. One should always bear in mind that the tube should just be large enough to cause no discomfort, but to fit snugly. This tube must be removed and cleansed every day, the nose thoroughly sprayed or washed out with a warm sterilized solution; and the patient is usually allowed to leave the hospital on the third or fourth day. After this the patient usually learns to manipulate the removal and reïnsertion of the tube himself, which becomes quite painless after one week, during which he should be daily seen by the surgeon; but it is usually sufficient after this for the surgeon to see the patient from one to three times a week, as the case may be, for the next four weeks, after which the tube may be finally withdrawn. The septum has now become sufficiently fixed in its new position not to longer need any support.

There are a few additional details which may be mentioned. While the secretions have an outlet through the hollow splints, it sometimes happens that they occasionally do accumulate in and behind the tube, and become thick and tenacious. I institute, therefore, in the early stages of the after-treatment, or add to the use of the spray that of the warm nasal douche, using any mild alkaline and antiseptic fluids, previously sterilized, under low pressure, the receptacle being held at the level of the head. I wish to emphasize that there is absolutely no danger to the middle ear from the nasal douche if properly carried out, *i. e., with warm water sterilized solution,* low pressure, not too much fluid at a time, head bent forward, mouth open, and the patient enjoined from swallowing while the fluid is in the nose. The relief given to the patients with the douche is very remarkable, and it also can be done while the tube is *in situ.* Before reinserting the tube I usually spray the nose with one of the liquid preparations of vaselin, containing menthol in 1 per cent. strength, and oil the tube with sterilized vaselin or olive-oil. Thus it is possible to render the patient quite comfortable at an early date. There is no doubt that granulation tissue will spring up in such a vascular organ as the nose, around, above and below the tube, sometimes even to some considerable extent. This must be treated in the usual manner and be removed either with the cold snare, or cauterized with the galvanocautery or any of the chemical caustics. This is the reason why the patient should present himself in regular intervals to the surgeon for the first five weeks after the operation, in order to enable him to be on the lookout for such occurrences. The position of the septum will not require any attention, as it will be permanently fixed, if the operation was properly done, and the tubular splints were well selected. That this latter is necessary stands to reason. The tubes—and this can not be repeated too often—are not to act as compressors, but as support; they have the rôle of the splints, tubular though they happen to be. The conditions are so variable that one should not expect that one splint, even in different sizes, could answer all purposes, just as little as the surgeon could do with any other splint of a given shape for all cases of fracture of a certain description. Experience will soon teach that the size of the splint must be properly selected, that it sometimes must be slightly altered in shape, that for instance the anterior upper rim must be cut off so as to make it slanting, or again that it must be shortened posteriorly, etc. Sometimes it becomes necessary to support it with small wads of cotton, etc., but all these makeshifts are needed only in exceptional cases, and can not therefore militate against the usefulness of the splints in general. Experience, as in other things, will soon teach what to do. I wish to add that the splints as made at present can be sterilized in boiling water without changing their shape.

Regarding the portion of the septum where the free edges of the segments override each other and are liable to leave something thickening (*b*, Fig. 9), as is to be expected from a consideration of the fact that a longer curve is reduced to a shorter straight line, it can be stated that these thickenings are generally very insignificant and will, if left to themselves, eventually disappear. However, if needed, they can be readily removed later on, and this may be done by electrolysis, galvanocautery, the knife curved on the flat, the saw, the electro-trephine, etc., according to the conditions present and the preference of the operator. This applies also to spurs or posterior obstructions that may exist in addition to the deviation, and may require special consideration. All these additional operations should be done some time after the septum has been permanently fixed in its new position. There are but a few conditions which require preliminary operations. One of them is the luxation of the triangular cartilage from the columna. These are the only cases in which Emil Mayer[7] operates in advance of the straightening of the septum by a submucous resection of the projecting piece of cartilage. There are, however, in my opinion, two more conditions which require preliminary operation. The first is the presence of nasal polypi in the concavity. If they exist in the other side also, they are probably behind the deviation and could not be reached until the stenosis is overcome. In one of my cases (No. 13) the concavity was packed with so-called mucous polypi, and it is self-evident that their removal had to precede the correction of the deformity of the septum. There is, however, another condition which was described by D. Bryson Delavan[8] as a comparatively frequent occurrence. He found in eleven out of eighteen cases of deviation of the septum, a condition of hypertrophy of the middle turbinate bone in the otherwise spacious concavity, which was sufficiently large to interfere with the patency of the wider nasal fossa after the septum has been brought back to a vertical plane; or it may even interfere with the surgeon's efforts to push the septum back into the vertical plane. In such cases Roberts[9] also demands the preliminary removal, either partial or total, of the turbinated bone, and from one experience which I had (Case 17), in which I do not do it, I am convinced it is the proper thing to do. This is an entirely different condition from that, which Mayer mentions, when he says,[10] the hypertrophied "turbinated became so, because the volume of air-pressure was diminished in the (concave) cavity, and it was remarkable how small it became on the correction of the deformity." There certainly can not be any doubt about this, as it apparently refers to hypertrophy of the turbinate bodies: but the anomaly aforementioned is a hypertrophy or bullous enlargement of the turbinated bone or bones (Fig. 10) which will not yield or undergo a retrograde change after replacement of the septum, and which should receive attention before the operation on the septum, lest it produce a condition in the concavity which existed before the operation in the stenosed side. (Fig. 10.) It is, however, but just to mention that it is, at least in my experience, by no means a common occurrence.

As to the results obtained by this operation, sufficient time has elapsed since it was first performed, in 1882, by Asch, and the number of cases operated on is large enough to arrive at definite conclusions. In 1898 Mayer was able to refer to 200 operations, which had been done from 1888 to 1897, of which 78 cases had been operated on at the Manhattan Eye and Ear Hospital, and 122 at the New York Eye and Ear Infirmary. Of the latter the operations were distributed among the following operators: Asch, 39 operations; Mayer, 35; Hitchcock, 18; Adams, 16; Waterman, 3; Simpson, 3; McKernon, 2; Gage, 2; Whiting, Concannon, Leonard, and Bardes, each 1. All of these cases, of which complete hospital records were kept, are recorded as cured. These 200 mentioned do not include any operated on in private practice. Since then a good many additional operations have been performed at the same institutions with equally good results.[7] Butts[11] mentions only three failures in 60 operations done at the Manhattan Eye and Ear Hospital, averaging less than one each for each member of the hospital staff who had tried the operation. Two of these failures were the result of not thoroughly carrying out the technic in their initial trials; the third by being compelled to abandon the after-treatment on account of an acute otitis media that manifested itself a few days after the operation, done in an undersized, poorly nourished Italian, 7 years of age. One year later, the boy having meanwhile been built up, the operation was repeated with complete success. Butts considers the operations as giving good and permanent results.

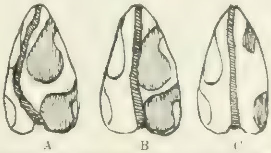

FIG. 10. Diagrams showing deviation of septum with hypertrophy of middle turbinated bone, before and after operations: a, middle and inferior turbinated enlarged in the concavity; b, bad replacement, causing stenosis; c, correct replacement, after removal of turbinates. After Beaman Douglass.

My own personal experience is limited to 27 operations, done from 1892 to 1899. With the exception of one partial failure during my early trials, when I had not yet fully mastered the technic from the scanty literature then extant, having never been present at any of these operations, all the others have been successful, and the cure obtained has remained so. There are but a few cases operated on less than a year ago, the shortest interval being, in one, about seven months. In all of these stenosis has been cured, the septum has remained in the median line, reflex symptoms, where they existed —in 2 cases—have been permanently relieved, and the correction of external deformity of the nose has been permanent. I wish to emphasize the fact that this operation has been, in my hands, signally successful for the relief of scoliosis of the nose, which in many instances is to the patient more distressing than the stenosis.

In three of my cases this deformity was very marked. The first case was that of a young student of theology, J. H., aged 18 years, who felt the disfiguration very keenly, inasmuch as it would be a great detriment to him in his appearance in the pulpit. The deviation was on the left side, obstructing the left nasal fossa entirely, and was of the most pronounced angular kind. The external nose was much distorted, the tip being turned toward the right and slightly upward. He was operated on Nov. 14, 1892, with the result of having the nasal stenosis relieved, and the deformity of the nose changed so much for the better that when I saw him several years [illegible] I can not be positive in [illegible] toward which side the nose had been bent.

Of my second patient, a girl 12 years of age, I have unfortunately lost my records. The cosmetic result was very good.

As I had the picture taken before operation only in my third case, I reproduce it here and refer to her a little more at length. Miss A. S., aged 16, came to the dispensary of my friend, Dr. S. E. Allen, principally for the purpose of having her nose straightened, as she said, and was referred by him to my hospital service for operation. On Dec. 17, 1898, she was operated on, Drs. Allen, Harris, Hines and the internes being present. As is my invariable custom in nasal operations, which are to be performed under an anesthetic, I applied a 10 per cent. solution of cocain, by means of a cotton carrier, to both sides of the septum, which was strongly deflected toward the right, the main convexity running from above backward to below forward. The whole dorsum was described a curve toward the left, having a kind of twist where the change from the sagittal line toward the left took place, with the tip of the nose pointing decidedly toward the left. (Fig. 11.) Chloroform anesthesia was used (Dr. Beson). The operation was done in the usual manner, as described above. After some adhesions had been broken up, and the resiliency of the septum thoroughly destroyed, it was found that after straightening the septum with the compressing forceps the tip of the nose could be readily brought into the median line. I then inserted the tubular splints, being very careful to select them of such size and shape as would not interfere with the cosmetic result, and bent thereupon the tip of the nose so much toward the right that the deformity was somewhat overcorrected, and held it in position by two long adhesive plaster strips of 1 inch in width, which were fastened one below and one above the left [illegible] and extended across the face, exerting some considerable pressure on the tip of the nose, which had been previously protected by some absorbent cotton. These strips were left *in situ* for about one week, while the treatment of the interior of the nose was carried out as described. There were no complications except that later on some exuberant granulations within the nose required considerable attention. The result was as perfect as could be desired (Fig. 12, taken six months after operation), and, as she wrote to me but a few days ago, according to the assertions of her friends, she is not to be recognized as the same girl she was before the operation.

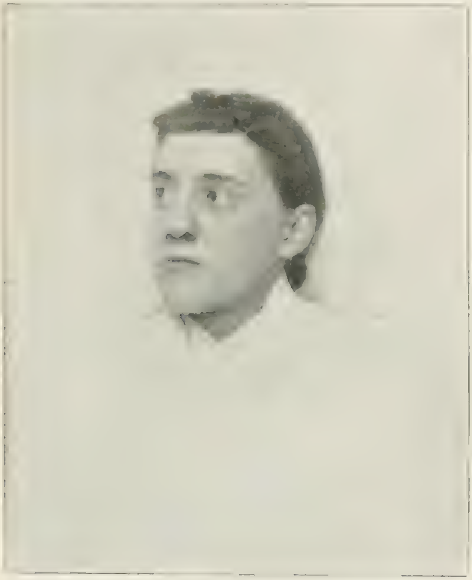
Fig. 11.—Taken before the operation.

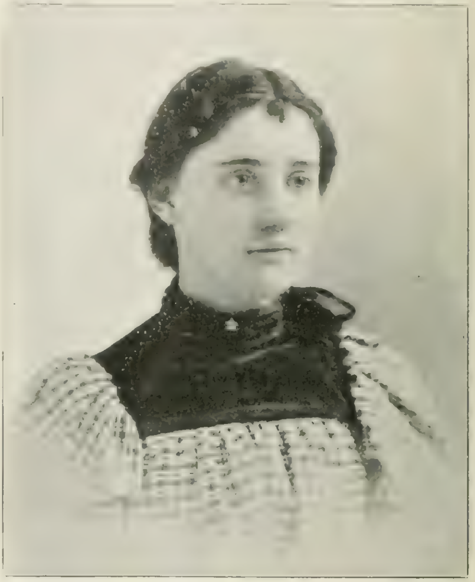
Fig. 12.—Taken after the operation.

What now are the contraindications, disadvantages and dangers of this operation? I do not know of any other than those that would apply to any bloody operation in the nose done under an anesthetic. As to disadvantages and dangers, I could not mention any that are specific for this operation. While it is true that the hemorrhage is at one time, immediately after the crucial incision has been made, decidedly brisk, it is not more so than in many other nasal operations, and it is readily controlled when the tubular splints are introduced. As to the danger of blood entering the larynx it must be remembered that the operation should be performed on the head lowered over the edge of the table; one might say the same regarding this danger in the operation for adenoid vegetations. Besides, the fact must not be lost sight of, inasmuch as the chloroform mask—or the ether cone—is removed at the beginning of the operation, that at this time the patient is generally not any more deeply under the influence of the anesthetic so as to abolish all reflexes, and that he is more than likely to swallow any blood that would happen to flow down into the pharynx. As to severe secondary hemorrhage, I have never seen nor heard of it. It is, however, possible that the application to the mucosa of the septum of the aqueous extract of the suprarenal capsule may greatly diminish the hemorrhage during the operation, as it has been reported to have done in other nasal operations. I have not had, so far, any opportunity to try it.

Stucky[12] speaks of "injury to inferior and middle turbinals" as a result of the Asch operation. From his description it does not appear whether it was done by the scissors, or by the tubes, in fact not whether it happened in the stenosed or in the wide side. But it must be remembered that in the stenosed side the turbinals are so small that they offer hardly any surface for being injured, and the blade introduced into the stenosed side is blunt. As to the wide side I can not see how the scissors, with some care, should injure the turbinals; but if these should be of an enormous size, they should be reduced, as stated above, by a preliminary operation. On the other hand, it is not easy to understand how the tubular splints could fracture the turbinals after the reposition of the septum, as all force—this is essential and has been reiterated again and again—should be strictly avoided during the introduction. I must therefore conclude that the injury which Dr. Stucky saw in some patients who had been operated on by some other surgeon, must have been due to other causes, or were possibly the handiwork of some one who was in his first attempts at doing this work, and was possibly not sufficiently familiar with the technic and after-treatment.

Robert Levy[13] reports a case in which, thirteen days after this operation had been performed, death occurred, in a rather poorly nourished individual who had been a sufferer from rheumatism and cardiac distress, and who had been addicted to the use of morphin. The cause of death was general septicemia, thrombus of the posterior cerebral artery, and cerebral softening. The thrombus was evidently due to syphilitic arteritis. This is plainly one of those accidents which are just as unfortunate as they are unavoidable, and which might have as well occurred after any other operation on the septum, or for that matter on the turbinals also.

It must also be stated that, as a rule, no rise of temperature occurs after the operation; that the tubular splints, if kept clean, allow the patient to breathe through them, in contradistinction to the solid splints. However, I think Richardson[14] is right when he says that in general there is some annoyance present as long as the tube or splint is worn. This applies naturally to any kind of splint or tube, as they are foreign bodies and must of necessity annoy the patient to some extent. Says he: "Nor can the fact be denied that such a body as a splint of hard rubber placed within the nasal cavity will produce temperature and inflammatory reaction. About the edges of such a foreign body, especially when placed in such a vascular organ as the nasal cavity, we are apt to, and do have exuberant growth of granulation tissue in proportion to the length of time the foreign body is worn." This would apply to all kinds of splints, and not to these alone. Yet, the after-treatment is, in reality, not painful after the first few days, during which one can readily overcome the pain by the use of some cocain; and the patient can readily be made comfortable if a little care and judgment be exercised in the size and shape of the tubes. A little mechanical skill will often adjust or shape a tube so that it will be absolutely non-troublesome, whereas it might otherwise annoy the wearer very much. In fact the patients very early learn to take the tubes out, clean them and reinsert them. In order to obviate these frequent changes and save the patient annoyance, Richardson proposes not to remove the primary splint nor to change it, until its final removal, which could be done about the tenth day after the operation. He reports that he has done this successfully, finding that the septum is sufficiently well fixed in its new position after ten days, so as not to need support any longer. This proposition certainly deserves some consideration.

As to the anesthetic used, I wish to say that in my 27 operations I have done it twice with cocain applications alone, once under bromid of ethyl anesthesia, and 24 times under chloroform. This proportion shows that I do not think either cocain or bromid of ethyl the proper anesthetic to use for this operation. Whether one should use ether or chloroform is a matter of personal preference, as in other operations.

In conclusion, I am of the opinion that Asch has well merited the thanks of his confrères in devising and perfecting this operation. It has been said that the principle of cutting through the cartilage in order to overcome the resiliency was not new. What does this matter? The late Joseph O'Dwyer was the one who introduced his perfected method of intubation, and to him all the well-earned credit was given, although Bouchut had many years before made use of the same principle of introducing stationary tubes into the larynx. For that matter, the principle of crucial incisions was described by Réthi[15] of Vienna, in the same year, 1890, when Asch announced his method. But what a difference between the two procedures? Réthi first makes crucial incisions into the mucous membrane of the concave side, with a special lancet-shaped knife, then pushes the mucous membrane back with a raspatory; then with a peculiarly-constructed chisel, the septum is cut into four segments; after this the stenosed side is once more cocainized, two blunt retractors are introduced into the stenosed nostril and after measuring the distance of the crucial incision from the tip of the nose, a cut with a narrow tenotomy knife introduced into the narrow side is made in the prolongation of the primary incision, penetrating into the concave side. After this the septum is thoroughly weakened, and is pushed with a spatula into the median line. The septum is kept in its new position by oval vulcanized rubber tubes, which have been wrapped in iodoform or sublimate gauze, and which are placed in both nasal fossæ. Réthi himself mentions his operation as "rather tedious"[16] while the Asch operation can be readily done by any operator who has the least manipulative skill and some experience, in five minutes.

Of the greatest helps are the special instruments devised for this operation. It is true that one can make the crucial incisions with a bistoury, without needing any especially constructed pair of scissors. So it is possible to perform tonsillotomy with a scalpel, dispensing with the use of a tonsillotome. The compressing forceps is, moreover, a very handy instrument that should recommend itself to every surgeon. It differs very materially from the old Adams forceps, as any one can see, who will compare them, and has the great advantage of permitting its use in the posterior portion of the nose without endangering the columna. It served me to an excellent purpose in the case of a lad, about 14 years of age, who was brought to my service at the Cincinnati Hospital with a fractured septum, the result of a baseball accident. The nose was considerably flattened, and the cartilaginous septum was almost reduced to a mass of movable and crushed fragments. In narcosis, I introduced the compressing forceps, brought, as well as I possibly could, by slow and even pressure, the fragments into juxtaposition, also lifted the [illegible]

[illegible] and kept them there by two [illegible] In [illegible] I did, however, not remove the tubes until the sixth day, as I feared the badly crushed septum might not have enough [illegible] After [illegible] with a moderately straight septum and a satisfactory cosmetic result. This case is not included in the number of operations done for deviation of the cartilaginous septum.

From all these considerations, from the experience of others, who have done this operation many times with universally good results, and from my own personal experience, extending over a period of over seven years, I am bound to consider this operation one of the best ever devised for deflection of the cartilaginous septum, no longer a bugbear to the rhinologist. It is simple, effective, and can be done in a short time, and the results are uniformly good and permanent, as has been sufficiently proved by the large number of cases operated on by various operators, and the time that has elapsed since the operations were performed. I can well imagine that cases may occur in which this operation is not applicable; but I have not as yet seen them. Nor do I wish to be understood as denying that other operations devised for the same purpose may have great merit, nor be productive of good results. But inasmuch as the Asch operation has been so very satisfactory in all my cases, I have never felt the necessity nor even the desire to try any other method. And I am absolutely convinced that among the many operative procedures devised by American rhinologists, this method will easily rank among those which mark a distinct progress in our specialty.

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LAMINECTOMY.*

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The following cases of laminectomy, eighteen operations on seventeen patients are reported in the hope that they may furnish some encouragement for interference in one of the most interesting if discouraging fields for surgical operation, and because the writer is convinced that by a simplification of the technique the operation risk is much lessened, and that in the midst of numerous failures, so far as the power of giving life [illegible] while in certain other conditions, relief of suffering and prolongation of life is sure to follow. Furthermore, instead of the field for operation becoming narrower, there is every reason to believe that new and untried conditions may be amenable to surgical interference.

For most complete and invaluable neurologic data, the writer is indebted, in twelve of the cases, to Dr. William N. Bullard, whose interest and judgment have ever been most helpful and encouraging.

To begin with the most discouraging class, I will report three acute traumatic cases in which the lesion involved the cervical region.

Case 1.—Edward A. W., 35 years old, after a fall down stairs on October 31, was brought to the Boston City Hospital; Dr. G. W. Gay's service. He was conscious on admission, with nearly total paralysis of the upper extremities, and total paraplegia, paralysis of the bladder sphincter, knee-jerks active and equal, sensation much diminished everywhere below the level of the third ribs and diminished below the clavicles. There was hyperesthesia of the neck, with apparent diminished sensation over both sides of the face, some tenderness over the third, fourth and fifth dorsal spines, marked tenderness from the seventh cervical upward, and anesthesia of both upper extremities, involving the whole of the right deltoid. Respiration was abdominal, with a good pulse.

At operation, six hours after injury, the seventh, sixth, fifth, and probably part of the fourth cervical laminae were removed. There was no fracture, no extra or intradural hemorrhage. The dura was very tense and darker in color than normal. On incision, a clear serum spurted under much pressure. No evidence existed of any pressure on the cord, so far as could be told by exploring with a probe. Pulsation, which was absent before evacuation of the fluid, returned after loss of a considerable quantity. The cord felt normal to the touch. The dura was not closed. The external wound was closed with deep silkworm gut sutures, with rubber tissue drain.

The patient, at the close of operation, was in as good condition as at the start. On the next day he was doing well, with no change in the anesthesia, and on the second day he was better; could move his arms voluntarily, and there was a doubtful gain in sensation. Toward evening the temperature rose suddenly, followed by delirium and death.

Autopsy showed that the cord was soft at about the level of the second vertebra, about one inch above the opening made at operation. There was no sign of fracture nor dislocation.

Case 2—Jesse L. P., 57 years old, also entered on Dr. Gay's service. He had been caught in a shafting and carried around under a large fly-wheel. Probably his back was struck by the edge of the wheel, which at the same time forced him down underneath itself, where he lay with his feet up and curved around the wheel for some little time. At entrance he was in too much shock for operation. Stimulation was resorted to.

Operation was performed ten hours after injury, under ether. The patient had rallied considerably, and there was anesthesia below the second intercostal space. Incision was made over the lower cervical spine. The muscles about the sixth spinous process, especially on the left, were pulpified, and the process itself loose and pushed to the right. The seventh, sixth and fifth laminae were removed. There was apparently no pressure. The dura appeared normal. A small opening was made in the dura, giving vent to clear fluid, but no blood. The cord at the opening showed no evidence of trouble. Deep silkworm gut sutures were used, with iodoform wick drainage.

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* Presented in the Section of Surgery and Anatomy, at the Fiftieth Annual Meeting of the American Medical Association, held at Columbus, Ohio, June 6-9, 1899

The patient stood the operation, thirty minutes, well, passed a good night, was talking to the other patients early in the morning, and remarked that he thought his head should be higher, when suddenly his face changed color, he became unconscious, and immediately died.

At autopsy, on removal of the cord there was exposed a sharp knuckle of bone pushing into the canal and corresponding to the upper portion of the body of the first dorsal vertebra. The knuckle was quite sharp, but not very prominent. A few small splinters of bare bone could be felt along here, but for the most part it was fairly smooth and covered with soft tissue. On removing this portion of the spine, this knuckle was seen to represent the body of the first dorsal vertebra, the cartilage between this and the seventh cervical having been crushed and torn, the ligamentous attachments uniting the bones torn apart, and the body of the bone forced back, producing an angle in the spinal canal. The portions of the cord over the bony knuckle were found softened, discolored, apparently with much hemorrhage into the tissues. On section of the cord above and below this point, there was evident hemorrhage into the posterior horns for about 2 cm. in either direction.

CASE 3.—This case is inserted here because it illustrates this type of injury, and although no lamina was removed, the operation carried out was essentially as severe as that of a typical laminectomy.

Edward F., 40 years old, entered Dr. Cheever's service, having been struck on the back of the neck by a bale of hay. He was first taken to the Emergency Hospital, and given ether with the idea of reducing a dislocation of the neck: failing in this, he was brought to the City Hospital.

There was paralysis and loss of sensation of the lower extremities and of the trunk up to the [illegible] intercostal space, limited motion and sensation of the arms, limited rotation of the head, and the patellar reflexes were absent. The pupils reacted slowly to light, and respiration was abdominal. Apparent dislocation of the seventh cervical vertebra was found, with possible fracture.

The operation was under ether, with the incision over the lower cervical processes. The sixth cervical vertebra was found to be dislocated laterally. The finger could be passed over the process of the seventh into the canal. No injury to the dura was found. The articular process of the seventh vertebra had evidently been torn as well. By traction to the left and rotation to the right, the dislocation could be reduced, but on removing traction, dislocation quickly recurred. The dislocation was then reduced, the wound closed, and while steady traction was maintained the head was put up in a dressing of plaster of Paris, carried well down over the chest and shoulders. Traction straps were also placed on either side, and as soon as the plaster had hardened, the patient was put to bed with a weight of eleven pounds.

As soon as the dislocation was reduced the respiration became easier. There was a good pulse, apparently no shock from the operation, and good recovery from the ether. On the following day the patient was quite restless and noisy; temperature 104.5, and during the day he grew worse. On the second day, after a fairly good night, respiration became noisy, with much secretion in the throat and difficult expectoration. The pulse was poor, and he steadily lost strength and died during the afternoon. No autopsy was allowed.

With the cervical cases it may be well to add one occurring in the upper dorsal region, because the general character and severity of the latter conform to those of the former class.

CASE 4.—Michael G., 33 years old, was struck by an electric car and thrown into a ditch. At the Hospital, on Dr. M. F. Gavin's service, he was seen by Dr. P. C. Knapp, who noted anesthesia below the nipples, complete paraplegia, cremasteric reflexes present, abdominal and epigastric absent, plantar doubtful, and knee-jerks absent. There was diminished sensation of the fifth and ulnar side of the fourth finger, and a little of the ulnar aspect of the forearm. The mind was clear, pulse slow, regular and full.

The operation, four or five hours after the injury, was under ether, and the incision over the upper dorsal region. The first, second, third and fourth dorsal spines were removed. On opening the uninjured dura clear serum escaped. The cord was not depressed, and there was no evidence of anterior bony pressure. The wound was closed with deep silkworm gut sutures, with a rubber tissue drain. The patient stood the operation well, the pulse being 70 at the close.

On the following day he had muscular twitchings of the arms and face, and his breathing was diaphragmatic and heavy. The temperature, which was 105 during the night, rose to 106.3, with vomiting and great thirst. He grew steadily worse and died twenty-four hours after operation. There was no autopsy.

In traumatic lesions of the upper cord as shown in three of the four cases, high temperature comes on rapidly, but we are strongly inclined to the belief, after watching similar cases where operation has been withheld, that the fatal issue is delayed for one or two days, and that there is some amelioration of symptoms, apparently due to the relief of intradural pressure.

Of the advisability of operating for trauma below the mid-dorsal region, there can be no doubt. Too many recoveries have been reported to warrant an expectant policy in dealing with a large number of these patients. My own cases, three in all, were not cured by operation; at the same time it gave them the best chance for recovery and, so far as seen, they were not at all disturbed by the interference.

CASE 5.—This patient, 18 years old, was on Dr. Gavin's service, and had fallen a distance of forty or fifty feet. At entrance he was stupid, with paraplegia and paralysis of the sphincter of the bladder with retention. He was put to bed apparently asleep, with his eyes closed, but when roused he answered questions, quickly dropping into a semistupid condition again. The pupils were normal, respiration not diaphragmatic, pulse weak and rapid. There was total paralysis of the lower extremities, with diminished sensation throughout. The knee-jerks were absent. There was anesthesia from about the fourth rib in front and the fifth dorsal spine posteriorly. At entrance he was in too much shock for operation, which was delayed until the next morning.

At the operation, under ether, the fourth and fifth dorsal spines were removed. The fourth lamina was found driven forward, pressing on the cord and held in place by being locked under the fifth lamina, and on removal of the fourth, all pressure of the cord, so far as could be [illegible], was relieved. The dura was normal and not opened. The wound was closed with a temporary drain.

The patient was put to bed in the prone position. His condition was no worse at the end of operation than at the beginning. On the following day his temperature, which had been 104.5, dropped to 101. The pulse was 110 and fairly good in volume and strength. He made no attempt to move the left arm, but used the right freely. There was slight left facial paralysis. The mind was no clearer. On being catheterized while asleep he gave the sensation of pain during the passage of the instrument. There was incontinence of feces. During the night he became delirious. There were no signs of returning function of the cord, and the left face and arm were more paralyzed than before. The delirium increased, the pulse dropped to 90, and in a few hours he became weaker and died.

There was probably some cerebral injury that developed [illegible] for a day or so, and contributed more or less to the cause of death.

Case 6.—Charles A. J., 30 years old, fell about seventeen feet, and was admitted to Dr. Gavin's service. He had anesthesia from the seventh intercostal space in front, with knee-jerks and plantar reflexes absent, and paralysis of the bladder.

Operation, about three hours after injury, was under ether. The spinous process of the seventh dorsal was loose and displaced. There was fracture also through the transverse process and probably entirely through the body of the seventh, as anteriorly there was some sharp projection pressing against the cord. There were also lateral projections, all of which were gnawed off with rongeur forceps. The upper portion of the lamina of the eighth, and the lower portion of the sixth were also gnawed off and smoothed so that the cord was free from pressure. The cord was probably crushed, but there was no apparent laceration of the dura, which was not opened. The wound was closed, with a gauze wick drain, and the patient placed on a Bradford frame.

June 9, three days after operation, there was sensation of a full bladder for the first time since the accident. The wound was clean, and sensation fairly good to the ninth interspace in the axillary line. June 13, the urine was turbid—probably cystitis—and there was a chill, temperature 103.4. By June 16 the wound had healed by first intention, with no apparent gain in sensation.

June 20, incontinence of feces was noted. By June 24 the cystitis had largely disappeared, the urine was clear, but no gain in sensation. A sacral bed-sore was present. On June 30 there was an up and down temperature, and he was still catheterized. July 9 he was losing ground. By July 19 there was a steady gain in sensation, and he could feel a touch anywhere above the umbilicus. There was no gain in motion, but general health was good. By July 30 the general condition was fair, and the Bradford frame was removed. August 9, there were two new bed-sores over the scapula. He had now been out in the yard in a chair for two days. He complained of pain in the right knee, but could increase or stop his flow of urine. On August 23 the bed-sores were very large, and there was involuntary urine and feces. By September 7 the urine was clear, but no change in his general condition. By October 4 he was emaciated, with no gain in motion or sensation. There was flexion at the knees, but no control over bladder or rectum. October 25 showed no improvement. He was thin and wasted and had a dry cough. November 1 found him gradually failing, pulse rising, the bed-sores painful in spite of daily dressing and an air mattress. Diarrhea was present. He continued to fail and died November 7.

Autopsy showed that opposite the body of the seventh and eighth dorsal vertebræ the cord was sharply compressed by a knuckle from the posterior portion of the bodies. On opening the dura, the cord was found completely divided, the upper portion being separated from the lower by a space of 1 cm. The dura in this region was firmly adherent to itself and portions of the cord, ending blindly at either extremity in a mass of fibrous tissue. On dissection, the body of the eighth dorsal vertebra was seen to have been forcibly driven backward and crushed between the seventh and ninth dorsal. The lower portion of the ninth exhibited an old line of fracture with new formation of bone in and about middle of body. There was no evidence of the articular cartilage between the eighth and ninth dorsal vertebræ. The ninth dorsal projected into the spinal canal at a sharp angle of 45 degrees. Above the angle made by the displaced ninth dorsal there was a new growth of bone along the front of the spinal canal, making the angle less prominent.

Case 7.—Annie C., 35 years old, was seen with Dr. B. W. Hill. She fell from a third-story window, probably striking with the back across a piazza railing. Immediate paralysis and anesthesia corresponding with the nerves at the level of the twelfth dorsal vertebra ensued. There was moderate abdominal distension.

Operation, under ether, showed the spine of the eleventh and possibly the twelfth broken off and carried to the right. The spines and laminæ were not only broken but crushed into fragments. The laminæ of the twelfth dorsal and first lumbar were removed, giving free exposure of the cord. This was flattened over a transverse ridge, pressing it in front, and was evidently crushed. The destruction was so complete that further interference seemed unwise, so the wound was closed with a temporary drain. The patient stood the operation well, the pulse and general condition being as good at the close as at the beginning. At the end of eight months the patient was still alive, but without any improvement.

In two of these cases it would have been justifiable, where, at the time of operation the local damage to the cord appeared to be limited to the space between the exit of two contiguous nerve trunks, to free the nerve above and below the injury on each side, within the dura, and as far from the cord as possible, and then suture the upper to the lower stump, in the hope, theoretic of course, of re-establishing the nerve current between the upper and lower fragment of the cord. What the practical result would be I am unable to state, as I have not recently had a suitable patient on whom to try the suggestion.

When we come to chronic traumatic lesions of the cord, the field is far more encouraging and we should not be deterred from operating at any level so long as there is the faintest hope of relief.

Case 8.—Samuel S., 55 years old, entered Dr. Gavin's service about a year after he had fallen from the top of a mail coach, landing on his head and right shoulder. Unconscious for a short while, for three days he vaguely realized what was going on around him, and then fully regained his senses. He could incline his head fairly well to the right shoulder, but motion to the left was limited. Numbness of the right shoulder and occipital region was evident, and paralysis of the upper right extremity. He could not raise nor flex his right arm. His head was held inclined to the right and slightly forward. There was anesthesia from behind the right ear to the occiput, right side of neck, and posteriorly down to the costal spine. There was diminished sensation over two-thirds of the inner surface of the right arm, no motion at the shoulder, except from the action of the trapezius, and no flexion of the forearm.

At the operation under ether, incision was made from the occipital protuberance to the lower cervical spine. The second lamina was cleared, and on the right side the lamina was found overlapping the third, and very thin: that is, thinner than blotting paper, and easily cut with scissors. On the left side, the lamina, which appeared normal, was also removed, exposing the dura. Exploration vertically and laterally failed to show anything abnormal. The dura was not opened. Under ether, after removal of the lamina, the head could be rotated in both directions normally. The wound was closed with a temporary drain.

The patient stood the operation well, with apparently very little shock. No improvement followed for several weeks, but after that there was steady gain, and in a few months the motions of the right upper extremity were very nearly normal, the motions of the head having remained normal.

CASE 9.—Michael S., 48 years old, was struck one month before entering the hospital, by a derrick rope and knocked down, his back striking against some rocks. Unconscious for a few minutes, he was able to get up and walk. He had pain in his back but kept at work for a week until the pain increased and became so severe that he had to give up work about two weeks before entrance. Then he went to bed on account of the pain. There was constipation and difficulty in passing the urine, weakness in the legs—then inability to walk—with coldness and numbness of the lower extremities.

He entered the City Hospital, on the medical side, on July 5, but his symptoms growing worse, he was transferred to Dr. Gavin's service in the course of a few days, when the following symptoms were noted: total paraplegia of the lower extremities; sensation not absent, but pain felt up to the nipples and mid-scapular region; no muscular atrophy; knee-jerks slight, but alike; cremasteric reflexes present.

At the operation, under ether, the incision was over the upper dorsal spine, and the fourth and fifth laminæ were removed. There was no extradural hemorrhage. The dura was tense but pulsating, and less pearly-white than usual. On being opened, clear fluid spurted out with force, and probably several ounces escaped. In the dura nothing abnormal was seen, except, apparently, that the dorsal vein was more swollen than usual. The dura was stitched and the wound closed.

The patient stood the operation fairly well. He was afterward stimulated strongly, and seemed to respond well until the same evening, when he grew rapidly weaker and died. No autopsy was allowed.

This case, though classed here, really belongs in a group by itself, because although the injury preceded the operation by several weeks, the symptoms inducing interference were acute, intense, and not of the type that leads one to believe that a chronic process was going on. An autopsy not being allowed, the case is of necessity reported in this group. Clinically it appeared to be one of acute myelitis of one sort or another, and had operation been done at the outset there is a possibility that the relief would have been more marked if not necessarily permanent.

CASE 10.—George H. F., 39 years old, was injured five months before entrance to Dr. Gay's service, by a falling wall. He was seen by Dr. Morton Prince, who noted complete loss of voluntary motion in both lower extremities. There was complete anesthesia below a plane passing through the body about one inch below the umbilicus. The lower extremities were flexed at the knees, but could be extended without much force. Almost immediately, however, they would return to the position of flexion. The legs were almost constantly in athetoid motion. A bed-sore as large as the palm was seen over each trochanter. There was marked bowing of the spine in the lower dorsal region, no marked atrophy of the limbs, but anesthesia below the eleventh dorsal nerve.

Operation was done at the urgent request of the patient, under ether, and the seventh, eighth and ninth dorsal laminæ removed. On opening the canal, the cord appeared to be healthy in the lower part of the incision, but on thoroughly exposing the canal, the bony substance at the base of the laminæ on the left side was found thickened and pressing on the cord, both on the left side and dorsally. The cellular tissue between the dura and laminæ was adherent to the dura, and in the upper two-thirds the latter was roughened, thickened and red, except in one place where the pressure was evidently more marked dorsally. Here there was apparent thinning and slight constriction of the dura. The canal was slightly bent, with convexity backward, but without evidence of anterior pressure. The dura was not opened. Above the region exposed, the cord was apparently normal. The wound was closed with deep silkworm gut sutures.

The patient stood the operation up to the last ten minutes, when strychnia was given for a rapid, weak pulse. The time of the operation was thirty minutes. In three days spasmodic contractions of the lower extremities ceased, and the morphin was discontinued. The wound healed by primary union and the patient became more comfortable, but at the end of two weeks the temperature began to rise, the bed-sores failed to heal and the patient gradually failed, and died about two months after operation.

CASE 11.—Julia C., 25 years old, while delirious during an attack of pneumonia, jumped out of a window at her home, breaking her back. She was brought to the City Hospital and admitted to the medical side with, in addition to the other troubles, an abscess over the sacrum. After entrance she was in a low state, with a high temperature, marked anesthesia and tympanitic abdomen, a rapid, poor pulse, normal reflexes and stupid mental condition.

Six weeks later she was transferred to the surgical side, service of Dr. Gavin, in a typhoidal condition. There was total paraplegia of the lower extremities, incontinence of urine, and extreme pain and tenderness over the lower extremities. Sensation was present everywhere, knee-jerks absent, the bowels not affected, but prominence over the lower dorsal and upper lumbar region. There was a bed-sore over the sacrum, but not severe enough to account for the temperature. The general condition was so bad that operation, even as a last resort seemed hardly justifiable.

On June 11, operation was performed under ether, and the slough over the knuckle dissected off. The first lumbar vertebra was found rotated so that the right artticular process was prominent posteriorly. The lamina of the first and second were removed. On the first, there was possibly a fracture through the pedicle on the left side. On opening the canal a sharp knuckle or angle, probably of the upper vertebra, was found projecting posteriorly against anterior portion of the cord, below this, at the left was a projection from the lateral wall and extending to the median line of the canal, compressing the root of the cauda to about half its diameter. Opposite this lateral projection was a rent in the dura, with a hernia of the lateral portion of the cauda. The lateral bony spur was removed, but the anterior was not disturbed, as there was no compression of the cord after removal of the laminæ. Exploration above and below showed no further constriction. The wound was closed with iodoform wicks.

The patient stood the operation well, considering her condition, strychnia being used. By June 13 the condition following operation was noted, the same as before. The patient was delirious all the time, and still kept prone on a Bradford frame. On June 16 she was taken from her prone position and placed on her back. No return of sensation or motion was evident. On June 20 there was less incontinence of feces and urine. She seemed brighter, and her mental condition improving, with temperature about normal. On July 19, there was not much gain in sensation or motion. The general health was good, and the bed-sores healing. By July 30 she had not improved much, but could wiggle her toes some. By August 9 there was considerable motion of the toes, and by August 23 great improvement; she sat up in a chair every day, and could move both legs freely. The bed-sores were healing, but sensation in the legs was not yet normal. By August 27 she had control over the sphincters of bladder and rectum. September 18 showed no change, but she sat up as usual. October 4, the general condition was good, and by October 25, she had improved slowly in motion and sensation, but could not yet stand; had massage regularly, with benefit. November 1, improvement in sensation and motion continued, and on November 8, the left leg was stronger than the right, the bed-sore closing fast. By November 16 she could go about the ward, pushing a chair, and sit up all day. By December 6 she could walk without help of any kind, and by December 12 the bed-sore had entirely healed with other gradual improvement, and general condition excellent. December 15 she was discharged to the Convalescent Home, where she remained until the middle of February, in excellent health, and later she went to work and has ever since been able to earn her living at housework.

Clinically, the outlook in this case was most discouraging. Operation was urged only on the general principle that it gave the only hope, though a very poor one at that. To one who watched the progress of the patient there was no doubt that the benefit followed directly on the interference. To be sure the lesion involved the beginning of the cauda, but before exposing the cord that could not be told with any degree of certainty.

With advanced methods in forcible straightening of the spine in caries, relief of pressure for paralysis will be sought by laminectomy less and less frequently. However, it seems best to report the two following cases, in order to complete the series.

Case 12.—Joseph R. W., colored, 22 years old, entered Dr. Cushing's service with cervical caries. There was almost total paralysis of the left upper extremity, total paralysis of the right upper extremity and both lower extremities, extreme atrophy of the lower limbs and chest, sensation diminished in front below the lower jaw, and decidedly diminished two fingers' breadth below the jaw. The limit of sensation in the back of the neck ran as high as the superior curved line of the occipital bone. There was clonus in both ankles.

The operation was under ether, and the incision from the occipital protuberance to the fifth cervical spine. The spinous process of the second vertebra was loose and apparently dislodged backward. The lamina of the second was removed piece-meal, with rongeurs, the anterior portion of the right lamina apparently being carious and buried anteriorly with granulations. The third and fourth laminæ were also removed. The dura appeared opaque and slightly thickened. The peridural tissues were adherent to the dura, and slightly more injected than normal. The cord seemed smaller than normal anteriorly, and on the right side, whence the carious laminæ had come, there was a small space that allowed entrance to the finger, but no rough bone could be found. The patient did not stand operation well and strychnia was given in full doses, so that it seemed best not to open the dura and prolong the operation. The wound was closed with silkworm gut, with a temporary drain.

The patient recovered well, the wound healed and he was apparently doing well with a slight gain in motion in his legs, when about a month after operation he suddenly died without known cause. No autopsy was allowed.

Case 13.—John D., 18 years old, had suffered from dorsal caries for five years. During that time he had had complete paralysis of both lower extremities, from which he recovered and was able to go around until about two months before entrance to Dr. Gavin's service. There was a knuckle in the dorsal region, with marked lateral curvature to the right, and marked exaggeration of the reflexes in the lower extremities, with pronounced ankle-clonus. He walked with difficulty, with crutches. The sensation in the legs was much diminished. Bed-sores were present.

Operation, under ether, revealed that the laminæ on the left side were not fused, but on the right side so fused that rongeur forceps were necessary to open the canal. The sixth and seventh laminæ were removed. Below the projection of the body the dura was normal; above the projection, for about an inch, the dura was covered with inflammatory membrane which was easily dissected away. Laterally, on the right side there was a mass of granulations pressing on the dura, which was curetted off. Anteriorly, and on the right side, there were sinuses leading to small cavities in the bodies, which were full of cheesy material, pus and granulation tissue. These cavities were also curetted out. The dura was opened in the median line, but the cord appeared normal. The cavities were packed lightly with iodoform wicks and a dressing applied along the open groove over the dura. The wound was closed, allowing for drainage, and the patient placed prone on a Bradford frame.

He stood the operation well, and on the day following the operation was fairly comfortable, but on the second day he began to vomit, and this soon became peritonitic in character. He was then turned over on his back and enemata given to relieve the abdominal distension, but the vomiting continued, the distension was not relieved and after failing rapidly the patient died of peritonitis, three days following the operation. No autopsy was allowed.

This was one of the earlier operations, when it seemed safer to put the patient in the prone position after removal of the laminæ, a procedure which later experience has shown to be not only needless but, as in this instance, directly harmful. All such cases since this time have been treated without reference to position whatsoever.

Two patients with syringomyelia have undergone operation, one having two operations at an interval of ten months, in the faint hope that the symptoms might be due to a localized tumor. The relief in the second case, though of only a few months' duration, was intense, but the inevitable relapse followed. In the first slight benefit was secured, but sepsis and general exhaustion helped to kill the patient.

CASE 14.—Robert McV.,[1] 32 years old, in general had weakness of both lower extremities, without absolute paralysis, and with no muscular spasm. Increased knee-jerks, slight patellar clonus on the right, and ankle-clonus on both sides existed. The plantar reflexes were good, the cremasteric diminished but present, the abdominal and epigastric absent. There was analgesia to about the sixth dorsal spine, an area of analgesia from on the abdomen up to the fifth rib, and anesthesia on the inner side of the thighs. Delayed sensation was evident on the outer and anterior sides of the thighs. The patient had frequent attacks of chills and vomiting, with high temperature and pulse.

Operation was performed shortly after one of these chills, under ether, and the fourth, fifth, sixth and seventh dorsal laminæ removed. The dura, which felt normal, was opened throughout nearly the entire length of the incision, with escape of considerable clear serum, especially from below. Later this practically ceased. The dorsal vein of the cord was much congested. Nothing else abnormal was detected. No attempt was made to check the flow of the subdural fluid, and the wound was closed with a rubber tissue drain.

The patient stood the operation well, the cord being exposed in eight minutes. One week following the operation motion and sensation in the legs was improved, and apparently a little control over the bladder was gained for a while, but the chills and exhausting sweats continued and the patient grew weaker. Two weeks afterward he had apparently improved in his general condition and had less pain. The wound healed well. This improvement continued for a week longer, with very little pain, and some motion in the toes, and then the motion of the legs also improved. The general condition improved, but seven weeks after operation fever returned, he began to lose ground, and died nine weeks following the operation.

Autopsy showed the absent laminæ replaced by very dense fibrous tissues, the spinal canal completely filled with distended dura, the cord enlarged and closely applied to the dura, which was adherent to it over the dorsal and lumbar regions. The enlargement of the cord began about 7 cm. above the cauda equina, and extended up as far as the cord could be removed in the cervical region. Section of the cord in the cervical region showed two cavities, each several centimeters in diameter, apparently occupying that part of the cord where the gray matter ordinarily belongs. At the lower end of the cord there seemed to be swelling and edema around the central canal for an area of 2 to 3 mm.

CASE 15.—Charles A. B., 37 years old, was seen in consultation with Drs. Benjamin Tenney and W. N. Bullard, in July, 1898. In 1892 the first symptoms of the present trouble began, the hamstrings being very painful when he walked. Later on the pain became very severe, and clonus in the lower extremities was noticed. Four years ago the toes began to drag, the pain increased, and he noticed a band of pain two inches above the knees, which now is as high as the iliac crest. Two years ago total collapse came and the patient has not walked since. For four years the pain has been very severe, the thighs feeling as if in boiling water. Sensation of constriction around the abdomen was as high as the true ribs, sometimes as high as the nipples. The sphincters had never been affected. The upper extremities were normal, but there was total paralysis of the lower extremities, except slight movement of the toes of the left foot. The lower extremities were thin, but not markedly atrophied, the knee-jerks increased, and ankle-clonus marked. He could stand on his toes with the help of a chair. Sensation to touch and pain was apparently normal, but heat and cold not well told below the seventh or eighth dorsal spine.

At the operation, under ether, the sixth and seventh dorsal laminæ were found to be hard and ivory-like, and, as no opening could be found, it was necessary to chisel into the canal before the forceps could be used. The sixth, fifth and fourth laminæ were successively removed. The dura appeared normal, but on opening it a normal quantity of serum escaped, and pressing from in front, a thin membrane protruded through the opening. The pulsation of this and of the dura was less than normal. On opening this membrane a large amount of clear serum spurted out under pressure; as it continued to flow, probably over two ounces altogether, the pulsation of the cord became normal. The cord itself looked and felt normal, and a probe carried above and below the opening detected nothing. The fluid escaped from below as well as from above, and there was no evidence of pressure. The dura was left open, the outer wound being closed with a gauze wick drain.

The patient stood the operation well, except toward the end, when strychnia was used. The patient improved considerably after the operation, having much less pain in the lower limbs, sleeping all night without morphia, a thing that had not occurred for two or more years. The spasm gradually ceased and voluntary motion increased. He was able to use the abdominal muscles in defecation, and the girdle sensation descended lower in the body. Pain reached the minimum about five months after operation, since which time it has recurred, and at the present writing (May) it is as bad as ever.

CASE 16.—This was the same patient as the last one. The symptoms having returned as before operation, the patient journeyed from the West anxious for another operation and relief, even if only temporary. Lumbar puncture was advised, but in the faint hope that there might possibly be a growth at the cone or in the beginning of the cauda, a second laminectomy was performed at the request of Dr. Tenney and the patient.

At this operation, June 4, 1899, under ether, the eleventh and twelfth dorsal and first and second lumbar laminæ were removed. The same condition of affairs as at the first operation was found, no pulsation, a bulging dura beneath which was the pia pushing out as a distinct membrane and restraining a clear fluid which spurted as soon as an opening was made. No disturbance followed the free evacuation of several ounces of fluid, but rather the respiration became quieter and the pulse was not disturbed at all. Careful examination of the lower end of the cord and of the cauda failed to show anything beyond an abnormal fulness of the vessels, which increased as the exposure to the air and the manipulation went on. Exploration above and below for several inches failed to show any appreciable growth. The dura was not closed, the outer wound being closed with silkworm gut, allowing space for several strips of rubber tissue leading to the opening in the pia. There was no shock nor other ill effects noted at the close of operation.

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[1] This case has been published in detail by Drs. Bullard and Thomas, in "Boston City Hospital Medical and Surgical Reports, Tenth Series.

Time enough has not elapsed since the operation to determine the amount of benefit to follow the procedure.

Laminectomy for tumor offers brilliant results where the growth is limited and removable. Such cases are actually though not comparatively rare, but there is no reason why all offering the slightest amount of hope from operative interference should not be allowed the chance of relief or cure. In both of my cases the growth was too diffuse to allow removal, although in the first, one of my earliest, much temporary benefit could have been obtained had I at the time realized the amount of interference the spine will tolerate without serious trouble. The second patient, in whom no tumor was found, probably had a diffuse growth within the cord itself, but unfortunately no autopsy was allowed to verify our supposition.

Case 17.—Edward LaR., 16 years old, was admitted to Dr. Cheever's service in August, 1894. Eight months previously he began to have pain in his lower extremities. A month later he noticed weakness coming on gradually, difficulty in passing his urine and constipation. Paraparesis gradually increased, and two months ago culminated in total paraplegia with some atrophy. The knee-jerks were absent, no ankle-clonus, plantar reflexes absent, and sensation was diminished over the lower extremities. Shortly after entrance to the hospital a swelling was noticed on the left side of the spine, in the mid-dorsal region. Examination of a small piece showed it to be a small round-cell sarcoma.

At the operation, under ether, the eighth, ninth and tenth dorsal laminæ were removed. The canal was found to be filled with a dark red, soft growth lying between the bone and the dura. This was curretted out for several inches above the limit of the opening. The dura itself appeared to be healthy.

Very little if any improvement in condition followed operation. The patient continued in fair general health, with a possible slight gain in sensation at the end of six weeks, but died ten weeks after operation.

Case 18.—Charles W. T., 49 years old, seen in consultation with Drs. Theodore C. Erb and W. N. Bullard, had a number of melanotic sarcomata in various parts of the body. Two months ago motor paralysis of the lower extremities began, and increased until at the time of operation the paralysis was complete. There was no muscular spasm. For a month there had been retention followed by incontinence of urine and paralysis of the sphincter ani, with involuntary dejections. The extremities were flaccid and wasted, knee-jerks slight but equal, no ankle-clonus, and sensation to pain and touch seemed unaffected.

At the operation, under ether, the first, second and third lumbar laminæ were removed. The dura looked darker than usual and dense, and, on its being opened, a clear serum escaped with some force. On slitting up the dura no macroscopic growth was found. A director passed upward and downward for several inches failed to show any constriction. The patient's pulse flagged after opening the dura, he became cyanotic, and it seemed best not to attempt the removal of more laminæ, nor of any growths in other parts of the body. The patient rallied well under strychnia, and was in good condition at the close of the operation. The wound healed well, but the patient showed no signs of improvement, and died in a few months.

Technique.—The writer is convinced that in a large proportion of cases the technique is of importance. Eleven years ago Bullard and Burrell, in an article on this subject, stated that "the key to the success of any operative procedures on the spine will be by the securing of an efficient means for dividing the bony structures with ease, speed and accuracy." The following method of procedure has proved of value in the hands of others as well as of the writer, and he may be pardoned for giving it somewhat in detail.

The incision should be a single one, in or close to the median line. The knife is carried rapidly down to the lamina on one side close to the spinous process; this wound is then quickly and firmly packed with loose gauze, and the lamina of the other side cleared in the same way and packed. If now the first packing is removed, all bleeding is found to be practically checked. By alternating in this way, from one side to the other, the lamina can be easily and quickly cleared of soft tissue without the necessity of securing any vessels with forceps and without a harmful loss of blood. The interspinous ligaments above and below the selected process are now cut freely with scissors, at a single stroke, there being no danger of penetrating the canal. With one bite the spinous process is removed as close to the base as possible, with rongeur forceps. With a pair of laminectomy forceps having double cutting jaws, especially made for the writer by Ford of New York, the laminæ can now be cut close to the median line, easily and without danger of injuring the cord. Time is saved if removal of too much of the roof of the canal is not attempted at first, the opening being easily widened with small rongeur forceps, such as are used in mastoid operations. There is no economy of time nor accuracy in using the chisel or trephine; the former is rarely needed in cases where there is fusion of the adjoining laminæ. There is no advantage in the osteoplastic operation; removal of laminæ apparently neither weakens the spine nor robs the cord of its protection.

There is no difficulty in giving the anesthetic in the prone position, if the patient's head is well over the edge of the table and supported by the anesthetizer. A semiprone position has no advantages.

Most operations can and should be completed easily in thirty minutes. Shock rarely comes before the end of this time, but is liable to be a serious factor if the operation is prolonged. Contrary to some authorities, shock is not "almost always severe," and frequently even in high operations it is not appreciable. As Horsley has intimated, sepsis is the only danger.

Of the hopelessness of operation in acute trauma of the upper half of the cord there can be no doubt, in a very large number of cases; of the hopelessness in all cases there is doubt, as shown by recovery in Winnett's case of immediate laminectomy at the middle cervical region, and Horsley's case where the operation was performed about one week after injury. Faisst's case of tedious recovery from injury in the cervical region suggests that much time could have been saved by a harmless operation, and Walton's cases of recovery after reduction of dislocation are also suggestive of the possibilities from operation in similar lesions due to fracture.

In chronic traumatic cases there can be no question of the benefit of operating in cervical injuries, as shown by the results reported by Horsley, McCosh and others. When the lower half of the cord is involved, interference is more hopeful still, attaining its maximum when the lesion involves the cauda itself.

In dealing with tumors, Horsley's tabulation of 58 cases in which 80 per cent. could have been relieved by operation, and Starr's group of 100 cases, 75 of which were amenable to operation, give great encouragement.

The treatment of syringomyelia is as yet almost untried, but the temporary relief obtained by Abbe, Warren and Putnam, myself and others, encourages a trial in a surgical direction for the time being.

For acute osteomyelitis, fortunately rarely found, operation offers the only means of relief.

As an exploration in doubtful cases—and nearly all lesions involving the cord are more or less doubtful—laminectomy is justifiable in the same way, but to a less extent, as exploratory laparotomy. Say what we may, we are still ignorant of the exact state of affairs in tumors and many fractures, especially where the deep reflexes are not abolished, in edema and many meningeal lesions. Relief can not by any means be secured in most cases, but that does not justify a complacent do-nothing policy if the condition can be determined by an operation of so slight danger in most instances.

The operation is contraindicated until the profound shock of an accident has passed, and in cases where the cord is completely crushed—a condition that can not always be accurately foretold, however. Furthermore, interference should be withheld if rapid spontaneous recovery is taking place, although it is well to bear in mind that "many an ephemeral recovery with return of paralysis is probably due to edema" (Horsley), and that operation may be required after all in cases with a bright outlook in their early course.

It is still a question whether at least temporary relief may not be obtained in acute myelitis by evacuation—either by lumbar puncture or possibly by laminectomy—of the subdural fluid; at any rate intense relief is obtained by such a procedure in the chronic types.

DISCUSSION.

Dr. A. H. Ferguson, Chicago—The subject is a very important one, and the essayist has covered an enormous amount of material in a very short space of time. It is my opinion that too extensive operations have been performed on the spine for the amount of relief that has been afforded—that is, that a complete laminectomy is a very major procedure for the amount of good that we get, and very frequently a complete laminectomy is not indicated. Instead of making an incision into the middle, make it a little to one side. Pick the tissues from the laminæ and remove the laminæ on one side. All you want is to remove pressure from the cord. That does it in a large percentage of cases; that is all that is indicated. You do a minimum amount of surgery with a maximum amount of good, and you do not disturb the spinus processus, and the strength of the spinal column is maintained afterward. I should like to see more emphasis placed on early operations for injuries. Let us get into the position of operating early for pressure on the cord, as for pressure on the brain.

Dr. A. I. Bouffleur, Chicago—There are a few points that I should like to speak a few words on, and one of the most important is the one that Dr. Ferguson barely mentioned at the climax of his remarks. He stated that we should operate early, and yet the essayist told us that we should not operate during profound shock. I believe that our essayist is as wrong in that statement as one would be to say not to operate on a strangulated hernia during profound shock. The condition itself is the producer of shock, and one who has performed several laminectomies will bear out the statement which he made earlier in his paper that the patient's condition at the close of the operation was as good as at the beginning—very frequently it is much better than at the beginning. Shock is no contraindication to a laminectomy; on the contrary, it is a positive indication for one.

There is another point that I wish to mention, which was spoken of in the paper and which I have found present in the minds of some; that because sensation is present, the indication for laminectomy is not present. I do not believe that sensation, accompanied by paralysis, is a contraindication for operation. The last patient I had recover who was operated on a year ago last September was one in whom sensation was present, but on exposure of the cord we found spiculæ of bone penetrating the cord and passing completely through it from behind, and another doing a great deal of damage to the motor areas in front. In that case we are able to remove the offending body—posteriorly and another anteriorly—and our patient, although he had been caught under a cable-car, receiving an impacted fracture of three lumbar vertebræ, made a good recovery and is working to-day. I have had two cases of recovery from laminectomy. Removal of the spinus processus does not alter the usefulness and strength of the back; that has been shown time and time again. While we should suppose that the spinus processi were essential to the strength of the back, yet that is not the clinical history of these cases, both cases which I have had recover having strong backs—at least, the first one, a carriage driver, was able to bend himself to a curve in mounting the foot-board of his carriage, and a man who can do that has a very good back. The curve in his back was uniform and not a kink.

As to anesthesia, I wish to mention one point, and that is, in hospital practice particularly, it is well to have your oxygen present, when operating in the cervical region. I have had respiration suspended and immediately restored by the oxygen, and after anesthesia you can continue the operation without much additional ether if you give your patient plain oxygen. I have no doubt that it is of great value in this line. In doing a laminectomy you must not always expect to find serious damage to the cord. I know a case, in which I operated, of complete paralysis in a boy who fell down an elevator shaft; the cord on macroscopical examination, was absolutely perfect, but it caused a complete motor paralysis; operation relieved the pressure on the cord or served to modify the condition of the cord sufficiently, that the nutrition to the part below the injury was benefited.

I had hoped that our essayist would have given us a little more light as to the symptomatology of complete destruction of the cord. That is the point on which we are at present standing and confessing our ignorance. Neurologists do not give us sufficient information, neither have surgeons had sufficient experience to warrant us in coming to any definite conclusions which may be applied in all cases.

Dr. Francis D. Patterson, Philadelphia—I simply wish to state some benefits that perhaps may result from laminectomy in certain cases. I saw, in connection with Dr. Edw. Martin of Philadelphia, a case of acute cerebrospinal meningitis, occuring in the practice of Drs. Musser and Cheston. The child was unconscious, with a temperature of 105, Cheyne-Stokes' respiration had set in, and the case seemed absolutely hopeless. Dr. Martin twice performed lumbar puncture, withdrawing three ounces of cerebrospinal fluid the first time and two the second, with some slight relief, but in the course of twenty-four hours the symptoms were just as bad as before. It seemed as if the case was now beyond relief, but he decided on laminectomy with drainage of the cord as a last resort. This was performed, and a large quantity of the cerebrospinal fluid gushed up in the wound. He decided to put a drainage-tube in, but found that the loss of the cerebrospinal fluid would be too great and accordingly he packed with sterile gauze. The child's symptoms rapidly ameliorated; inside of forty-eight hours it was impossible to say that the child had any cerebrospinal meningitis; the reflexes returned, and the child became conscious, took nourishment, the temperature became normal, and in every way it seemed to be recovering. Unfortunately, however, it developed acute edema of the lungs and died. I wish to add that cultures were made of the cerebrospinal fluid so evacuated, and they proved to be pure cultures of the micrococcus intracellularis. The skull was also trephined through the left parietal bone for fear there might be localized abscess in the cerebellum, but repeated probing failed to show any localized foci of suppuration.

Dr. Bailey, Chicago—I have operated on two cases but they both died. The first one was a case of injury to the lower lumbar vertebra from a very serious traumatism. On opening the spine it was found that there was so much destruction of tissue that it could not be expected that recovery could take place. In the second case there was a gunshot wound. The ball entered over the scapula and passed through the spinus processes of two of the vertebræ. In this case after the removal of a portion of two vertebræ, there was absolutely nothing to be found microscopically, and that confirms the opinion spoken of by the last gentleman but one, and this patient died. With regard to doing a hemilaminectomy, I would infer that it was a difficult operation because a hemilaminectomy is the removal of a bone in a deep surface, but in regard to the technique in the first case I did it by rongeur and chisel, in the second case by the Dahlgren forceps, which I think is a very useful instrument, here as well as on the brain. In doing these operations I made one incision and pared back the tissues on either side and packed. After denuding the point, I took a small trephine, and, opening one of the laminæ, I introduced this instrument to bite out any of the tissues.

Dr. J. C. Munro, Boston—Why not do a lumbar puncture in place of any form of laminectomy if relief of pressure of the spinal fluid is all that is sought? A hemilaminectomy has no advantage over a complete operation from any point of view. The latter operation can ordinarily be done in twenty minutes and with very little shock. As to wiring the laminæ after operation, there is nothing to be gained; I have seen a number of cases of removal of several laminæ without any subsequent trouble, one patient having had eight laminæ removed in blocks of four.

As for operating early, I believe in it if it is not too early. In the case of a man who falls five or six stories and breaks his back, I believe it is bad surgery to operate while he is in profound shock; it is better to delay until reaction sets in, when the operation, which would easily be fatal at first, will be of but slight importance. The presence or absence of sensation is not of itself a contraindication to operation; other factors must be considered. I have not found it necessary to use oxygen in my cases; they have all taken ether well.

In reference to Dr. Patterson's laminectomy in meningitis, I think it has been done a good many times and may be of benefit occasionally, but ordinarily lumbar puncture will answer the purpose.

I should think that the use of the forceps that Dr. Bailey suggests would be good, but there is no use in lengthening the operation, and I am sure that my forceps aid materially in overcoming both delay and difficulties.

THE TUBERCULIN TEST, AND THE NEED OF A MORE COMPLETE DIAGNOSIS OF TUBERCULOSIS.

BY CHARLES DENISON, A.M., M.D.

DENVER, COLO.

Having been at work on similar lines[1], I am much interested in the perusal, just finished, of the excellent paper of Dr. Edward B. Otis, on the "Value of the Tuberculin Test in the Diagnosis of Tuberculosis[2]." My friend Otis may say that I am too sanguine in my discussion of his paper. I will return such a compliment by saying that he is too conservative, especially in his conclusions. For, though agreeing with him, in his high estimation of the test, I think he could have added from 10 to 20 per cent. to his successes, had he varied his procedure or differently estimated its results.

1. As to the tuberculin used: While allowing it to be preferable to use the same standard material as to virulency, the particular make—if it be pure—does not count for so much if the plan I propose be followed out, namely, to nearly double the previous day's dose, until some systemic or temperature reaction shall have occurred. It may be said that thus there will be occasioned a cumulative effect. That is precisely what can be estimated as a diagnostic measure of the susceptibility, or the latent tuberculosis existing in the person tested.

If a sufficient dose be not given to start with, I object to Dr. Otis' rule being made to apply, namely, "Allow several days to elapse before repeating the test," excepting, I would say, where you get a doubtful or incomplete reaction, or are testing a case already showing a daily exacerbation of fever. In that case the increase of that fever, and its subsidence in the interim between delayed doses, is a diagnostic guide. But what would be a sufficient dose is not known in advance; it is a problematic affair. And here—I take it—comes in the explanation of why some of the Doctor's cases known to be tubercular, did not react. If too small dose be given, and several days are allowed to intervene before the next dose—a slightly tubercular case is thereby acquiring a tolerance or partial immunity which precludes the very reaction we are after. Just so, an already resistant person, having a local infection, encapsulated tubercle, or glandular tuberculosis—i. e., scrofular or adenoid glands—will of course not react to an insufficient dose; especially if it be not repeated soon enough to overcome the tolerance already existing. This tolerance, progressively increased by appropriate intervals between injections, is just what we are after in the treatment of tuberculosis with tuberculin—now better still with watery extract—but the test under discussion, it is hardly necessary to state, is only intended for latent cases of tuberculosis, those not positively known to be affected, or as a proof of cure.

2. As to the maximum dose: I believe that the dose that Dr. Otis limits himself to, namely 10 to 12 mg., is insufficient for some cases, and consequently a correct diagnosis might be missed. Dr. von Ruck gave to himself 25 mg., and again, I understand, 35 mg., in order to be sure that a rebellious "cold," and suspicious signs, did not signify infection from his dealing so much with the tuberculous. I have succeeded in a few cases in becoming positive of latent tubercular infection, with 15, 20, and 25 mg., though the majority of cases tested began to respond to 5 mg. or less.

My method is to make a 1 per cent. solution of the crude tuberculin[3] in a .75 per cent. carbolic acid in distilled water. Of this then, .10 c.c. equals 1 mg. The commencing dose then would be from 1 to 2 mg. for a suspiciously sensitive and tubercular person—a girl in her teens, for instance—and 3 to 6 mg. for a less impressible person—an adult male, for instance.

I object to the arm for this hypodermic injection, or to choosing any place for it where liability to local inflammation might cloud the result. Underneath the shoulder blade, and on that side usually uppermost when sleeping, is the best spot. Then, if the temperature of the patient is known to be regular and even, or has been regularly taken for two or three days previously, at 9, 1, 4, and 8 o'clock, in order to catch any habitual daily variation, you are ready to commence the daily dose, nearly doubling the one of the previous day, until you get a first reaction. Then, if not fully satisfied, another increase after an interval of a day or two will clearly settle the diagnosis. As already intimated, the maximum dose may be 10 mg. and it may be 30 mg., according to the case; but the stage at which reaction occurs is used as a measure of the susceptibility and latent tubercular infection of the patient tested.

3. What is a sufficient and reasonably clear, diagnostic reaction? The answer to this question is capable of taking a wider range, I believe, than that taken by Dr. Otis. As he states, it is unfortunate, owing to the "ambulatory" character of his clinic, "that local condition after the test was not noted," and that the personal sensations of the patient had to be relied on, as to whether or not a reaction had occurred. I believe that by the stethoscopic and visual evidence of local changes in suspected or unknown diseased areas, and from the resulting variations in the temperature, others would have been found to have reacted.

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[1] A Plea for the Better Appreciation of the Tuberculin Test in the Diagnosis of Latent Tuberculosis.—Jour. of Tuberculosis, April, 1899.

[2] Journal, Oct. [illegible] 1899.

[3] Obtained from Victor Koechl & Co., or Von Ruck's Laboratory.

Aside from grippy sensations or general malaise, there may be a tenderness in tubercular growths, or in glands or cervical adenoids and a stiffening up of lung tissue—peribronchial glands—perhaps due to increased leucocytosis excited there. In affected lung areas this is to me instructively diagnostic. Its detection depends on "the before and after taking" investigation with a good sound-transmitting stethoscope. The exaggerated bronchovesicular breath-sound, higher pitched than before, or puerile in character, may thus be found in a few cases. I detected this local sign eight or nine years ago, when crude tuberculin was first used in treatment, but I have succeeded in impressing but few physicians with its existence, or importance, perhaps a fault of technic. However, in several cases it has located for me an affected area in a previously unsuspected spot. It is one of the nicest confirmatory diagnoses we have of the previously uncertain finding of physical exploration and auscultation, and who of us is not encountering these uncertainties? I am sure I do frequently. Others must, for I could frame an arraignment of the average physician for carelessness, or what is more, ignorance of what should *not* be uncertainties. This arraignment would be based on some such summary of facts as follows:

1. Physicians almost everywhere, measuring by the fees they charge, do not adequately estimate the importance of their physical examination. Country doctors often charge but little more for such services than for ordinary visits; others give too little time to a critical examination.

2. Not 5 per cent. of the physicians in the United States keep tabulated records of their physical examinations.

3. Too often the chest during exploration has been unexposed, or parts of the thorax have been entirely overlooked.

4. In country practice generally no plan has been arranged by which to determine the daily variation of temperature.

5. Mensuration has been defective, and not 1 per cent. of the physicians have accurately, by measure, compared the movements of the two sides of the chest.

6. Not 5 per cent. of several thousand examinations by others known of have had stethoscopic percussion tried, the most valuable means we have for detecting and outlining areas of softening or excavation. Another method nearly as often neglected is auscultation during a cough, a valuable method in determining the very commencement of softening.

7. In probably not more than 1 per cent. of examinations have the spirometer and manometer been used, instruments so needful to confirm and throw light on a correct diagnosis, and doubt on an incorrect or false one.

8. Six-sevenths of the stethoscopes in use are quite deficient in sound-transmitting qualities, and the fact that so many phonendoscopes and auscultoscopes are sold in itself bears proof of the diagnostic "inproficiency" of the average American physician.

9. The so-called "stomach coughs," "typhoid pneumonias," "bronchial catarrhs" and "chronic bronchitis" are far too often given as the explanation of conditions evidently tuberculous from the beginning.

10. The expectoration has been previously microscopically studied in less than 10 per cent. of the cases seen in the last ten years, and too often, when examined, a negative result, to be expected at the given stage, has lured the physician and his patient into harmful inactivity, until all of a sudden the disease has broken forth into a state of angry vigor that any layman, not to say doctor of medicine, could understand.

11. The tuberculin test has been seldom used, even during the past five years, when the experience of veterinarians in every state of the Union, and of divers physicians all over the country, was amply sufficient to convince a fearful and over-cautious profession of the comparative harmlessness of this excellent test.

These are only a few of the criticisms which show the need of greater care and proficiency in diagnosis by physicians universally, before we can get ahead of tuberculosis, i. e., detect it in its incipiency.

The questions of treatment, either climatic, hygienic, constitutional or specific, are not here being considered or even mentioned. I am considering diagnosis only; and twenty-six years of experience with invalids, referred to me by courtesy of brother physicians from all over the country, has given ample basis for delivering this diagnostic "kick." The climate here is all right and will add 10 to 20 per cent. to the recoveries otherwise obtainable in low altitudes, but the revised records of individual cases confirm and enforce the truth that an earlier and better diagnosis of tuberculosis is needed.

In lately reading Dr. E. C. Dudley's excellent work on gynecology, I was impressed by the definiteness of description shown, and the demarcation of the line between what we know and what we do not know. It was in marked contrast to our vague knowledge of thoracic and blood diseases. After all, the superficial, drifting laxity, complained of in general medicine, may have its excuse in the inferior estimate the doctor himself puts on his services, and an unappreciative laity's ignorance of the importance of detail and thoroughness is perhaps only a reflex of this inefficiency characteristic of the times. Tuberculosis is so much the accompaniment of poverty that an incentive is wanting to the carrying out of that nicety and thoroughness of detail in diagnosis which wealth makes possible. Therefore, it seems as if publicly-supported institutions, boards of health, dispensaries and hospitals ought especially to be supplied with and to utilize the most accurate means for the early diagnosis of tuberculosis, and among them the tuberculin test.

OPHTHALMIA NEONATORUM.*

BY DUDLEY S. REYNOLDS, A.M., M.D.

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Ophthalmia neonatorum is a disease assumed to occur coincident with birth. Clinically, it always means some form of purulent inflammation of the conjunctiva. It has been variously denominated as catarrhal, mucopurulent, blenorrheal, and gonorrheal. It appears as a catarrhal or suppurative inflammation of the conjunctiva, attended with more or less swelling of the lids. It makes its appearance, according to Swanzy, from the second to the fifth day after birth. Noyes fixes the time "at about the third day, but may be delayed as late as the eighth day." Nettleship says it appears on the third day after birth. Fuchs says it appears, as a rule, on the second or third day. It is agreed by all writers on the subject that the disease occurs uniformly between the second and eighth day after birth.

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* Read before the Tri-State Medical Society, at Chattanooga, Tenn., Oct. 25, 1899.

Mode of Infection.—It was formerly considered to be caused by improper exposure of the eyes of the new-born to light, and to that mysterious source of all acute diseases, catching cold. Recently the text-book writers have all united in ascribing it to infection during the act of birth. It is maintained, by a large number of the most recent observers, that the disease is nearly always of gonorrheal origin, and that the infection is derived from the maternal passages in the time of parturition. This hypothesis is based very largely on the generally recognized fact that some form of mucoid discharge occurs in nearly all parturient wómen, especially during the last days of pregnancy. It is maintained by some that the disease is most common in the eyes of those born of face presentations, a comparatively rare observation in obstetric practice. The time at which the disease appears after birth would seem to contradict the theory that the infection occurs during delivery.

So long ago as 1841, Piringer demonstrated that a healthy conjunctiva inoculated with matter from purulent conjunctivitis reproduces the original type of the disease in from six to seventy-two hours, according to the virulence of the inflammation furnishing the virus.

It is agreed by genito-urinary surgeons, that a gonorrhea is likely to appear within twenty-four hours after exposure, and it is more than likely in delayed cases that the infecting agent is retained in the folds of the prepuce and does not at once attain contact with the urethra.

Bacteriologists have shown that the staphylococcus aureus procreates in culture-media, within twenty-four hours. How can it be possible then, that any of the purulent infections of the conjunctiva appearing later than twenty-four hours from the time of birth, may reasonably be ascribed to infection in the maternal passages?

It is a fact that gonorrhea is by no means the common infection, far the larger proportion of cases being due to the development of the staphylococcus aureus, or to some one of the numerous micro-organisms which are known to beget mucopurulent inflammations of the conjunctiva.

In a rather large experience at the Louisville City Hospital, covering a period of nearly thirty years, I have found that ophthalmia neonatorum is comparatively rare since the introduction of trained nurses, excepting when attempts at preventing the disease by antiseptics have been made. I am thoroughly convinced that the disease appears almost uniformly as the result of unskilled attempts at washing the face, or meddlesome interference with the infant's eyes. In 1894, immediately preceding my term of service there, nearly every child born in the City Hospital had purulent ophthalmia. The practice in the obstetric wards, of attempting to prevent the disease by Credé's method, was, in my judgment, responsible for the infection. I induced my colleague to have this practice abandoned, and to permit no interference with the eyes of the new-born. From this time on, during my term of service, no new case appeared. Similar experience in many other years of service might be cited.

Mode of Prevention.—When the baby is born, the vernix caseosa should be removed from the skin by a thorough application of petrolatum with the clean hands of a trained nurse. The greatest care should be taken not to touch the eyelash, nor to invade the region of the palpebral fissure. To remove the petrolatum, a stiff probe or stick should be used, on the end of which is rolled a section of absorbent cotton, forming a small [illegible] mop, with which to wipe the skin of the eyelids, and the side of the nose; the greatest care being taken to prevent the mop touching the inner canthus, where there is the greatest danger of inoculating the conjunctiva. It is assumed that all babies are born with the eyes closed; that the lashes of the upper and lower lids project outward in contact, thus protecting the palpebral fissure.

The fact that ophthalmia neonatorum does not occur, as a rule, within the first twenty-four hours after birth, demonstrates the absence of infection at time of birth, and clearly establishes later inoculation. If, by any accident, the eye should become irritable and watery, it may be flushed with normal salt solution, without detriment to the infant, and with soothing effect to the eye. If, for any reason, there is cause to suspect inoculation with infectious matter, any antiseptic application to counteract its effects should be of a mild and unirritating character, for it is manifestly clear that sterilizing the surface of the conjunctiva is all that is necessary to retard the growth of a freshly introduced ferment. Surely any agent sufficiently powerful to destroy its vitality would excoriate the conjunctiva.

Treatment.—If the disease is seen in its earliest stage, the stage of irritation, a collyrium of the following composition may be used:

℞. Borate of sodium	gr. x
Chlorid of sodium	gr. iii
Crystals of carbolic acid	gr. ¼
Distilled water	ʒi

It is needless to say all collyria should be filtered before using. A drop of this should be instilled into the irritated eye every half hour. If the irritation increases, and tumefaction of the lids comes on, small flakes of coagulated mucoid matter begin to make their appearance on the conjunctival surface, and presently the discharge is purulent in character. The collyrium should then be supplanted by a fluid similar in composition, to be used with an irrigator, every half hour, both day and night. If the discharge increases, becoming profuse, the interval between the irrigations may be shortened to fifteen minutes. If, on the contrary, no accumulated inflammatory matter is present at the end of the prescribed interval, the time between the irrigations may be extended. In all those cases due to staphylococcus inflammation, and in the milder types, this plan of treatment, being commenced in the outset, will be found amply sufficient if thoroughly carried out. In those purulent forms where the discharge of pus is profuse at the time the treatment is begun, and where it is likely the disease is of gonorrheal origin, the fluid for irrigation should be,

℞. Chlorid of sodium	ʒiii
Bichlorid of mercury	gr. iv
Carbolic acid	gr. xvi
Water	C.i

To be dissolved and filtered.

If the disease does not seem to progress well, do not be discouraged; make the intervals sufficiently short between irrigations to prevent accumulation of pus; apply it thoroughly, and the disease will certainly yield. If pseudomembrane forms on the surface of the conjunctiva, do not remove by forcibly wiping the everted lid, which will likely produce abrasions of the surface, thereby intensifying the inflammation. In gonorrheal cases, which may usually be distinguished by the presence of chemosis, and by the discharge of bloody serum mixed with the pus, during the first two or three days of the attack, such extensive swelling of the upper lid may have occurred as to make eversion impossible. In such cases a free canthotomy should be done in such manner as to extend the free border of the lower lid outward, quite to the bony margin of the orbit. This will include division of the outer and middle rings of the orbicularis palpebrarum muscle, and the superior external lid band. Generous ablutions of warm borax water may be made to encourage the flow of blood, as well as to assist in the process of cleansing. I recall many in whom I have done this operation with most gratifying results. A young woman whom I recall to mind, the daughter of a brother physician in Louisville, had her eyes infected with gonorrheal matter about ten days after her birth. The doctor employed such agents as his confrère, who delivered the child, suggested. On the fourth day after the disease began, the upper lids were so enormously swollen as to project quite down on the cheeks. In this condition I was called, and at once practiced free canthotomy on both eyes, after which the irrigation with the chlorid of sodium and bichlorid of mercury solution, already described, was employed every twenty minutes. In ten days the patient had entirely recovered, without corneal abrasions. The family were greatly discouraged during the first few days of the treatment, but as nothing better seemed available, they quietly submitted, with the result already stated.

CONCLUSIONS.

1. Ophthalmia neonatorum means infectious conjunctivitis.

2. It is always the result of contagion, very rarely, if ever, occurring in the process of delivery, the infecting agent being introduced either at the time of attempting to practice the Credé method, or some similar mode of prevention, or by unskilled handling of the eyes of the infant by the nurse.

3. The clinical forms of the disease may be divided into mucopurulent and gonorrheal, which latter, being purulent also, is difficult to distinguish, and so we may conclude to divide the three forms according to the nature of the infecting agent: *a*, the micrococcus Pasteuri; *b*, the pneumococcus, or the bacillus of Weeks; *c*, the staphylococcus aureus, and *d*, the gonococcus of Neisser.

4. The only efficient mode of prevention is that which avoids infection, and which it may be readily seen should forbid the person who handles the soiled linen of the parturient woman from handling the child. The irrational methods of Credé, and others, who have advocated the use of a 2 per cent. solution of nitrate of silver, or similarly strong solutions of bichlorid of mercury, formalin, etc., can not be too strongly condemned, as they can not prevent the ordinary sources of infection. A single application could not destroy the infection after it has been introduced. The irritation it produces leads to subsequent handling of the eyes, and multiplies the chances of infection.

5. In well-marked cases, where one eye alone is infected, the sound eye should be protected with Buller's shield. The watch-glass should be strapped carefully to the cheek, up the bridge of the nose, and along the brow with rubber plaster, firmly and well applied, leaving the temporal side of the glass unattached. This shield once applied, should not be removed, unless perchance the condition of the eye should demand it. When the Buller's shield is found necessary for the infant, its arms should be so confined as to make it impossible for it to bring its hands to the face. This may be accomplished with an ordinary wrap, secured with safety-pins.

6. In the treatment of all cases of infectious conjunctivitis, the irrigator should be employed. It should consist of a vessel capable of holding a gallon. The fluid to be used should be placed in the vessel, which should be hung not more than twelve inches above the plane of the patient's head. A glass dropping-tube should be inserted into the rubber as a nozzle, for two reasons: 1, the stream from the irrigator should be small; 2, the nozzle should be of such material as may easily be kept clean. Great care should be observed by the person using the irrigator, not to permit the finger nails, or the nozzle of the irrigator to touch the cornea, as one of the principal dangers from infectious conjunctivitis is found to arise from invasion of the cornea through abrasions. Where the formation of pus is rapid, the interval should be short, and the applications made with great regularity, both day and night. Some have asked whether the child should be disturbed when sleeping; the answer should be, unequivocally, yes! Pay no attention to the question of sleep; it will be found that the irrigation does not cause pain, and may often be conducted without awaking the child, after the first day or so. The great question to be constantly borne in mind is the necessity for frequent and thorough washing away of all inflammatory matters from the surface of the affected membrane. Such matters as adhere so tenaciously as to resist the frequent irrigation should be left undisturbed by other means. It is likely, in most cases of active inflammation, that a pseudo-membrane will form over the palpebral conjunctiva. In gonorrheal cases abrasions are presently occupied by masses of lymph. Should this be removed, deeper tissues will be invaded. Eversion of the lid is necessary to proper cleansing of the eye in every case. The old lid retractor of Demarres is a most useful instrument for the purpose. If the swelling is so great as to make eversion painful, canthotomy will relieve it. This never leaves any visible scar. It should always be done with the scissors, the point of the blade to be introduced between the lids being blunt. Properly carried out, this plan will be found so successful that the wisdom of Sydenham's declaration: "He who cleanses well, cures well," shall receive abundant demonstration.

A CASE OF CHRONIC INVERSION OF THE UTERUS: SPONTANEOUS REDUCTION AFTER THREE YEARS.

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In bringing to your attention to-day the subject of inversion of the uterus, it is done partly because our program has never before borne such a one, and partly because it is practical; this latter because anyone attending a lying-in woman may meet with such a complication, not often, it is true, possibly not once in a lifetime, or in several lifetimes, for when we consult such records as that of the Rotunda Hospital in Dublin we find only one case in 190,000 deliveries, and in St. Petersburg no case occurred in 200,000 births. Few obstetricians have seen a case, but the subject is practical, for the unexpected does too often happen. It does not follow that because large hospitals where skilled aid is at hand, present so few cases of inverted uteri, they are so very infrequent, when we turn our attention to the methods of accouchment as followed by the omnipresent midwife, who can not appreciate etiologic factors that certainly are not infrequently present. How can she understand that [illegible] [illegible] [illegible] placenta may be firmly attached to the fundus [illegible], in the presence of certain conditions, turn the uterus inside out, and yet her invariable method of placental extraction is to pull on the cord until either the placenta, and sometimes the uterus too, is delivered or the cord is severed at its placental attachment. One often marvels that inversion is of such infrequent occurrence. Perhaps traction on the cord with fundal attachment is only one link in the chain of etiologic factors. Crampton states that "1. Inversion is preceded by paresis of some portion of the uterine muscle (not necessarily at the placental site), caused either by too frequent child-bearing, tedious labor, previous miscarriages, traumatism, emotional excitement, or too rapid delivery. It is a pure neurosis in its inception. Traction on the cord may induce prolapsus, or severe procidentia. It will never alone produce inversion; but may facilitate it if paresis is present. 2. It is more apt to occur in primiparæ. 3. This liability in primiparæ is due to the peculiar emotional excitement preceding and associated with first labor, reflected upon the exhausted uterine muscles, for the first time called into unusual action. Given a slight degree of depression of any portion of the uterine body, and the natural vigorous contractions of the uterus in a first labor become a source of increased danger."

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* Read before the Medical Society of the Missouri Valley, at Council Bluffs, Iowa, Sept. 21, 1899.

Beckman, from 100 tabulated cases, collected from 1885 to 1895, concludes that spontaneous origin is most frequent, and he believes that relaxation of some part or of the entire uterus is necessary.

From this it is not difficult to see, given a case of uterine relaxation with fundal placental implantation, how traction on the cord can produce inversion. An inversion having taken place, immediate replacement can be accomplished in a great many cases; failures are not infrequent. However, the mortality is great, and it is said to be from 30 to 50 per cent. If reduction is not accomplished, either because the constricting ring is too tense or because skilled aid is not at hand and the patient survives the gauntlet of shock, hemorrhage and sepsis, we have a condition known as chronic inversion, which may become permanent or may end in spontaneous reduction.

To illustrate this latter condition the following case may not be out of place.

Mrs. F. K., born in 1857, was admitted to the Omaha (M. E.) Hospital in October, 1893, her age being 36. She was about [illegible] feet [illegible] inches tall, and weighed 175 pounds. She was an American by birth. Menstruation began at the age of 13 years. She was married at 20. A year later she gave birth to a dead child which weighed 10½ pounds. Then followed, in regular succession, eight children and two miscarriages. Her youngest child was three years old when she was admitted to the hospital. Her own mother had twelve children. Since the birth of her last child she had suffered from frequent and exceedingly profuse menstrual flows, many of which became so alarming that medical aid was summoned. Any unusual strain always induced a bloody [illegible]

On examination per vaginam, the palpating finger came in contact with a round, globular, orange-sized enlargement, which suggested an extruding intrauterine polypoid. Hemorrhage immediately became profuse, and further manipulations for the time being were suspended. She was much exsanguinated, from more or [illegible] was placed in bed a few days, and was induced to partake of fluids in large quantities. In about a week, under chloroform anesthesia, a more careful exploration revealed an unexpected state of affairs. The polypus could be traced on all sides, not more than one-half inch above the margins of the external os. Nowhere could be found a uterine cavity. On bimanual examination no fundus uteri could be felt above the pubes. Her abdominal paniculus being very thick, the condition was somewhat doubtful, but a rectal exploration set all doubt at rest; there was no fundus in the pelvic cavity. So we changed our diagnosis from uterine polypus to chronic inversion of the uterus, of three years' standing.

After the usual vaginal disinfection process, an attempt was made at reduction, by first inserting four pairs of vulsellum forceps, one in each of the four quadrants of the cervix. A steady downward pull was exerted on the vulsella, and firm upward pressure on the fundus uteri, but no impression could be made on the organ. An attempt was made to dilate the cervix at the constricting ring, which partly succeeded, but renewed and prolonged efforts at reduction were futile. No other course seemed practicable than dilation of the constricting ring by the abdominal route, or a hysterectomy, but since we had not obtained the consent of the patient for so grave a procedure, not having anticipated such a contingency, only one course seemed left open. The hemorrhage had become profuse, to an alarming extent, and this must be stopped. A thick velvety mucous covering which bled on the slightest touch enveloped the uterine tumor. To remove this investment seemed indicated, and was immediately done with a sharp Volkmann spoon. The entire uterine mucous membrane was removed, leaving a firm, hard, fibrous surface from which no blood exuded. After a copious flushing and removal of the vulsella, the uterus was pushed upward and the vagina firmly packed with iodoform gauze, hoping by continued upward pressure to make a gradual reduction, as was suggested first by Tyler Smith. This packing was removed every few days, but after about two weeks of these efforts, which were very painful to the patient, no progress seemed to have been made, and all further efforts at reduction were refrained from and the woman sent home. She was lost sight of, and nothing was heard from her till a few months ago, when it was learned from her physician, much to my astonishment, that she had passed through a normal confinement since her return home.

What had meanwhile taken place? Spontaneous reduction and complete regeneration of the uterine mucous membrane. The spontaneous reduction in our case supports the view of Tyler Smith, that the constricting ring is not always equally tight. Unfortunately we can not sit by and watch for the favorable moment when relaxation is at its height. Fortunately, Nature does occasionally succeed where art fails.

It is interesting to note the regeneration of the uterine mucous lining in this case. It set at naught the objections so often urged against curettement, that a scraping away of the uterine lining destroys its normal function for all time. In our operation the mucosa as well as the submucosa was removed as thoroughly and completely as it is possible without destroying the follicular zone. Such a complete removal of mucous tissue is impossible by the usual method of curettement, however, carefully done. One need have no fears about the restoration of the endometrial lining after the most radical curettement possible, providing malignant disease can be excluded.

FROM SADDLEBAGS TO POCKETBOOKS.*

BY B. T. WHITMORE, M.D., LL.D.

NEW YORK CITY.

Within the memory of men yet young it is not difficult to find the picture of the ancient physician, of the old type and taking a wholesome pride to himself as belonging to the old school, in fighting the battles of which he would expend a mighty polemical energy. He was an ornament to his profession, and his profession reflected honor on him. With the minister and the squire, the doctor formed the triumvirate of the American community, leaders of public opinion, foremost in all public works, the friends and advisers of all classes of society. There was then no opportunity for specialism nor for office practice. The old doctor was called to cover a wide district in his gig, more often on the back of an equally sedate horse, which had through long experience learned the doctor's calling list, even if not his method of treatment. But whether in the gig or on horseback the ancient physician made his welcome way, he was never to be dissociated from his saddlebags. They were the outward and visible sign of his profession. It was only in chronic cases that he brought the saddlebags into the house with him when he had hitched his horse to the palings of the front fence, where he might nibble succulent grass or reach over the pickets to get the taste of the Drummond phlox rankly growing in the garden. Who will ever forget the pride of the errand when the good old doctor said, "Sonny, run out and bring in my saddlebags?" There was always some reward, an inch of Spanish licorice or some such matter, that made the errand pleasant to run.

There was more in those saddlebags than mere medicine for the old-time doctor. Under the dark-stained flaps of leather was his whole theory of the practice of medicine. The object of this paper is to amplify somewhat on that point. Physicians no longer carry the saddlebags. In relinquishing them they have weakened their hold on something for which the saddlebags stood. It is intended to ask attention to a few suggestions in the direction of practical advice as to how to retain that principle for which the saddlebags stood, and which it is not wise to permit to drop out of our modern practice.

The real meaning of the ancient saddlebags was that the physician was his own dispenser. After the pulse had been counted for the full thirty seconds ticked off on the old silver bull's-eye watch, with its bunch of seals; after the laying of the soothing hand on the fevered brow had in some fashion taken the temperature without the clinical thermometer, what came next in practice? Who can forget it? The essence of healing was in the gentle order, "Bring me two clean tumblers and a pitcher of water." The rest came from the wonderful saddlebags. No one knew just what it was, but it had its merit, and the doctor left with careful directions as to which glass was to be taken first and how to keep track by shifting the spoon to the glass next to be used.

The physician dispensed at the bedside his own medicines. In more than one sense they were his own. Many of them he had prepared. Many were officinal plants which he himself had collected. "Roots and yarbs" they were often called. So they were then, so they are to-day, although they are supplied in bottles for ready use. In those days the physician was familiar with the raw material and the process of the gallipot. Many of his tinctures and extracts were made at the back of his own kitchen stove, and the profession of medicine rather prided itself on the ability to make a neat pill.

The change to modern methods of practice has affected the physician. The saddlebags have passed away. He may have his pocket-case for tablet triturates and for the hypodermic syringe, but he has ceased in the main to be his own dispenser, and he has entirely ceased to be the preparer of his own remedies. In the change the physician has passed along to the druggist and to the manufacturing pharmacist the responsibility for the quality of the remedial agents for which he calls in his written prescription. These two, then, in modern practice, appear as adjuncts to the practitioner.

In this modern development the dispensing druggist takes a position of dependence on the manufacturing druggist. On him he depends for the ingredients of the prescriptions which he is called on to fill. The manufacturers, on whom the dispensing druggists—and through whose intermediation the prescribing physician in the second instance—have to depend, have gradually differentiated into two special lines.

The first of these is the manufacturer who holds himself rigidly to open pharmacy. What that means there is no need here and now to define, for it is thoroughly appreciated. In his relation to the general subject of this paper the manufacturer in open pharmacy is loyal both to the medical profession and to the druggist. In his relation to the practitioner he is to be understood as conserving his interests scrupulously and honestly. The physician has, through the change in social conditions, relinquished of his own volition the right to dispense. For his own greater convenience he has encouraged, through the system of prescriptions amounting to unspecified drafts drawn on the pharmaceutical profession, the retail druggist to advance to the position of the general dispensing agent. By this means he saves himself, for the greater advantage of his own profession, the preparation and dispensing of his remedial agents. At the same time the druggist has in the same voluntary way relinquished to the open pharmaceutical manufacturer the collection and preparation of the essential ingredients which enter into the formulation of the prescriptions which the medical profession entrusts to him. By following methods strictly ethical the open pharmaceutical manufacturer has made himself a valued and respected adjunct of the physician and the druggist.

The second of these lines of special development comprises the manufacturers who engage in the promotion of agencies which are protected either as a process or as product patents, or which accomplish the same end by copyright on names or by trade-marks; and finally, those proprietors who seek to monopolize the field by secret formulas. It might be shown that there are grades in this line of industry, and some interesting details might be presented but for the limitations of time and space. Yet attention must be drawn to a parting of the ways in this particular line. There are two strongly marked cases of such manufacturers, and their relation to the medical and pharmaceutical professions, while the same in the last analysis, follow different paths which only in the end converge.

One class of such manufacturers makes its appeal directly to the laity. The remedies put forward by the manufacturers of this class may or may not have a name more or less medical in tone. But they make the practice of appealing to the laity without the intervention of the medical or of the pharmaceutical profession. They describe symptoms and they denominate maladies in which they claim efficacy for their product. The logical outcome is self-prescription, which entails to the physician and to the druggist a certain loss and to the lay user a more serious damage. Little need be said as to this class of manufacturers; their position is known and the results are recognized.

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*Presented to the Section on Practice of Medicine at the Fiftieth Annual Meeting of the American Medical Association, held at Columbus, Ohio, June 6-9, 1899.

The second class is less open and is far more insidious in its operations. It makes the public profession that it does not appeal to the laity; that its efforts are expended on the practitioner in close restriction. Its remedies are uniformly in the guise of strict medical nomenclature. It forwards its literature to the doctor and asks him to use its goods in prescribing. In this it makes him the agent to his own undoing and to the crippling the druggist, his assistant. In practice the advantages of these products are always more or less publicly made known to the laity. The prospectuses continue to bear the label "For the Doctor Only," but the private person into whose hands they fall thinks all the more by reason of the restricting label that he is getting true wisdom, that he becomes "even as the gods, knowing good and evil." Even if that does not happen the result becomes the same. Suppose the instance where the physician includes in his prescription some one of the products of this sort of manufacture; the patient learns from the bottle what to take and for the future he takes it without reference to the physician. The progress to self-prescription is only a little delayed, it is none the less inevitable.

Now, these are conditions which must be met by the profession. It is not that an appeal is made to the mercenary side, although the member of the profession is entitled to his honorarium. It is that as a profession having in its keeping the public health, it must face the dangers arising from the unskilled use of medicines.

It is not the intention to comment on this condition which has arisen without indicating the remedy. The professional integrity of the physician, as well as his personal interest, summons him to meet this newly risen condition, and to meet it now while it is as yet in the formative stage. The remedy proposed is specification.

The druggist is as yet uncertain of his position. His desire leads him to remain as the valued assistant of the medical profession, to regard his prescription department as the center of his activity. For the moment he is hesitating between his profession and the allurements of commercialism. In this contingency the honest retail druggist welcomes specification by the physician; it serves to anchor him to his noble profession. If a prescription brought to him to be filled calls for essence of pepsin he may look at it in two ways. As a commercial man he will supply the essence of pepsin which is the cheapest to him to buy and which will when dispensed yield him the correspondingly larger profit. But if the prescribing physician will only show that he has made examination into the quality of the various pepsins, and has taken the pains to specify [illegible] [illegible] of the choice and dispenses with profes[illegible]action that which he finds specified in the [illegible] which he is filling. In the same way when [illegible]tion calls for cascara sagrada. As a com[illegible]n he knows that there are a score of cascaras of varying strength, but if the physician will but specify [illegible] that the effect expected by the physician will in all human probability follow.

The druggist will gladly welcome specification. The physician should regard it as a duty. That brings the final consideration back to the saddlebags in which it began. The saddlebags of the old-time physician represented his own dispensing agency. Nothing went into them unless he had convinced himself of its efficacy. There are no longer saddlebags, but the duty is the same, the physician must certify in some way to the therapeutic value of the elements which go into the prescription which he writes. The responsibility is his, not the druggist's; he is the one to assure himself of the value of the ingredients, the druggist is but ancillary. The only way to accomplish this is by specification in prescriptions. It will avoid the Scylla of leading the laity to the wreck of self-prescription, and equally shun the Charybdis of inefficient prescriptions.

CONTINENTAL VIEWS OF ALCOHOL IN THERAPEUTICS.*

BY T. D. CROTHERS, M.D.

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The impression prevails that alcohol is used unquestioned as a drug in all the wine and beer making countries of Europe. A therapeutist and author recently wrote that "only in America and among a few extremists is there a doubt of the value of alcohol as a remedy."

I propose to give a brief review of the revolution of practice and theory concerning alcohol in medicine now going on in Europe. Thirty years ago the general principle of practice was stimulation. Alcohol was supposed to rouse up and support vital forces in disease. Twenty-three years ago the first practical denial was put into a permanent position in a public hospital in London, where alcohol was seldom or never used. At first its use was confined to certain extreme cases, then pure alcohol of a definite strength, reduced in water, was administered. Finally, it was abandoned and is now rarely used, and to-day, after twenty-five years, the hospital statistics show a lower rate of mortality. In 15,224 cases under care during this time, the mortality has been less than 7 per cent., much less than in other London hospitals where alcohol has been freely used. This has been considered a practical demonstration, and has influenced medical theories largely in England.

Dr. Richardson's researches showing the anesthetic nature of alcohol have had a great influence in changing medical practice in England. The result has been seen in the rapid decrease of the spirit bills of public hospitals, and the abandoning of the spirit rations in the army and navy.

On the Continent, a number of scientific workers have published researches confirming Dr. Richardson's conclusions and bringing out other facts as to the action of alcohol on the brain and nervous system. These papers and the discussions which followed have been slowly working their way into the laboratory and hospital, and have been tested and found correct, materially changing current opinions and creating great doubts of the value of alcohol.

In 1876 the prosecution of Dr. Hirschfeld, a Magdeburg physician, in the German courts, for not using alcohol in a case of septicemia, seemed to be the central point for a new demonstration of the danger of the use of alcohol in medicine. Dr. Hirschfeld was acquitted on the testimony of a large number of leading physicians from the large hospitals and universities of Europe. It was proved that alcohol was not a remedy which was specifically required in any disease; also that its value was most seriously questioned as a general remedy by many able men, and its substitution was practical and literal in most cases. Statistics were presented proving that alcohol was dangerous and never a safe remedy, and laboratory investigations confirming and explaining its action were given. Since then a sharp reaction has been going on in Europe, and alcohol is rapidly declining and passing away as a common remedy.

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*Presented to the Section on Materia Medica, Pharmacy and Therapeutics at the Fiftieth Annual Meeting of the American Medical Association, held at Columbus, Ohio, June 6-9, 1899.

The physiologists have taken up the question of the action of alcohol on the body and brain and, curiously enough, a great many have announced themselves as total abstainers and have become very prominent in the condemnation of the use of alcohol, both as a beverage and common drug. Some of these may be mentioned, as Professors Soule and Folel of Zurich, Switzerland; Hersten of Lausanne; Bung of Basle and Schiff of Geneva; McKenzie, Horsley, Gould, Woodhead and others of England. The list of eminent teachers and specialists of Europe who have written against the use of alcohol as a drug, except in some unusual cases, is growing rapidly, and the lists of papers in the *Index Medicus* and the German publications of this class are startling evidence of this change.

The increased action of the heart, with the feeling of warmth and exhilaration which follows the use of alcohol, has always been considered evidence of its medicinal value. The diminution and cessation of pain, with the relief and buoyancy which followed have been interpreted by both laymen and physicians as stimulation. Yet, certain phenomena appeared that were unexplainable. Thus, the depressions of vital force, acute inflammatory states, sudden death from heart failures, profound anemias and other symptoms have been attributed to the quality and dosage of the alcohol. These gave rise to minute studies and directions concerning its use, and cautions as to when and where it should be given. Elaborate experiments were made on the physiologic effect of alcohol on the organism of animals, in the laboratory, the results of which have varied and are unsettled even up to the present time.

It was not until the subject was taken up psychically, and the phenomena were tested and examined by instruments of precision, that the real facts became apparent. Richardson began years ago, and many others have continued the research, and at present a large mass of facts has accumulated, some of which may be stated as follows:

The most common of all symptoms is the increased heart action, which is found to be four thousand beats in twenty-four hours for every ounce of alcohol used. This is found to be, not the outcome of a new force, but the calling into activity of the reserve powers and force of the heart. The heart action normally is the result of arterial pressure and nervous action. The latter is diminished by the narcotic action of alcohol and the former deranged. The flushed face following the increased activity of the heart is due to loss of nerve control, calling into action the reserve heart force. This is clear from the diminished force, measurable by instruments. The more rapid the heart beats, the weaker it becomes, so that alcohol is first an irritant, then a depressant and paralyzer. This is also proved by the symptoms of exhaustion which follow, and muscular measurement. Destree of Brussels concluded, as the result of most elaborate studies, that alcohol on the heart and muscular power has at first a slightly favorable effect, but a very transient one. The heart's force begins to decline at once, depending on the amount of spirits used. The muscular power reaches its maximum in thirty or forty minutes, and after that it is with difficulty kept up. The paralyzing effect increases, and its measurement becomes more and more exact and certain. Literally, alcohol does not supply any new energy to the body, but liberates the existing stock of energy with greater loss and exhaustion.

The action of alcohol on the stomach is physiologic, and not well understood. If in large doses, muscular contractibility is arrested, flaccidity and dilation result. Digestion is interfered with, the food is passed on partially digested and undergoes putrefactive decomposition. Sensation is blunted, and satiety is lost. The action of alcohol on the senses and mental phenomenon has been examined with much exactness. Here instruments of precision yield similar results, and but little difference of opinion prevails. Paralysis of all the special senses follows; the functional activity of the brain is lessened down to complete narcotism. Forel of Zurich has been able to note these changes following the use of 20 c.c. of alcohol. This is the smallest dose the effects of which have been measured. Larger doses and doses taken at regular intervals show this same paralyzing action.

The conclusion that all authorities agree on is that alcohol is always a depressant and anesthetic. So far these anesthetic effects are found to appear very soon after spirits are used, and to follow a certain uniformity of progress depending on the conditions and dose. These facts are being rapidly increased and confirmed by both clinical and laboratory observations. Chloroform, sulphuric ether, chloral and other well-known anesthetics, all exhibit, in an extreme degree, the physiologic action of alcohol.

The value of alcohol in disease has been and is seriously questioned in the minds of many persons. Tradition, social custom, and empiric dogmatism have invested the question with difficulties which, happily, are fast disappearing. A number of authorities have enumerated the diseases and conditions of disorders in which alcohol is counterindicated. This list has now grown to such an extent as to practically include almost every condition of disease and degeneration known. Dr. Clouston is very emphatic in showing the danger of alcohol to all who have suffered from head injuries and inflammation of the brain and other nerve affections.

Professor Woodhead, the Cambridge pathologist, gives the following list of conditions in which it should [illegible] In those: 1. Who have any family history of drunkenness, insanity, or nervous disease. 2. Who have used alcohol to excess in childhood or youth. 3. Who are nervous, irritable, or [illegible] 4. Who suffer from injuries to the head, gross disease of the [illegible] and require amusement. 8. Who have little self-control [illegible]

[illegible], the result of senile degeneration. 10. [illegible] diseases of the stomach, liver, kidneys or heart. 11. Never to be given to young children and in the adolescent stage.

This list is practically prohibitive of all use of alcohol in medicine. At all events, it indicates that its use must be based on new ideas and an exact appreciation of means to accomplish a certain end. While laboratory researches continue to bring out the anesthetic effects and paralyzing action of alcohol, clinical observations, first of all, show that there are many substitutes and other remedies whose action is equally valuable with that of alcohol. The supposed stimulation is irritation and narcotism. No new force is added, but large demands on the reserve force are made. A new bacterial toxin is added to the blood, oxidation, elimination and digestion are diminished and, finally, seriously and measurably impaired. These facts are accepted as fully established, and the disputed points are in what doses are these effects seen to follow, and are they due to the quantity and quality of the alcohol given? Are they only certain physiologic poison effects, and are different results bound to follow smaller doses given in a certain way? Dr. Frick, an eminent teacher of medicine in Zurich, Switzerland, and Dr. Van Speyer of the University of Berne, have become very prominent in their writings against the use of alcohol in medicine except in rare and peculiar conditions. They have made statistical studies of cases treated with and without alcohol, and have analyzed the effects of spirits as medicinal agents to check and antagonize disease, and assert, very positively, that alcohol is a dangerous and exceedingly doubtful remedy. Dr. Meyer of the University of Gottenburg, Dr. Mocleius of the Medical School of Leipsic, and Dr. Wehberg of Dusseldorf are equally prominent physicians who have taken the same position and are equally emphatic in their denunciations of the current beliefs concerning alcohol in medicine.

These and many other physicians have organized two societies for the study of the alcohol question on the same plan as the English Medical Temperance Society and the American Medical Temperance Society, the only difference being that the two latter societies are composed exclusively of physicians, while the Swiss and German societies comprise laymen, teachers and physicians. A French society, with a large membership of medical men, has been in existence for ten years. These societies have been making total abstinence the central object of their work, to which is added new studies of alcohol, and new theories of its value as a medicine. Both the English and American society have confined their work to the physiologic and therapeutic action of alcohol, while the German, Swiss and French societies have taken up the hygienic, sociologic and statistical sides of the subject.

In Russia, Sweden, Denmark, Austria and Italy, similar societies have been formed, with physicians as leaders and the scientific study of alcohol as the central theme. The result has been that the medical profession has become far more interested than laymen. This is the opposite of public sentiment in England and America. Here the alcohol question and its study is confined very largely to laymen, and to the hygienic and sociologic sides. On the Continent, where physicians are prominent, the physiology, pathology and therapeutics [illegible] the leading topics. Revolutions and changes in scientific practice go slow in Europe. A drug like alcohol, which has been in use as a beverage so long, and [illegible] tonic and stimulant, can not be changed and driven out in one generation.

Its domestic use in Europe is more strongly intrenched in the customs and prejudices of the people than in this country, but its therapeutic use has never been so firmly fixed in practice as in England and America. For that reason physicians on the Continent have less personal bias to the therapeutic use of alcohol. They are more disposed to question its claims and test its value.

The brilliant discoveries in pathology and psychology have brought out the fact that alcohol, next to syphilis, is one of the most dangerous poisons in its effects on the body. This is rousing new and critical inquiries about the theories of its value in medicine. These reveal the errors of the value of alcohol in medicine. The test of clinical experience confirms the conclusions of pathology and physiology. As a result, Continental physicians are rapidly changing their views of alcohol in therapeutics and questioning the theories on which its use is based. Doubts concerning the place of alcohol in medicine are rapidly increasing in all German schools of medicine, and the physicians are recognizing this change in their practice.

In this country several elaborate experiments have been made treating cases without alcohol, and the results have fully confirmed the theories of Continental physicians. While alcohol is used, and in many cases very freely, there is a critical spirit abroad and the current literature is full of doubts and denials. The defenders of alcohol in therapeutics are disappearing, and reference to spirits as a tonic or stimulant are timidly made and feebly supported in the journals.

The question is very tersely put by Dr. Baere of Berlin, who says, in substance: The time has come for a change of theory and practice concerning alcohol in medicine when modern pathology, chemical and psychologic research, all fail to support the theories on which alcohol is used in medicine. Dr. Lagand of Paris puts the same idea in another form when he says: Our previous conceptions of alcohol and its action on the body are contradicted by clinical experience and chemical experiment in the laboratory." From a pathologic point of view, alcohol is shown to be one of the most insidious and destructive of tissue poisons, and its use is followed by certain cell and tissue degenerations that are uniform in their progress and growth. The theory of a tonic and stimulant value, or a producer or force conserver can not be sustained by any facts that are unquestioned.

The conclusions are inevitable, that alcohol and its theories as a therapeutic drug must be modified, and its use in medicine will change and, no doubt, may be put aside as worthless and dangerous in the near future.

MODERN THERAPEUTICS.*

BY WARREN B. HILL, M.D.
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There is no field in medicine that presents such opportunities for exploration as therapeutics. There is none in which so much work has been done and none where such results may be expected. Therapeutics is being revolutionized. The biologic laboratory has become one of the important factors in the production of our remedies. It not only furnishes us with the various serums and animal extracts now so universally used, but it also affords us a means of standardizing vegetable products so that the very best results may be attained.

The most marked advance in therapeutics is shown by its tendency toward rationalism, and while empiricism, pure and simple, is necessarily giving way before the light of reason, we do not underestimate the value of clinical experience, when applied to a working hypothesis. It was but yesterday we were content to study the pathologic conditions in diseases as demonstrated in the dead-room, and the nomenclature of the day is evidence of the fact. We were proud to think we had advanced to that height of rationalism where pathologic conditions were treated wherever found, and the list of diseases treated symptomatically was growing less. To-day we are not contented to study diseases outside of the living body. The pathologic conditions are deemed important, but the all-absorbing topic is the cause of the pathologic conditions. In therapeutics we are content with nothing less than the study of Nature's methods of curing disease in her laboratory, the animal organism.

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*Presented to the Section on Materia Medica, Pharmacy and Therapeutics, at the Fiftieth Annual Meeting of the American Medical Association, held at Columbus, Ohio, June 6-9, 1899.

From our present knowledge we believe that natural resistance to disease is accomplished in two ways; 1, by leucocytosis, and 2, by the production of the specific antidote to the poison produced by the pathologic action of the invading microbe. Drs. Vaughn and McClintock, and others, working on this hypothesis, isolated a substance which is called nuclein, which, in reaction, is identical with a germicidal element which bears a definite relation to the number of white blood-corpuscles. It not only has a positive germicidal action, a .5 per cent. solution being capable of destroying cholera and typhoid bacilli, but it is able to cause rapid leucocytosis, and thus assist Nature in her offensive and defensive campaign against bacterial invasion. In the laboratory the bactericidal action of animal blood has been shown to have increased six times by leucocytosis, and clinical observation has demonstrated that the blood is also materially enriched in red blood-corpuscles and hemoglobin. Clinical observation has also shown nuclein to be of value in tuberculosis, although no startling results have been obtained. In pneumonia, typhoid fever, and other acute and infectious diseases, it has proved a most efficient remedy. In my practice I have found it to be of great value in anemia, and especially in the after-treatment of illuminating-gas poison; and I believe that it has a wide field of usefulness in therapeutics, as a general stimulant to cellular activity in the human body.

The signal success of diphtheria antitoxin led us to believe that before this there would have been many other serums equally as efficacious. We have been disappointed, but the work that is being done now will eventually, I believe, produce this happy result.

Considerable work is being done at present in perfecting antistreptococcic serum, but as yet we have been unable to produce a serum which can be accurately standardized. However, the work of perfecting it is being carried on in this country, as well as in Europe, and through the efficient work of Dr. McClintock, late of the University of Michigan, there has been produced a serum which is giving good results. Last year, in this Association, I made a report[1] of several cases which were benefited by its use, and now I may add that during the past year I have used it in a number of cases of severe facial erysipelas with most happy results in every instance; and in one case, in consultation, recommended it in puerperal infection with equally good results. I will add, however, that I have seen it used in very mild cases of erysipelas where it did not produce any remarkable change.

Some progress has been made in regard to tetanus antitoxin. For a number of years this antitoxin has been found to be effectual in the experimental laboratory, but very unsatisfactory from a clinical standpoint. However, recent observations have demonstrated that the pathologic conditions found in tetanus were caused by tetanus toxin uniting with a substance in the nerve-cells. The injection of antitoxin, therefore, into the blood, while it counteracts the toxin there, does not affect this new substance, which causes the peculiar symptoms of tetanus. This has led to the intracerebral injection of antitoxin, the results of which, however, are not as yet very satisfactory, but the work done in this direction has demonstrated chemical action on antitoxins, a question of no small moment in the study of serumtherapy.

The efficacy of glandular extracts is being demonstrated by clinical experiences, and to-day all the knowledge that is being acquired in physiology, chemistry, bacteriology and pathology is being utilized for a more scientific practice of therapeutics. The newer therapeutics is not, in any way, supplanting the old, for we are learning to make more scientific distinctions in the physiologic action of drugs, and applying them to assist Nature in the cure of disease.

When we review the magnificent progress made in therapeutics, and contemplate the possibilities of its investigation in the future, it is surprising that there are so many, in fact that there are any, medical skeptics and nihilists, and I will hail the day when the medical profession shall realize, as a body, that to heal the sick is the acme of their calling.

Clinical Report.

APPENDICITIS WITH GANGRENE AND RUPTURE OF APPENDIX AND CECUM: OPERATION: RECOVERY.

BY HARRY GELLENBERG, M.D.
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MILWAUKEE, WIS.

Sept. 13, 1899, at 11 a.m., I was called by Dr. A. Beyer to see with him Joseph W., 11 years old, who was suffering from what the Doctor diagnosed as appendicitis, having recognized that condition two days previously. The attack came on gradually, the boy complaining of abdominal pains and constipation, alternating with diarrhea for about ten days. When he was first seen by Dr. Beyer, 8 p. m., September 11, his temperature was 100.4, pulse 136; he complained of pain in the right iliac region, tympanites and tenderness all over the abdomen; he passed highly concentrated urine in small quantities, which caused him much suffering.

September 14 the temperature was 103.4, pulse 140. Hot turpentin stupes were applied to the abdomen and tinctura opii camphorata with aconite administered internally. On that night, 11 p.m., while the boy was being moved from bed, he suddenly screamed out and became unconscious, the skin cold and clammy; cold perspiration all over the body; pulse rapid and wiry. Strychnin and nitroglycerin were administered hypodermically and he regained consciousness in half an hour. I saw him in consultation the next morning, when he looked well nourished, seemed to suffer much pain, and respiration was labored and rapid, 60 to the minute; temperature 101.2; pulse 140. He answered questions with difficulty. The abdomen was distended, tympanitic and tender, with pain in the right iliac region. I diagnosed ruptured appendix with circumscribed abscess. Operation was urged and refused, but four days later consented to. During this period his record was: September 14, temperature 99, pulse 108; September 15, temperature 99.2, pulse 100; September 16, temperature 101, pulse 120; September 17, temperature 102.4, pulse 140. Strychnia sulphate, gr. 1/60, every four hours with hydrarg. chlor. mit., gr. 1/8, every hour, was administered during all these days.

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[1] Journal, Oct. 1, p. 752.

I operated on September 18, at 10:30 a.m. The temperature at the beginning of the operation was 102, pulse 116. Chloroform was given by Dr. Hogue, the hospital interne. I was assisted at the operation by Dr. A. Beyer and a hospital nurse.

The incision, 4½ inches long, was made over McBurney's point, to the peritoneum, which was found closely adherent to a loop of bowel over the entire length of incision. This was carefully separated and incised. Considerable adhesions of bowel loops were present, forming one contiguous mass, which was with difficulty separated. On palpating the cecum with two fingers, and separating it from some adhesions, a considerable quantity of pus, fecal matter and shreds of gangrenous intestine of the most foul and offensive odor came away —about two cupfuls. With the finger quite a large hole in the cecum could be felt at the point of the once appendicial attachment, and considerable shreds of gangrenous intestine were loosened and removed. Irrigation with salt solution was employed freely. The condition of the patient and the extensive adhesions prevented further interference. I preferred to do an anastomosis at a later date if necessary. The wound was left open and packed with sterilized gauze. There was considerable pus and fecal matter on the next morning; temperature 102.2, pulse 110. The bowels were moved with calomel and salts.

Irrigation with boric acid solution, twice daily, was employed up to September 30, when discharge of pus and fecal matter nearly ceased. The temperature fluctuated from normal to 99.4. The patient was then anesthetized, the abdominal wound refreshed and closed with deep silk sutures, affording drainage by means of a small rubber tube.

On October 1 the wound was found healed by primary union; tube removed; the patient up and about, feeling well. The sutures were removed October 10, and the patient discharged.

[illegible] Street.

Therapeutics.

[illegible] to Arrest Epistaxis.

[illegible]

Oxygen in Gaseous Septicemia, Diphtheria, Etc.

[illegible] mia, tetanus, malignant pustule, puerperal septicemia [illegible] to all other antiseptic measures even for suppurations, phleg- [illegible]

spraying the throat with a 3 per cent. solution, alternating with insufflations of iodic acid in 10 parts of sugar of milk, every half hour, using a gargle in the intervals: iodic acid .50 gm., dist. water 400 gm., glycerin 25 gm. Cold compresses are applied on the neck and small pieces of ice are given to swallow to combat the congestion of the throat. He does not use antitoxin except in case of diphtheria of the larynx, or with rebellious children.

Treatment of Hemoptysis.

In an article entitled "The Therapeutics of Hemoptysis," in *Merck's Archives*, Dr. Thomas J. Mays, of Philadelphia, says:

Syphilitic hemoptysis finds its antidote in mercury, and the beneficial action of this drug is sometimes very marked. Good results are obtained by giving the corrosive sublimate in 1/20 grain doses every four hours in ½ fluidrachm of syrup of sarsaparilla, or in the following combination:

R. Strychnin sulphatis........................gr. i
Hydrargyri bichloridi........................gr. i
Pepsin........................gr. xxx
Pulv. glycyrrhizæ, q. s.
M. et disp. in caps. No. xxxii.
Sig. One capsule every four hours.

In antagonizing the rheumatic element in hemoptysis it is not necessary to limit ourselves to the sodium salicylate. A convenient formula is the following:

R. Sodii salicylatis........................ʒiss
Cinchonidinæ salicylatis........................ʒii
Potassii acetatis........................ʒi
Elixir lactopeptin, q. s. ad........................℥iv
M. Sig. Teaspoonful every four hours.

In addition to the above, lithium citrate tablets or alkaline bitter water, like Carlsbad, Marienbad, etc., may be given.

Functional Disorders of the Heart.

In discussing the treatment of palpitation, T. Clifford Allbutt, in his "System," says: "During the attack it consists in recumbency, warmth to the legs and feet, and such stimulus to the abated vagus nerves as ether, ammonia, valerian, smelling salts and hot applications to the cardiac region; remedies which are rather to be recommended than alcohol. Belladonna is also better avoided, and digitalis, if an occasional ally, is not to be trusted."

If there are no acute attacks, but rather the less violent, chronically recurrent form, he advises that the treatment, if "addressed still to the vagi, may well be addressed also to the accelerators, especially if the pupils be dilaced and the face flushed, and thereby, excitement subdued. As palpitation, if consisting partly in defect of central control, is nearly always set up by eccentric causes, attention should be paid to the general management, such as regulation of the bowels or other secretions, attention to piles, uterine disorders, or overwork; temperance in food and avoidance of alcohol; moderate exercise, cold baths and regular hours of sleep. At times, such sedatives as aconite and the bromid of soda, ammonia, or camphor, may be needed. Aconite has served us well in many such cases, and its use, cautious as it must be, may yet be more than occasional." Professor Osler says: "An important element in many cases is to get the patient's mind quieted, and he can be assured that there is no actual danger. The mental element is oftentimes very strong. In palpitation, before using medicines, it is well to try the effects of hygienic measures. As a rule, moderate exercise may be taken with advantage. Regular hours should be kept, and at least ten hours out of the twenty-four should be spent in the recumbent posture. A tepid bath should be taken in the morning, or, if the patient is weakly and nervous, in the evening, followed by a thorough rubbing. Hot baths and the Turkish bath should be avoided. The dietetics is most important. It is best to prohibit absolutely, alcohol, tea, and coffee. The diet should be light and the patient should avoid taking large meals. Articles of food known to cause flatulency should not be used. If a smoker, the patient should give up tobacco. Sexual excitement is particularly pernicious, and the patient should be especially warned on this point. For the distressing attacks of palpitation which occur with neurasthenia, particularly in women, a rigid Weir-Mitchell course is the most satisfactory. It is in these cases that we find the most distressing throbbing in the abdomen, which is apt to come on after meals, and is very much aggravated by flatulency. The cases of palpitation due to excesses or errors in diet and dyspepsia are readily remedied by hygienic measures. A course of iron is often useful. Strychnia is particularly valuable, and is perhaps best administered as the tincture of nux vomica, in very large doses; very little good is obtained from the smaller quantities. It should be given freely, twenty minims three times a day. If there is great rapidity of action, aconite may be tried or veratrum viride. There are cases associated with sleeplessness and restlessness which are greatly benefited by bromid of potassium. Digitalis is very rarely indicated, but in obstinate cases it may be tried with the nux vomica."

TACHYCARDIA.

"The treatment of simple or symptomatic tachycardia," says Joseph M. Patton, in his "Clinical Lectures," "involves the management of whatever influence of toxic, neurasthenic, or reflex nature may act as a cause. These cases are troublesome and apt to relapse. The treatment of a paroxysmal tachycardia is very unsatisfactory. General tonic treatment is necessary in anemic cases. Digitalis is of doubtful value, but may be of service in some instances. Hygienic and dietetic regulations are important. For the attack, morphin may be used in some cases. Vasodilators are contraindicated. Cupping or leeches may be of use where there is pulmonary stasis. Bouveret believes that compression of the pneumogastric in the cervical region is of the most value. Electricity to the precordium, vagus, compression and stimulants have produced slowing of the pulse (Brieger). Poulet recommends coronilla scorpioides, particularly in cases associated with valvular disease. Balfour suggests an ether spray to the cervical spine, or chloroform poultice over the precordium."

Dr. Allbutt, who, by the way, gives us a very good idea of what tachycardia is, when he says that the term may be applied, "not to any case of quick heart, but to the enormous quickening of the pulses of a heart not necessarily the seat of static disease; a quickening which attacks the patient suddenly; which does not persist indefinitely but for a variable space, rounded off by an equally sudden reversion to the normal state, less certain phenomena of exhaustion," speaks of the treatment thus: "Little or nothing seems to be of much service, either in cutting short the attacks or in the prevention of them. The attacks may get less both in number and severity with advancing years; and, perhaps something can be done on general principles to make the system less susceptible to the causes of them, whatever these may be. That they lie in the nervous sphere, the result of tonic treatment seems to indicate. During the attack, the tincture of digitalis in a little brandy is sometimes serviceable. The brandy, I find, is necessary, as in tachycardia the digitalis is especially apt to set up nausea. However, brandy or no brandy, it is often of little use, and patients soon give it up. If digitalis does not modify the rate of the heart, it often causes diuresis; now, in a heart quickened by the failure of intrinsic disease, the drug often fails to produce diuresis, a result of bad prognostic meaning. I recommend compression of the abdomen with a binder, but I think this method has not been well applied; a trained midwife should be engaged to instruct the patient in the proper use of the bandage. Wood's patient was relieved by drinking iced water [illegible] vagi. The application of electric currents of this kind or that to the vagi in the neck, however promising at first sight, has disappointed those who have well tried it. Finally, it is said that a compression of the chest by a patient himself sometimes succeeded in stopping an attack. I have not had [illegible] opportunity of putting this method to trial. It is to be essayed as follows: The patient will thrust his feet as hard as he can against the foot of the bed; then pressing his arms closely against his sides, he will take a long inspiration; next, closing the glottis, he will make a long expiratory effort, thrusting hard the while against the walls of the chest with the upper arms and clasping them with the forearms. In this way, it is said that the rate of the heart may be directly controlled. During the intervals of quiescence, persevering efforts must be made to nourish and invigorate the system. The digestion and excretory organs are to be vigilantly watched and corrected and all means are to be adopted to secure serenity of life and a wholesome and regular occupation. One of my tachycardiacs began to ride a bicycle two years ago, and with much advantage. Oertel's "heart massage" seems to me to be no more than ordinary massage, plus suggestion; but massage is very useful in emaciated or podgy people, and, in the more vigorous, Swedish gymnastics may be cautiously used with advantage. It will be remembered that any overexertion or stress may bring on an attack; the treatment must, therefore, be terminated between the extremes of indolence, and fatigue and sudden effort. A patient who rides the bicycle tells me that in this respect the bicycle is better than horse exercise: the horse may, and often does, make a sudden demand on the rider's nerve. The use of the graduated douche and the wet sheet proves very useful in some cases."

BRADYCARDIA.

Referring again to Dr. Patton, he says of the treatment of bradycardia: "It is purely symptomatic. In cases associated with vascular sclerosis, one may follow Huchard's advice and give nitroglycerin, or the iodids of potash or sodium. In false bradycardia, digitalis and other heart stimulants are indicated. In true bradycardia, digitalis is permissible when the vascular tension is low and the pulse flat or ribbon-like; or, with muscular weakness and high tension, digitalis may be used in connection with the vasodilators. Belladonna will increase the pulse-rate, but should be used cautiously. Douglas Powell advises caffein in bradycardia with scanty urine. In those cases which are associated with myxedema, or which follow Graves' disease, influenza, or diphtheria, the treatment is modified with reference to the previous or associated conditions."

The Injection Treatment of Hemorrhoids.

In the cases of internal hemorrhoids that are thought suited to cure by the injection methods, Dr. Tuttle, of New York, uses the following formula for making his fluid injection:

℞.	Acidi carbolici	ʒiss
	Acidi salicylici	ʒss
	Sodii boratis	ʒi
	Glycerini, q. s., ad	℥i

M. et ft. solution. Sig. Injection for hemorrhoids. Of this fluid two to four minims are injected into the base of the hemorrhoid. If other injections are needed they are to be made in from three to five days.

Creosote and Ichthyol in Pulmonary Tuberculous Disease.

Dr. Hugo Goldman, in the *Wiener Klinische Woch.*, gives the following formula, by which, he says, the taste of ichthyol is masked.

℞.	Creosote carbonat.	
	Ichthyol, aa	parts xx
	Glycerin	parts xxx
	Aquæ menthæ pip.	parts x

M. Sig. Twenty drops, gradually increased to thirty (for children, ten to twenty), three times a day, in wine or lemonade, after meals.

Chlorosis.

A prescription much in vogue in Vienna, is:

℞.	[illegible]	
	Quassine crystallized [illegible]	[illegible]
	Ferri protoxalat.	gr. iss

M. Ft. capsul. No. i.

Sig. Four such capsules to be taken daily.

[illegible] crystallized quassine has a powerful tonic influence on the muscular fibers of the alimentary canal and promotes the appetite. The color invariably improves after the ninth to twelfth day.

Dry Menthol for Cough.

H. Dandieu has been using menthol successfully for cough, for the last eight years, and his experience with 148 subjects [illegible] asthma and angina pectoris. A few grams of menthol crystals are placed in a wide-mouthed metal or glass jar. The warmth of the hand is sufficient to disengage the dry vapor which is inhaled for two to ten minutes.—*Gaz. Méd. Belge*, November 9.

Current Medical Literature.

Titles marked with an asterisk (*) are noted below.

New York Medical Journal, Dec. 23, 1899.

1.—*[illegible] of the [illegible] of Parturition. Samuel M. [illegible].

2.—*[illegible] Malarial Plasmodia. Description of Two Varieties. [illegible].

3.—Report of [illegible] of Several Cases of Frontal and [illegible]. [illegible].

4.—[illegible]. [illegible] W. Russell.

5.—[illegible] Three Unusual Cases of [illegible].

6.—*[illegible] Acute Lymphemia, or Acute Lymphatic Leucemia. William N. [illegible].

7.—[illegible] Surgery [illegible]. E. L. [illegible].

8.—[illegible] Regarding the Climatic Treatment of Tuberculosis. F. E. Waxham.

Medical News (N. Y.), Dec. 23, 1899.

9.—*Some Observations on Modern Cerebral Surgery. George Emerson [illegible].

10.—*Government Sanatorium for Consumptive Soldiers of the United States Army. Earl S. Bullock.

11.—*Empyema in Infants. David Bovaird, Jr.

12.—[illegible] of Prof. N. Senn. E. J. Senn.

13.—Simple Method for Treatment of Ingrowing Nails: A Clinical Suggestion. George B. [illegible].

Boston Medical and Surgical Journal, Dec. 21, 1899.

14.—*Disinfection and Prevention in the Sickroom. Charles Harrington.

15.—*Experiments on Disinfection of Rooms with Formaldehyde Gas, in the City Hospital at Charlottesburg, Berlin. (*Concluded.*) A. W. Fairbanks. Remarks by Prof. E. Grawitz.

16.—*Thyroid Gland and the Menopause. Chauncy R. Burr.

17.—Two [illegible] Cases at the Massachusetts General Hospital. Charles L. Scudder.

18.—[illegible] Manifestation of a Physiologic Fact. William H. Robey, Jr.

Medical Record (N. Y.), Dec. 23, 1899.

19.—*Account of Some Personal Work on the Mosquito-Malarial Theory, with Remarks on the Present State of the Investigation. William N. Berkeley.

20.—*Submaxillary Part of the Operation for Epithelioma of the Lip. Charles N. Dowd.

21.—*Prevention of Contagious Diseases. Frank W. Wright.

22.—Ligature of First Portion of Left Subclavian Artery for Aneurysm; Death after Four Weeks. F. Kammerer.

Medical Review (St. Louis, Mo.), Dec. 23, 1899.

23.—Hygiene of Pregnancy and Parturition. Garland Hurt.

24.—Animal Cell as a Physical Entity. Albert Millor.

Maryland Medical Journal (Baltimore), Dec. 23, 1899.

25.—Food Problem of Infancy. A. K. Bond.

Cincinnati Lancet-Clinic, Dec. 23, 1899.

26.—Hay-Fever: Its Resorts, Victims and Their Late Conventions; Present Status of the Disease. Julia W. Carpenter.

27.—Genius not a Neurosis. Charles H. Merz.

Philadelphia Medical Journal, Dec. 23, 1899.

28.—*Treatment of Leprosy by Injection of Calmette's Serum Antivene. R. S. Woodson.

29.—*Relation Between Disease of the Kidney and Excretion of the Alloxuric Bodies. C. F. Martin.

30.—Clinical Significance of Fever. O. T. Osborne.

31.—*Experience with the Bottini Operation in Hypertrophy of the Prostate. Leonard Freeman.

32.—Four Cases of Pulmonary Tuberculosis. Philip Daggett Bourland.

33.—Progress of a Case of Phthisis at a Very High Altitude. Maurice Kahn.

Pediatrics (N. Y.), Dec. 15, 1899.

34.—*Typhoid Fever in the Young. A. Jacobi.

35.—Deformity Following Excision of the Knee. Henry Ling Taylor.

American Journal of Obstetrics, December, 1899.

36.—*[illegible] of Uterus Partly Atrophied Postpartum: A Medicolegal Case. C. S. Bacon and Maximilian Herzog.

37.—*Surgical Treatment of Fibromyoma. J. M. Baldy.

38.—Myoma Ovarii; Endothelioma Ovarii; Calcified Corpus Luteum. Fernand Henrotin and Maximilian Herzog.

39.—*Early Diagnosis of Uterine Cancer. Joseph Wiener, Jr.

40.—*Shall We Abandon Ventrofixation of the Uterus? Walter B. Dorsett.

41.—Case of Persistent Fetal Bladder in a Forty-five Year Old Woman. Henry J. Garrigues.

42.—*Rupture of the Puerperal Uterus. James F. W. Ross.

43.—Curette for Cervical Cancer. Howard A. Kelly.

American Journal of Medical Sciences, January.

44.—*Report of Five Cases of Endocarditis Occurring in the Course of Tonsillitis. Frederick A. Packard.

45.—*Tracheal Diastolic Shock in Diagnosis of Aortic Aneurysm, with a Study of the Value of the Tracheal Tug. J. N. Hall.

46.—*Report of [illegible] of Trichinosis. George Blumer and Leo Haendel Neuman.

47.—*Relation of Migraine to Epilepsy, With the Report of Illustrative Cases. Wm. G. Spiller.

48.—*Facial Spasm and Its Relation to Errors of Refraction. E. W. Stevens.

49.—*Cystinuria and Its Relation to Diaminuria. Charles E. Simon.

50.—*Splenic Anemia. William Osler.

51.—Critical Summary of the Recent Literature on Gonorrhea in Women. John G. Clark.

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52.—*On the Nucleoproteid of the Brain (Cerebronucleoproteid). P. A. Levene.

53.—*Iodin Compounds in the Tissues after Administration of KI. P. A. Levene.

54.—Cranial and First Spinal Nerves of Menidia. A Contribution on the Nerve Components of the Bony Fishes. C. Judson Herrick.

Alabama Medical and Surgical Age (Birmingham), December, 1899.

55.—"Hemorrhagic Malarial Fever." William M. Ryals.

56.—Surgical Treatment of Tuberculosis. Goldsby King.

57.—Treatment of Hypertrophy of the Prostate Glands. Charles M. Franklin.

Pennsylvania Medical Journal (Pittsburg), December, 1899.

58.—Personal Observations on Development of Modern Surgery. Gwilym G. Davis.

59.—Tubercular Arthritis of Knee. J. W. MacFarlane.

60.—Philippine Observations by an Army Surgeon. Geo. D. McIlwaine.

61.—Pathology of Tuberculosis. Margaret F. [illegible].

62.—Antepartum Hemorrhage. W. D. Hamaker.

63.—Uterine Hemorrhage, with Special Reference to Malignant Growths. E. W. Bolton.

Western Medical Review (Lincoln, Neb.), Dec. 15, 1899.

64.—*Treatment of the Pyrexias by Chemical Antipyretics. F. A. Long.

65.—*Operation on Cervical Ganglia of Sympathetic, for Epilepsy, Glaucoma and Exophthalmic Goiter. Emory Lanphear.

66.—*Vesicorectal Anastomosis. Jacob Frank.

67.—Puerperal Insanity. Minerva M. Newbecker.

68.—*Further Observations on Treatment of Abdominal Viscera Through Colon. F. B. Turck.

69.—*Stigmata of Hysteria. Byron Robinson.

70.—Inflammation of Duodenum and Resulting Reflexes. F. W. Plohn.

71.—Abortion. (*Continued.*) A. D. Wilkinson.

Denver Medical Times, December, 1899.

72.—*Address of President Rocky Mountain Interstate Medical Association. C. P. Hough.

73.—Attitude of Newspapers Toward Regular Physicians and Scientific Medicine. E. Stuver.

74.—*Importance of Early Diagnosis in Tuberculosis. A. Mansfield Holmes.

75.—*Medicolegal Supervision of Prostitution. Salathiel Ewing.

American X-Ray Journal (St. Louis, Mo.), December, 1899.

76.—Where is the Focus of the Cathode Discharge? William Rollins.

Canadian Practitioner and Review (Toronto), December, 1899.

77.—Heart Disease from an Obstetrical Point of View. Adam H. Wright.

78.—*Spina Bifida. George A. Bingham.

79.—Notes on Ear, Nose and Throat Work, as Taught in Berlin and Vienna. Julius E. Klotz.

Physician and Surgeon (Ann Arbor and Detroit, Mich.), November, 1899.

80.—Laws of Nutrition Should be Taught in the Schools. Charles Douglas.

81.—*Summary of Some of the More Recent Observations on Sensory Nerve-Endings. G. Carl Huber.

82.—*Tuberculosis. Cornelius Van Zwaluwenburg.

83.—*Croup. W. R. Henderson.

84.—*Some Practical Remarks on the Anatomy of the Temporal Bone, with Demonstrations. Emil Amberg.

85.—Dyspnea. C. H. Long.

86.—Some Cases of Brain Surgery. Ira N. Brainerd.

Medical Dial (Minneapolis, Minn.), December, 1899.

87.—*Operation on Cervical Ganglia of Sympathetic for Epilepsy, Glaucoma and Exophthalmic Goiter. Emory Lanphear.

88.—Cholelithiasis or Gall-stones. R. E. Cutts.

89.—Osteoplastic Surgery in Serious Compound Fractures. Thomas H. Manley.

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90.—Building of Atlanta. Bernard Wolff.

91.—Relation of Board of Health to the City and Medical Profession. R. R. Kime.

92.—Physiologic Therapeutics of Heart Failure. C. A. F. Lindorme.

93.—Conditions Successfully Treated by Electrolysis. M. B. Hutchins.

94.—Different Phases of Electric Treatment. J. McFadden Gaston.

Modern Medicine (Battle Creek, Mich.), November, 1899.

95.—Nerve-Cells in Health and Disease. W. H. Riley.

96.—Report of Three Cases in Which Galvanic, Sinusoidal, and Static Electricity was Used with Curative Results. A. J. Read.

97.—Report of Case of Lead Encephalopathy. L. J. Otis.

Journal of Mississippi State Medical Association (Biloxi), December, 1899.

98.—Variola as I Have Seen It in Mississippi. H. H. Haralson.

99.—Extrauterine Pregnancy. L. A. Murdock.

100.—Crico-Tracheotomy, with Report of Two Cases. J. A. Crisler.

101.—Practical Observance of Asepsis and Antisepsis by Country Surgeons. J. A. Crisler.

102.—Otomycosis of Ear-mold. W. A. Johns.

103.—Two Cases of Amputation of Shoulder-Joint. H. A. Minor.

Journal of Medicine and Science (Portland, Me.), December, 1899.

104.—History and Present Development of Wireless Telegraphy. Greenleaf W. Pickard.

105.—Presidential Address Delivered at Annual Meeting of Maine Pharmaceutical Association. W. A. Robinson.

106.—Present Pressing Need. W. F. Jackman.

Medical Bulletin (Philadelphia), December, 1899.

107.— Sycosis; Verruca; Keloid; Alopecia Circumscripta. John V. Shoemaker.
108.— A Round-table Talk on Heredity. T. G. Stephens.
109.— Some Comments on Scopolamin and Other Mydriatic Alkaloids Considered Principally from a Clinical Standpoint. Frank Woodbury.

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110.— Vaccination. Anna M. Handshaw.
111.— Ovarian (?) Abscess Opening Through Sinuses and Healed without Operation. Louise C. Drouillard.
112.— Shock Attending Parturition and its Relation to Hemorrhage. E. H. Root.

Kansas City Medical Record, December, 1899.

113.— Some Fragmentary Comments on Twenty-nine Cases of Chorea. S. Grover Burnett.
114. *The Blood in Chorea. Franklin E. Murphy.

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115.—*Parturition Among the Eskimos. C. C. Gleaves.
116.— Army Hospital Train During Spanish War. Chas. Richard.
117. *Operative Appendicitis in the Country. Clarence W. Kellogg.
118.— Thoughts Suggested by Reports of the Napa State Hospital. Ernest Hall.
119.—*Three Cases of Extrauterine Pregnancy. Henry Kreutzmann.

Peoria Medical Journal, December, 1899.

120.—*Croupous Pneumonia. J. N. Speed.
121.—*Circumcision. S. Horwitz.

St. Louis Courier of Medicine, November, 1899.

122.— Multiple Sclerosis. Phillip Zenner.
123.— Faulty Breastmilk. C. Fisch.
124. Influence of the Position of the Woman on the Form and Dimensions of the Pelvis. G. Walcher.
125. Two Unusual Cases: Cystic Degeneration of the Ganglion Impar; A Rare Case of Double Consciousness with Marked Epilepsy. Willis P. King.
126.— Some Medical Customs, Ideas, Beliefs and Practices of the Snohomish Indians of Puget Sound. Charles Milton Buchanan.
127.— Point in Diagnosis of Frontal Headache. Arthur E. Ewing.

AMERICAN.

1. **Pain of Parturition.**—The argument of Brickner's paper is that while there may be some inconvenience from the upright position in man, yet this difference is not so extreme, and that pain is common in all the lower animals. He thinks that the whole process is physiologic. His conclusions are: 1. What is natural can not be pathologic. The functions of the uterus are natural and include the reception of the impregnated ovule, its nourishment and retention until development is complete, and then its expulsion. 2. During its intrauterine life the parturient canal remains closed for the protection of the fetus. Its dilation at the time of labor is painful because sensitive parts are stretched. The pain is therefore inseparable from parturition. The latter being natural, it follows that inseparable incidents are also natural. 3. This pain is common to all animals which give birth to their young from a uterus with a placental attachment. 4. Compared with other important functions, parturition is a great rarity. If the commonly repeated functions were painful, the species could not continue its existence. There would be no gain in having the vegetative functions painful. The one is in the life of the individual, the other in the life of the species. 5. The uterine contractions are chief among the causes of the pain. Their intermittent character, which provides safety for mother and fetus, proves their physiologic nature. 6. The pain of parturition in the second stage is a stimulant to renewed effort for the expulsion of the fetus. 7. The lack of revivability of this pain in the memory soon after its occurrence, while pain of another character is easily remembered, proves its biologic importance.

2. **Flagellated Malarial Plasmodia.**—Craig describes two varieties of flagellated plasmodia, which he has observed in their formation of flagella and their subsequent life history. One is the active and the other the passive form, the former occurring in the tertian fever and the latter in the estivo-autumnal type. The former also occurs in the estivo-autumnal, but varies somewhat, being smaller in size, more oval in outline, and the pigment somewhat more coarse. The chief facts to be noted in this active form are the extreme activity of the pigment in the parasite prior to ex-flagellation, the separation and consequent individual existence of the flagella and their power of individual and progressive movement in the blood. The passive form does not have the active pigment manifest, nor do the flagella emerge from within it, but some of them are seen to possess one or more flagella, the movements of which are different from that of the other type, being less active and more of a straightening or relaxing character. As to the significance of these two types, he does not decide, but says, in regard to the active form, that it is developed from the full-grown tertian organism and the crescentic estivo-autumnal organism. "Flagella are produced and liberated, the mother organism, her duty fulfilled, degenerating and perishing. The free flagella swim actively about among the blood-corpuscles until they come in contact with the peculiar round, passive parasite, which they endeavor to penetrate. McCallum and Thayer have seen this penetration occur, one of the flagella becoming submerged, so to speak, within the substance of the parasite. The nature of the process we are as yet ignorant of, but these two varieties of flagellated parasites do occur in the blood in malarial fever, and the observations upon them so far conclusively prove that the flagellate body is not a degenerate body but is, without doubt, a very highly developed vital form of the plasmodium of malaria. It is but reasonable to suppose that these forms are calculated to preserve the life of the parasite outside of the human economy, as they arise only when the blood has been exposed to external conditions, and that we have in this process another proof of the extra-corporeal existence, in another form, of the malarial parasite."

6. **Acute Lymphemia.**—Bradley describes a case in a boy aged 8 years, the principal points of which, as impressed on him, are: 1. The ease with which the onset may be mistaken for acute pulmonary tuberculosis. 2. The scrofulous family history. 3. The possible coexistence of tuberculosis. 4. The necessity of careful blood examination. 5. A predominance of the large degenerated lymphocytes seems to indicate the approach of a fatal ending. 6. The absence of granulation in the leucocytes. 7. The extreme dyspnea was due to enlarged bronchial glands. The number of red blood-cells being reduced, the hemoglobin was necessarily reduced, hence the oxygen-carrying power of the blood was diminished. This in turn resulted in a diminished oxygenation of the blood, which acted secondarily on the respiratory center, producing dyspnea.

9. **Cerebral Surgery.**—Brewer first points out that it is probable that the expectations as to the results of exploratory cerebral surgery are now generally admitted to be somewhat disappointed. He gives cases, however, where the neglect of such measures has been harmful. As to the propriety of exploratory operations in traumatic and focal epilepsy, he states that the consensus of opinion among neurologists and surgeons is that such operations are indicated only in recent cases where the habit of epilepsy has not been established. Three cases of operations of this kind are reported. One of tumor of the brain, in which a tubercular growth in the cerebellum was removed, with temporary relief, is also reported, but the patient shortly afterward died of pulmonary tuberculosis with recurrence. Removal of the Gasserian ganglion with apparent success is also reported. In concluding his paper, he describes his technic: When possible, the patient's head is shaved two days before the operation, after which the positions of the Sylvian and Rolandic fissures are marked out by needle scratches; these, with Reid's base-line, give landmarks enabling the operator to locate any of the known cerebral centers, the chief blood-vessels, sinuses, and dural processes. The head is then scrubbed with green soap and hot water for two minutes, and a soap poultice applied for at least two hours. It is then rescrubbed for ten minutes, by the nurse, whose hands have been previously sterilized, a sterilized brush and sterile liquid soap being used, after which a wet bichlorid of mercury dressing 1 to 2000 is applied. This is removed when the patient is on the operating-table, and the wound area rescrubbed for one minute, then douched with alcohol, ether, and sterile water, and surrounded by sterile towels. The operator and all assistants are clothed in sterilized gowns and caps. The assistant administering the anesthetic prepares himself in the same manner as those participating in the operation, and during the operation uses a sterile chloroform mask. Sterilized rubber gloves are worn by the operator, his assistants, and the operating-room nurse. When possible the osteoplastic or bone-flap operation is performed for the reason that it does not leave a bony defect in the skull. When the dura is opened the surgeon must remem-

but that he has entered one of the closed serous cavities of the body, and that the danger of infection from any error of technic is as great as in the case of the peritoneum, the pleura, or the synovial sacs, and that an infection here is with great difficulty controlled and leads almost invariably to a fatal result.

10. **Government Sanatorium for Consumptives.**—The Fort Bayard Sanatorium, in New Mexico, is here described by Assistant Surgeon Bullock, who reproduces the regulations and describes the locality. The only disadvantage which it appears to have is in the dust storms which occur, especially in the spring, but only for a short time. He also gives some general remarks on the climate of Colorado, New Mexico, Arizona, etc. While portions of New Mexico and Arizona furnish an ideal climate, they are more expensive than Colorado. He speaks especially of the mental state of patients going to this locality, and says that there is no region on earth, with the possible exception of the North Pole, that can compare with the great Southwest for endemic nostalgia, and if money is to be added to the patient's homesickness, it becomes [illegible] to get there.

11. **Empyema in Infants.**—The summary of Bovaird's paper is as follows: 1. Empyema is not uncommon in the first two years of life and even in the early months. Of 69 fatal cases, 11 occurred in children under 6 months of age, 40 in those between 6 months and 1 year, and 18 between 1 and 2 years. The youngest patient was 2 months and 19 days old. 2. The mortality during this period is very high. 3. Empyema in infants is very frequently mistaken for pneumonia. 4. The rational signs are the same as those of pneumonia in children. 5. The physical signs can not be relied on for diagnosis. 6. Exploration is called for in every case in which, with the rational signs of pulmonary disease, we find marked dulness or flatness over any part of the lung, especially if accompanied by diminution or absence of voice and breathing or displacement of the heart. 7. Exploration should be made with a large needle, and repeated if necessary. Not any of his cases has ever shown harm from the use of the needle: many have been missed by reason of failure to use it. 8. Practically all effusions in infancy are either purulent from the beginning or soon become so. 9. When pus is found, drainage is called for. Incision in an intercostal space, with the insertion of drainage-tubes, answers this end thoroughly.

16. **Disinfection of the Sickroom.**—Harrington notes and criticises the practices of inexperienced persons in regard to sickroom disinfection, and points out the methods that should be employed. He condemns the various proprietary disinfectants, and speaks most favorably of formaldehyde and cresols. Whatever disinfectant is used, it should not be used sparingly.

17. **Formaldehyde.**—The conclusions of Fairbank's paper gives his experiments on various bacilli of the highest virulence, anthrax, diphtheria, etc., and he finds that in every case where the formaldehyde was allowed free access to the infected fragment of cloth, sterilization occurred: in the second [illegible] two layers of cloth, the results were somewhat different, which is explainable by the variation of virulence of the bacilli. In the third arrangement, between two mattresses, and in the [illegible] a positive growth: the others varied. Cloths diphtheritically infected, placed between mattresses, gave profuse and positive growths, while those wrapped in linen remained sterile. Seven [illegible] growth in five. That the drying of such a membrane encloses the bacillus in an incasement of albuminous matter, penetrable only, perhaps, by steam, is easily understood. In every trial there was obtained from the dust in the corner of the room, after exposure to formaldehyde, a spore-bearing bacillus, apparently of great resistance, and it is probable that the dust afforded a certain protection, as somewhat similar results were obtained with anthrax. Anthrax bacilli ought [illegible] possibility may thus be considered as less serious. In his remarks on Fairbank's paper, Grawitz lays down the following rules for disinfecting: 1. All bed and body linen, coverlets, etc., are, as hitherto, to be disinfected by steam; likewise mattresses that during the course of the disease have become contaminated, as so often occurs in the case of children and typhoid cases. 2. If particles of pus, sputum or the like are found around the bed, they are to be removed with cloths dampened with sublimate solution, and burned. 3. All objects in the room are to be moved from the wall, pillows, cushions, etc., laid over the backs of chairs or otherwise so placed that the gas has access to all sides; portieres and side curtains are to be spread so that the entire surface hangs free. 4. The windows are to be tightly closed, and the lamp made ready in accordance with the directions. 5. At the end of twenty-four hours doors and windows are to be opened, dust collected and burned, the room aired and again made ready for use. The advantage of this method over former ones is the higher guarantee of surety of superficial disinfection, the absence of injury to substances, furniture, etc.; the less expense; the non-toxic fumes when diluted, and the rapid disappearance of the odor and destruction of other odors.

18. **Thyroid Gland and the Menopause.**—Burr reports a case of apparent Graves' disease in a woman 56 years old, who had had the symptoms of the menopause. There was a marked hysteric element in the case. He prescribed 2 minims of tincture of belladonna, morning and night, and did not see her for a week, when he was surprised at the very manifest improvement in her condition. There had been, in the beginning of her ailment, an apparent apoplectic attack. Discussing the case, he thinks that probably an over-active thyroid is responsible for the nervous phenomena of the climacteric in many patients.

19. **Mosquito Malaria Theory.**—Berkeley reports some preliminary work during last August, September and October, in examinations for the different species of malaria-breeding mosquitoes. His experiments were confined to the Culex, as he did not find the Anopheles in the region he examined, though he found numerous cases of malaria. His paper is chiefly a contribution to the life history and habits of Culex, which may not be entirely innocent in the production of malaria.

20. **Submaxillary Operations in Epithelioma of Lip.**—Referring first to a former paper, in which he pleaded for exploration of the submaxillary spaces in patients from whom small epitheliomata of the lip were removed, Dowd takes up the subject again and insists on its importance. At least three localities should be examined for lymph-nodes underneath the jaw. They are as follows: 1. The region above the anterior part of the submaxillary salivary gland, where there are regularly two or three nodes and they are the ones most commonly affected. 2. The space under the chin, between the anterior bellies of the two digastric muscles, where there are regularly two or three nodes, and these are the ones next most commonly affected; they are sometimes called the submental nodes. 3. The region beneath the border of the jaw, about the posterior part of the submaxillary salivary glands; the nodes here are less commonly affected. In addition to these three localities, the region of the internal jugular vein should be explored when the submaxillary nodes are decidedly infected. Incisions 2¼ or 2½ inches long should be made. They should be beneath the margin of the jaw. Scars in this region which are parallel with the border of the jaw, show hardly any tendency toward stretching.

21.—See abstract in the JOURNAL of Nov. 18, 1899, p. 590.

28. **Antivenene in Leprosy.**—First crediting Dyer of New Orleans with originality in the use of antivenomous serum in the therapy of leprosy, Woodson reports a case in which he employed a similar treatment, obtaining the serum from the Pasteur Institute, and administering doses varying from 20 c.c. down to 2 c.c. Relief was observed during the treatment, which extended from August 19 to October 17, using 500 c.c. of the serum in 47 injections. The present condition is one of great improvement, and photographs are shown illustrating the change. While he does not as yet claim a cure, he reports the case as one of most probably permanent improvement and a prospect of future recovery.

29. **Kidney Disease and Excretion of Alloxuric Bodies.**—Martin reports experiments made to determine the correctness of Kolisch's theory that uric acid plays a comparatively unimportant part in the manifestations of pure gout while

the formation of xanthin bodies is of paramount significance. He reports his methods, and concludes that there never was, in his case, an actual predominance of the nitrogen of the xanthin bases over that of uric acid. This discrepancy between his findings and Kolisch's he believes can have but one explanation—the error of the methods Kolisch employed. We can not draw conclusions on the power of the kidney to elaborate uric acid simply because there is an occasional increase in the excretion of xanthin bases, and a narrowing of the quantitative ratio between these bases and the uric acid is unjustifiable. Another fact noted is that the percentage of uric acid in cases of nephritis is often very high, which is not in accordance with Kolisch's statement that the elaboration of this product is diminished in the kidneys in their diseased condition. The excretion of uric acid appears to be in no way influenced under conditions that distinctly injure the kidneys, and it is probable that the kidneys are not responsible for this condition.

31—See abstract in the Journal of Aug. 19, 1899, p. 481.

34. **Typhoid Fever in the Young.**—Jacobi's article covers nearly the whole subject of typhoid fever in children. A few points only can be noticed. The severity of the illness need not correspond with the body temperature, which frequently rises and also falls gradually In the last two years he has found more cases of malaria complicating typhoid than he has ever known before. Diarrhea is not to be expected as a common system. It seems to be more frequent in Europe than here, where we miss it in one-half of our cases. Hemorrhage in the very young is exceptional. The circulatory organs are not affected to the same extent as in adults. Pleuritis is comparatively rare. The bones suffer variously; a characteristic increase of growth is sometimes noticed. The nervous system is believed not to be affected as much as in adults. In the treatment, the food should be liquid, and he insists on this point for at least ten days after the disappearance of the fever. The cold and warm baths are the best antipyretics, though the former are sometimes contraindicated. The latter should be the principal treatment, not to the exclusion, however, of such medication as is indicated.

36. **Uterine Perfotation.**—Bacon and Herzog's paper is on a medicolegal case of perforation of the partially atrophied postpartum uterus, but the curette; charges of malpractice had been gotten up. The post-mortem was defective, and the authors are inclined to think that the cause of the death was an embolism of the pulmonary artery.

37. **Surgical Treatment of Fibromyoma.**—This article is the report, on this subject, read at the meeting of the International Gynecological and Obstetrical Congress, held in Amsterdam last August. Baldy is an advocate of the abdominal method of uterine extirpation. Myomectomy is only indicated [illegible] when special reasons exist.

39. **Uterine Cancer.**—The early diagnosis of uterine cancer is discussed by Wiener, who recapitulates his article in the following: 1. Cancer of the uterus should be diagnosed with the microscope. 2. Cancer should be suspected in women of all ages, in nuns, in nullipara as well as in multipara. 3. Atypical hemorrhages should always arouse suspicion even at the time of the menopause. The sooner women, at the time of the [illegible] are impressed by the fact that the menopause itself is responsible for very few of the symptoms from which so many of them suffer at that time, and the sooner they learn that [illegible] of them [illegible] on account of neglected slight hemorrhages or discharges coming on during or after the menopause, the sooner we [illegible] to see more early cases of uterine cancer.

[illegible]—See abstract in the Journal of Oct. 7, 1899, p. [illegible]

42. Ibid., Oct. 14, 1899, p. 981.

44. **Endocarditis and Tonsillitis.**—Packard reports five cases of endocarditis [illegible] tonsillitis. In all cases careful inquiry failed to reveal any articular pains, and examination showed no signs of joint trouble. He therefore excludes rheumatism and holds the cases to be simply acute tonsillitis and pharyngitis, and that the endocarditis is a direct consequence either of the infection of the endocardium by microorganisms gaining access through the tonsils, or to structural changes in the mitral valves, due to action of the toxins absorbed from the inflamed tissues. He makes this report to call attention to a grave complication and sequel to a slight primary disorder and to a possible factor in the causation of many otherwise unexplainable cases of cardiac lesion, and also as a sort of collateral evidence of the infectious nature of acute articular rheumatism.

45. **Tracheal Diastolic Shock in Aortic Aneurysm.**—Hall calls attention to a sign hitherto largely unnoticed, and best described by the above title. It is, in brief, the transmission of the diastolic shock originating at the closure of the aortic valve, through the aneurysm to the trachea, and shown by a distinct, sharp impulse following the tracheal tug at the same interval as that between the apex-beat and the closure of the aortic segment. It is so manifest that he is surprised that it has not been before noticed, and its importance is, he thinks, indicated by that of the diastolic shock of the chest wall. He has also examined scores of non-aneurysmic patients with various diseases, without finding one in whom there could be any suspicion of the tracheal diastolic shock or any question of marked tracheal tugging. His opinion, therefore, of a simple tracheal tug as also a diagnostic point, is a high one.

46. **Family Outbreak of Trichinosis.**—The history of an epidemic of trichinosis, occurring in Albany, N. Y., and involving two Italian families, nine persons in all, is reported by Blumer and Neuman. As a result of their study, they conclude: 1. In some epidemics of trichinosis one or more of the most characteristic symptoms may be lacking in the majority of patients. 2. In these the examination of the blood is of the greatest value, as pathognomonic changes are found in it, consisting in an eosinophile leucocytosis, a relative decrease in the neutrophiles, and in many, but not all, cases a decrease in the small mononuclear leucocytes in the disease.

47. **Migraine and Epilepsy.**—The relation of migraine to epilepsy is illustrated by the two cases reported by Spiller, who concludes his paper with the following statements of what is, in his opinion, the proper view of the subject: 1. Attacks of migraine occur associated with nausea and vomiting; this form is known as simple migraine, and usually remains unaltered during the life of the patient. 2. In other cases visual disturbances—hemianopsia, scintillating scotoma, amaurosis, etc.—are associated with the migraine, and the disease is then known as ophthalmic migraine. 3. When paralysis of the ocular muscles occurs with the migraine, the disease is described as ophthalmoplegic migraine. 4. Migraine, especially the ophthalmic form, is related to epilepsy, and the attacks of migraine may precede for many years the convulsive attacks of epilepsy although in most cases of migraine no convulsions are ever detected. 5 In some cases epilepsy appears in the form of one or more of the disturbances seen occasionally with migraine and later even after many years, convulsions develop. The disease may be epilepsy from the beginning. It matters little, with our uncertain knowledge of the pathology of the diseases, whether we regard these as abortive cases—*formes frustes*—of migraine that later become associated with epilepsy—sensory epilepsy—in which the convulsions later become apparent, provided we recognize a relation between some forms of migraine and epilepsy.

48. **Facial Spasm and Errors of Refraction.**—Depending first on the classification of facial spasms as given by Osler, Stevens reports cases in which examination and treatment of the eyes was undertaken, in some with advantage. He does not attribute, he says, undue importance to errors of refraction [illegible] can be directly traced to pharyngeal and nasal diseases, and in still others no cause can be assigned. He wishes, however, to emphasize the following points: 1. The refraction and muscle balance should be carefully examined. 2. The refraction should be determined under complete mydriasis and the full correction ordered. 3. It is [illegible] having acquired a vicious habit, do not recover their normal condition until systematic treatment has been pursued.

49. **Cystinuria and Diaminuria.**—The literature of cystinuria and its relation to diaminuria are discussed at length by Simon, who adds one of his own observation, carefully reported and analyzed. He thinks that both conditions are

[illegible] the general disturbance of the ner- [illegible]

[illegible] **Splenic Anemia.**—[illegible] usually described with [illegible] Some of its most striking features are the relatively high blood count, [illegible] disease with enlarged spleen, various forms of liver cirrhosis, including the bronzed skin diabetic type. He thinks it is entitled to provisional recognition as a disease. The treatment is that [illegible]

[illegible] **The Nucleoproteid of the Brain.**—Levene [illegible] between the chromatin of the nucleus and that of the cytoplasm, [illegible] proteid in the cerebral cells. His experiments are detailed, but [illegible] It seems to contain a low percentage of phosphorus and it is also to be inferred from his general results that the chromatin of the cytoplasm does not differ from that of the nucleus. This question, however, he admits can only be fully elucidated by a comparative study of the nerve tissue under different physio- [illegible] when the chromatin nearly disappears from the nucleus and is located only in the [illegible]

53. **Iodin in the Tissues.**—The same author has experimented to find the condition in which iodin occurs in the tissues after administration of KI. His experiments were on hens, which furnish in their eggs at least one organ or tissue on which the changes can be studied from day to day. Iodids were found present in the yolks and white, no iodoproteids in either. The tissues of the hens showed the presence of iodids in nearly all the organs, mostly in the intestinal tracts, probably from nonabsorption, and in the bones. No iodoproteids could be detected in any of the organs. Holmes had found iodin combined with the keratin parts of the hair, and Levene sought to find it in the corresponding elements of the nervous system, but failed. It appears that the same tissue constituents respond differently [illegible] of potash.

[illegible] **Treatment of Fevers.**—Long argues for the beneficial effects of antipyretics in fevers, claiming that they will do al- [illegible] the Brand method, so much in favor at the present time, especially in typhoid. He finds the coal tar preparations admissible, if carefully used, and not dangerous.

[illegible] See abstract in the JOURNAL of Oct. 14, 1899, p. 979; see also title 87, below.

[illegible]

[illegible] 1899, p. [illegible]

69. **Stigmata of Hysteria.**—The hyperesthesias and anesthesias, the pareses and paralyses, the exaltation of special senses and localized pains of hysteria are here noted by Robinson. He thinks that the stigmata of hysteria can be recognized as follows: When a rational treatment is systematically carried on against a painful, local disturbance, without effect, the probability is that it is a hysteric hyperesthesia. The [illegible] hysteric hyperesthesia of the gastric mucosa. In the same hysteria category must often be numbered coccygodynia, coxalgia, irritable bladder, breast, and uterus, vaginismus, pruritus, dys- [illegible] A knowledge of the above factors is particularly valuable to the operator, as [illegible] hyperesthesia is criminal. Morbid sensibility lies chiefly in the skin, and the patient will complain more of a skin pinch than a deep-seated trauma. What the hysteric coxalgia or hysteric knee is to the surgeon, so is the hyperesthesia of the abdomen to the gyne- [illegible] itself under the analysis for [illegible]

[illegible] See abstract in the JOURNAL of Aug. 12, 1899, p. 413.

74.—[illegible] 1899, p. [illegible]

75.—Ibid., Aug. 12, 1899, p. 413.

78.—Ibid., Nov. 1, 1899, p. 1495.

81. **Sensory Nerve Endings.**—Huber's paper is a summary of the recent data as to the endings of sensory nerves. He points out that: 1. All free sensory endings are the arborizations of the dendrites of sensory neurons. 2. The dendrite of each sensory neuron terminates in a number of arborizations, which may be grouped in a small area or spread over a relatively large one. 3. Although the arborizations of free sensory endings found in the various tissues present differences in shape and size, and the ultimate ends of the branches are not always of the same form and size, yet there is a great similarity between them all. The capsulated endings are described under these heads: the genital corpuscles, Meissner's corpuscles, the end-bulbs of Krause, the Pacinian corpuscles, the neuromuscular spindles and the neurotendinous spindles, on which he has himself made original investigations.

82. **Tuberculosis.**—The most noticeable point in this article is the quotation from [illegible], that 90 per cent. of all people have tuberculosis some time, that 47 per cent. have pulmonary tuberculosis, and 12 per cent. die of it, which the author believes to be a correct statement of the facts.

83.—See abstract in the JOURNAL of Oct. 14, 1899, p. 984.

84.—Ibid.

87.—This paper has appeared as an original in a number of journals, as may be noted by reference to our Index of Titles for the last volume; see also title 65, above.

114. **The Blood in Chorea.**—The blood examination in eight cases of chorea is reported by Murphy, who finds, from their study, and that of the literature, that the blood of a patient suffering with chorea is in the vast majority of cases somewhat deficient in coloring matter and red cells. The anemia is of the chlorotic type, there being a greater proportionate reduction in hemoglobin than in the number of red corpuscles. Where grave anemia is present, complications usually explain this. The movements have no relation to the condition of the blood. He believes that anemia is not a direct exciting cause of chorea, and that anemia is secondary to the chorea.

115.—See abstract in the JOURNAL of Dec. 30, 1899, p. 1662.

117. **Operative Appendicitis in the Country.**—Kellogg holds that the country practitioner can operate in urgent cases of appendicitis, and that it is his duty to do so, and he reports a number of cases treated by him in conjunction with other local physicians. He describes his methods of asepsis in private residences. He carries a small steam sterilizer, clears the room of all draperies, sterilizes it with formaldehyde, covering the floor with wet sublimatized sheets and has the operator and assistants wear slippers, stockings and clothing previously sterilized. For headgear he uses a device consisting of a cap with a long bib or cape, which is tucked in at the neck of the gown to confine the beard and has openings for the eyes and nose. For washing he uses green soap, chlorid of lime, permanganate of potash, etc. No carbolic acid, sublimate or formaldehyde is used unless exposed to sepsis. The field of operation receives such preparation as the hands and arms, and hereafter he will use gloves in all septic cases. All sutures, instruments, etc., are used dry. For ligatures he uses aseptic silk, catgut or silkworm gut. He criticises the practices of some San Francisco operators for tending to return to antiseptic surgery, trusting the anesthesia to inexperienced hands in serious cases, shaving and disinfecting the field of operation at the time of operation in non-emergency cases, incomplete or lack of disinfection of the beard, and for the long finger-nails of some operators.

119.—See abstract in the JOURNAL of Dec. 2, 1899, p. 1426.

120. **Croupous Pneumonia.**—Speed disagrees with Osler in his view that pneumonia is a self-limited disease and not influenced by medicine. He finds that the remedy most effective is veratrum viride, and he has not lost confidence in it in a practice of many years.

121. **Circumcision.**—In this article Horwitz argues for the sanitary value of circumcision. He shows that it has a more than mere ritual importance, and says that he has never met with any one who has undergone the operation who has ever had reason to regret it in after life.

FOREIGN.

British Medical Journal, Dec. 16, 1899.

Changes in Central Nervous System in Two Cases of Negro Lethargy: Sequel to Dr. Manson's Clinical Report. FREDERICK W. MOTT.—Two cases of Congo or sleeping sickness in the Charing Cross Hospital last year, with post-mortem findings, both gross and microscopic, are reported by Mott, who discusses the condition and the probable pathology of the disease. In both there was a meningo-encephalo-myelitis, but, with the exception of the lymphatic glands and duodenum, the examination of the viscera revealed nothing noteworthy. Sections of the lymphatic glands showed a lymphocyte proliferation and sections of the duodenum also revealed large numbers of lymphocytes and increase of the size of the lymphoid nodules. Both the clinical history and the morbid appearances, the author remarks, point to a chronic process. It only affects negroes in West Africa and it is there, though not exclusively, that we find the Filaria perstans. Mott considers the evidence, however, insufficient to make this the cause of the disease. Some authorities have thought that it might be due to bad food, thus resembling pellagra and lathyrism. He admits that this is not altogether unlikely, and it may be that there is an infectious organism for which we have as yet no staining test. The negative results in these cases do not disprove this. He explains the symptoms of the disease by the meningo-encephalitis, and questions whether there may be a relation to general paralysis with original syphilis, but does not find the nerve-cell changes nearly as great as in the latter disease, while the inflammatory condition of the vessels is much greater. This offers to his mind a strong argument in favor of the theory that general paralysis is a primary degeneration of the neuron, with secondary inflammatory changes. He finds, by examination of specimens sent him by Dr. Stephen Mackenzie, of sections from a case under his care, the same microscopic changes in the nervous system as existed in these cases, and thinks it therefore highly probable that a meningo-encephalitis is a constant lesion in this disease. (See JOURNAL, Feb. 26, 1899, p. 326.)

Lancet, Dec. 16, 1899.

Calculus in Ureter. HENRY MORRIS.—The character, diagnosis, symptoms, prognosis, pathology, effects and operative treatment of ureteral calculus form the subject of this paper, by Morris. He tabulates forty-six cases and as evidence of the difficulty of diagnosis, only in very few of them had an accurate diagnosis been made before the operation. The prognosis as regards the kidney is bad; as regards life, it depends on the health of the corresponding organ. As regards operation, he thinks that in a great majority of cases a lumbar operation will be the correct practice. It is safer to remove the stone by an extraperitoneal than by a transperitoneal operation, even when its existence and location have been determined by an intraperitoneal search. If it is uncertain in which ureter the stone is, it is better to examine it through a lumbar incision than by a laparotomy. If the stone can not be displaced upward or downward into the bladder or kidney, it may have to be left for a time, for nothing should induce the surgeon to incise a ureter through the peritoneum, unless he is absolutely sure of the aseptic state of the urine. He should close the peritoneum then and there, and remove the calculus by the retroperitoneal route, or postpone the removal until the patient has recovered from the laparotomy. In all cases the calculus should be displaced by greater pressure upward, and removed through an opening a little away from the point where it has been lodged, as the coats are likely to be more diseased at that point and will not undergo repair as well. He makes this a specially important point. Extraction of a stone impacted in the vesical pouch should be effected per urethram in the female, and by perineal or suprapubic cystotomy in the male, but the former should not be performed unless the patient is very thin and the pelvis shallow.

Early vs. Late Operations in Cases of Inflamed Appendix. C. MANSELL MOULLIN.—While remarking that early operation for appendicitis is advised by American and German authorities, but not in general favor, apparently, in England, Moullin notices that the two recognized English authorities, Hawkins and Kelynack, are not in favor of delay, but rather the [illegible] says that if in a case of inflamed appendix, thirty-six hours have passed without definite improvement having showed itself, the responsibility for the consequences must, it seems to him, rest with those who recommend that the operation should not be performed.

Surgical Treatment of Ascites of Cirrhosis, by Artificial Production of Peritoneal Adhesions. H. D. ROLLESTON and G. R. TURNER.—In this paper a brief account of [illegible] cases of cirrhosis with ascites, treated by the method introduced by Drummond and Morrison, are reported, and the technic and *rationale* of the operation discussed. The authors advise the stitching of the omentum, liver and abdominal parietes together, as the most effective method of obtaining vascular adhesions. As regards suprapubic drainage, they believe it necessary when there is a large amount of fluid present and when it has rapidly accumulated after repeated tappings. They think it probably unnecessary to hasten any operation for the removal of the spleen, as in their successful cases it markedly diminished in size after the operation. As regards its *rationale*, they are inclined to agree with Morrison and Drummond that the disappearance of the dropsy depends on collateral circulation relieving the pressure in the portal veins.

British Gynecological Journal (London), November, 1899.

Backward Displacements of Uterus. ARTHUR E. GILES.—The conclusions arrived at in this paper may be summed up in the following propositions: 1. Retroversion of the uterus requires no treatment when it causes no symptoms. 2. A simple retroversion may cause symptoms by disturbances of circulation, by pressure, or reflexly. 3. Pressure symptoms are uncommon in the absence of enlargement of the uterus. 4. Reflex disturbances are most frequently gastric, vesical or nervous. 5. A simple retroversion can usually be cured by the temporary use of the pessary. 6. Retroversion with endometritis is frequently complicated with prolapsed ovaries. 7. In the treatment of this condition, the inflammatory condition must be cured before the introduction of the pessary. 8. Pronounced endometritis requires curetting, with trachelorrhaphy in some cases before the displacement can be dealt with. 9. When retroversion is associated with fixation by adhesions, the first step must be to restore the mobility of the uterus. 10. To introduce a pessary in a case of retroversion with fixation is to add risk to inefficiency. 11. When milder measures fail, the abdomen should be opened, the adhesions separated and the uterus fixed in its proper position. 12. In the absence of adhesions, hysteropexy is sometimes required to cure an intractable retroversion. 13. Retroversion of the gravid uterus is usually reducible with the help, in some cases, of an anesthetic. 14. In cases of irreducible retroversion, it is usually better to free the uterus by abdominal section than to terminate the pregnancy; but in some cases the induction of abortion will be necessary.

Journal of Laryngology, Rhinology and Otology (London), Dec., 1899.

Contagiousness of Acute Suppurative Inflammations of Middle Ear. MARCEL LERMOYEZ.—The author briefly reports observations that strongly point to the contagiousness of suppurative otitis, and which he thinks are more than mere coincidences. The contagion takes place, he believes, through the nasotubal route, and what his observations tend to prove is, that given a patient affected with influenza complicated with otitis, any other influenza patient put in contact with him will run a great risk of also acquiring the latter. He has inquired among his colleagues in Paris hospitals, as to their experience, and learned from M. Deseroizilles, who has charge of the ward for measles in the Children's Hospital, Paris, that out of every 100 in this ward, there are about twenty cases of otitis, while in private practice they do not exceed 1 per cent. M. d'Heilly, in charge of the scarlet fever wards, observed 14 per cent. of otitis in his patients, a proportion which rose to 25 per cent. when he ordered the systematic practice of nasal irrigation. In private practice he sees infinitely less of it. This and other testimonies show him the dangers of ag- [illegible] namely, that the patients, especially children, affected with acute median otitis should be isolated, even if the disease is [illegible], and still more so if it is a secondary complication of [illegible].

Intercolonial Medical Journal of Australia (Melbourne), Oct. 20, 1899.

Origin of Sex. ARTHUR [illegible] DAVENPORT.—The theory here advocated by Davenport is that the sex of the child is determined at the moment of conception, and is the opposite of that of whichever parent is at that moment in relatively the most vigorous health. He has tested this theory on dogs with success, and has had observations made in cattle with testimony in agreement with his own experience. He has had a number of families under his care, in which the observations made seemed to support his theory, but for obvious reasons he does not give the full details. Out of some 39 cases there were 32 successful predictions. In concluding his paper, he reviews the theories that have been advanced, and he believes it is possible that in nearly every instance the essential condition of relative health may be, for the time, swayed in one direction or the other by the physician, sufficiently to determine whichever sex he may desire to produce.

La Gynecologie (Paris), Nos. 1 to 4.

A Common Cause of Sterility in Women. A. C. LEFÈVRE.—Among the numerous causes of sterility in women there are some which individually render fecundation impossible, and others which only prevent it by their combination. One of these combinations is a pathologic complexus which Lefévre states he has found sixty-six times in eighty-four cases of sterility. Catarrh and endocervicitis of the cervix are associated with stenosis of the external orifice, acute anteflexion and deep posterior colpocele, while the vaginal portion of the uterus projects as a long cone into the vagina. Each of these lesions depends on and is subordinate to the rest, and treatment is only effective when each is integrally cured. The endocervicitis requires curetting in mild cases, and amputation of the cervix in case of obstinate lesions of the endocervical mucosa. If there is a very pronounced case of stenosis, Schroeder's method must be followed to provide the cervix with a wide external orifice for the ready reception of the semen. Anteflexion is treated by gymnastic exercises for the uterus, by means of repeated dilation with laminaria. If the flexion threatens to recur, it can be prevented with a pessary or precervical colporrhaphy. Doléris makes a triangular raw surface for this purpose then draws the lips of the wound together to make a three-pointed star, which takes up the relaxed fold. A deep posterior colpocele requires retrocervical colporrhaphy. By this series of operations the uterus and vagina are restored to normal shape and permeability, and the pathologic secretions which have depressed the vitality of the spermatozoa are abolished. Straightening the uterus restores vigor to its muscular and vascular [illegible] and enables it to act effectively at the proper moment. Shortening the posterior cul-de-sac makes the vagina smaller and suppresses all false routes. Sixty observations are appended; ages 20 to 45. Forty-nine were treated as outlined above and twenty-four of the thirty-one followed to date—79 per cent.—have since become pregnant. He mentions that seven were ultra-nervous women. Curetting and discission of the cervix answered the purpose in a few cases.

Presse Medicale (Paris), Dec. 9, 1899.

Alcohol, Disease, Death. JACQUET.—This report of a committee appointed to study alcoholism in the hospitals of Paris, [illegible] public opinion in the Scandinavian countries until the effective measures now in operation were adopted. Jacquet calls it "the foremost social duty of our day," and states that we have to combat medical and administrative alcoholization, as well as the great public alcoholism. He urges omitting from our prescriptions every alcoholic preparation that is not strictly necessary: "What is the use of all our medical studies and research if we terminate in being merely automatic dealers in this or that wine of quinquina, coca, kola, etc?" By "administrative alcoholization" he refers to the enormous quantities of "grog" dispensed in the hospitals. In 1893 it amounted to 50,126 liters; in 1898, 37,790 liters. The amount of red wine supplied was a little over three million liters in the same years; champagne, 2,870 pint bottles in 1888, and 25,008 in 1894. The nurses and internes receive a large proportion of this grog: each nurse about 1 2/3 ounces a day, and the internes 2 3/7 liters a month, and in the infectious wards even more. A circular setting forth the dangers of alcohol, dispelling the popular delusions concerning it should be handed to each patient as he or she is dismissed. Another measure proposed is that each hospital should have a room set apart for the attendants, with games, magazines, books, etc., to render it attractive, so they will not seek the saloon in their leisure hours; also that medical students should be fully instructed in the dangers of alcohol as the most effective propaganda for the future. Jacquet states that in the London Temperance Hospital, where alcohol is rigorously excluded from medical and surgical therapeutics, "the statistics defy all comparison." Of the 1741 patients in the various hospitals of Paris 1405 are alcohol drinkers; 23 per cent. among the out-patients and 45.93 per cent. among the hospital patients, which proportion is in itself significant. Among the 252 phthisics 180, or 71.42 per cent., were alcoholics before the appearance of any symptoms of the disease. (Coustan, Barbier and Jacquert have observed a still higher proportion in their practice, 88 to 90 alcoholics in 100 phthisics.) Six of the eight patients under treatment for cancer are alcoholics.

Archiv. f. Experimentelle Pathologie u. Pharm. (Leipsic), xliii, 2.

Asphyxia As a Tonic for the Heart. G. N. DURDUFI.—"In certain circumstances asphyxia is an important means of reviving the action of the heart. Animals with beginning paralysis of the heart, induced by experimental intoxication, can be restored to almost normal conditions by interrupting the respiration for a minute or two. The blood-pressure rises and the pulse increases in amplitude and volume. They can thus be saved by transient asphyxia." On the foundation of much experimental research Durdufi recommends asphyxia for man as an analeptic and especially as a tonic for the heart. Lauder Brunton called attention some time ago to the practice current in India of covering with the hand, the mouth and nose of a person in a swoon, as the best means of reviving him. Durdufi suggests that this therapeutic asphyxia may produce a tonic effect on the heart and vascular system, by the accumulation of CO_2 in the blood, and also produce favorable conditions for the action of the substance in the suprarenals, which raises the blood pressure.

Berliner Klinische Wochenschrift, Nov. 27, 1899.

Substitutes for Alcoholic Drinks. F. HIRSCHWALD.—Analysis of "Frada," a typical specimen of the class of slightly effervescent acid drinks made from fruit juices, grape and cane sugar, showed that there was no alcohol in it, but the proportion of sugar and fruit substances is so large that a bottle represents a considerable amount of nourishment—10 grams of sugar—altogether too much to recommend freely to healthy, well-to-do persons who already take too much nourishment as a rule, with deficient exercise. On the other hand, such drinks would prove a useful adjuvant in conditions of debility from any cause in which superalimentation is indicated, in renal troubles, fevers and nervous troubles. Hirschwald adds that "alcoholless beer" can be rendered more palatable by the addition of a little Pilsener.

Vaginal Laparotomy. DUEHRSSEN.—The writer concludes his latest monograph on this subject, saying no one can reproach him with allowing an operation rich in blessings to be discredited by his silence in respect to its advantages. He has performed vaginal laparotomy 400 times in the last eight years, on account of retroflexio uteri. Vaginofixation is superior to ventrofixation, he states, as it is less dangerous; there is no chance for ventral hernia, nor adhesions of omentum to the abdominal cicatrix, nor of ileus; less dread of the operation on the part of the patient; and much less subjective post-operative discomfort. Intraperitoneal vaginofixation ensures normal anteversion. It requires skill on the part of the operator, and possible failures due to the operator's technic should not be ascribed to the method. He has also performed anterior colpoceliotomy for vaginofixation of the round ligaments, for vesicofixation of the retroflexed uterus, tubal pregnancy, extirpation of benign uterine growths and ligating the tube for the purpose of ensuring sterility. Fifteen died out of 503 thus operated on; six out of 358 cases of retroflexio uteri treated by vaginofixation. Since 1895, when he slightly modified his technic, pregnancy has not been interfered with in any case.

Centralblatt f. Chirurgie (Leipsic), Dec. 9. 1899.

Control Test for Sterilizers. STICHER.—None of the numerous methods of testing the sterilization of articles used in surgery have proved sufficiently simple, inexpensive and free from other objections to ensure their general adoption. Sticher proposes to use a little durable glass tester like a thermometer, and has devised for the purpose a glass cylinder 9 cm. long and 1.8 in diameter, with double walls and space between and a central oval space filled half full of phenanthren, a cheap substance which melts at 98 C. The thickness of the walls prevents it melting in less than ten minutes at this temperature. Placed in the sterilizer, the phenanthren will melt and slide down into the lower half of the central space after exposure to 98 C. for ten minutes. With compressed steam sterilizers pyrocatechin, which melts at 104 C., can be used instead of phenanthren. The tester is withdrawn by a string in a loop at one end.

Centralblatt f. Bakteriologie, etc. (Jena), Nov. 16, 1898.

Different Behavior of Certain Micro-Organisms in a Colored Nutrient Medium. A. CESARIS-DEMEL.—The bacterium coli renders liver bouillon turbid in six hours, with much gas formation, and this turbidity persists for several weeks before a precipitate forms. The typhus bacillus, on the other hand, merely renders the medium turbid in spots, like flakes, which sink to the bottom leaving the medium clear and transparent in one to two days. This is in itself an important means of early differentiating the typhoid bacillus, but if litmus tincture is added to the liver bouillon until a lavender color is produced, the differentiation is still more marked and complete, as these and other micro-organisms alter this color in a manner specific for each. The bacterium coli forms bubbles and turns the medium red in twenty-four hours, for one day, after which the medium is decolored for two days and then gradually resumes its original lavender color, extending from the surface downward till complete the tenth day. The typhoid bacillus, on the other hand, forms no gas, decolors the medium the second day, but by the third the medium has become entirely and permanently pink, with a red precipitate by the tenth day. The icteroid bacillus turns the medium permanently pink the second day with gas for twenty-four hours. The cholera vibrion behaves very much like the typhoid bacillus, but each of the eleven micro-organisms tested has a special behavior that differentiates it from the rest in a day or so. The difference is most marked between the bacterium coli and the typhoid bacillus, especially in the later phases, but is less noticeable between anaërobic cultures. The arrangement, shape and color of the precipitate are also specific for each variety. These stained sediments were all sterile by the fifteenth day. Tinted plates accompany the original, portraying the exact shades and changes.

Streptothrix Nature of Diphtheria Bacillus. W. [illegible]—Some pure cultures of the diphtheria bacillus, left unmolested and protected for a year and more, showed a growth of mycelium around the colonies, which cultivated on Loeffler serum as a [illegible] "This fact establishes the streptothrix nature of the diphtheria bacillus and that the so-called diphtheria bacillus is merely a phase in the development of a streptothrix [illegible] known conditions."

Does Normal Horse Serum Contain Diphtheria Antitoxin [illegible] teen horses, answers this question in the affirmative and that [illegible] he notes that it is not necessarily a normal constituent of the serum. It is entirely absent in certain horses, and may be due to some ignored diphtheritic process, or to some influence exerted on the organism by the diphtheria bacillus as a harmless saprophyte vegetating in the alimentary canal.

Centralblatt f. Pathologie (Jena), Oct. 15 and Nov. 20, 1899.

The Nerve Cell According to the Latest Research. O. BARBACCI.—It seems to be [illegible] injurious influence affects a nerve-cell, if it is so powerful that it rapidly kills the cell, the microscope will only disclose the typical signs or cell-necrosis. On the other hand, if the action of the morbid cause is less violent, the cell first reacts with energy against the abnormal excitation and in this effort of reaction, consumes its reserve of nourishment, the chromatic substance stored in the cell, in readiness for such emergencies. Chromatolysis is thus merely the expression of a process of reaction. It is not a phenomenon directly connected with any special morbid agent affecting the cell, and can not be anything else than the more or less rapid using up of the chromatic stores during the manifestation of the functional activity of the cell. If the morbid excitation subsides during this first phase, then the alterations in the cell proceed no further, and it returns more or less promptly to its normal condition and replenishes its supply, still retaining its functional capacity unimpaired. This explains the frequently striking contrast between the anatomic findings and the clinical symptoms of many affections. During the development of a disease the nervous system may not have revealed its suffering condition by any symptom, and yet its elements are found affected by extreme chromatolytic processes. This occurs frequently in acute infections and autointoxications. But when the morbid cause continues its deleterious action on the cell, degeneration ensues after all means of resistance have been exhausted; the cell is doomed and dies in time. Barbacci concludes this comprehensive review of 418 communications in recent literature by stating that it is still too early to speak of a pathologic anatomy of the nerve-cell, but that improved technic has brought it nearer, and points the way for future important research.

Monatsschrift f. Ohrenheilkunde (Vienna), November, 1899.

Can a Defect in the Tympanic Membrane Induce Sudden Death in Bathing F. DANZIGER.—Lucae formerly reported that patients with a defect in the tympanic membrane experienced vertigo, etc., when a movement wave was started in the labyrinth by a sudden jerk, which was then propagated through the aq. cochleæ to the cerebrospinal fluid, spending its force against the base of the brain. Similar to this is the experience of a patient of Danziger's with a defect of this kind who was swimming on his back. As his ear filled with water he was suddenly overcome with vertigo, compelling him to leave the water at once. The vertigo persisted for a day or so, until the water that had entered the tympanum was withdrawn through a catheter. It seems probable that many sudden deaths from drowning have been due to this hitherto unsuspected cause.

Connection Between Laryngitis Sicca and Pregnancy. G. [illegible]—The writer has had occasion to observe six cases of typical dry laryngitis appearing and recurring with later pregnancies, in the second to the fourth month, vanishing in the interim. He relieved his cases by spraying with warm, fluid, mentholized vaselin and recommending hot soups and drinks. He warns against astringents and curetting.

Muenchener Medicinische Wochenschrift, Dec. 5 and 12, 1899.

Disinfection of the Hands. [illegible] PAUL and O. SARWEY.—[illegible] methods of disinfection in vogue, under absolutely sterile external conditions. The hands and forearms are inserted through holes made for the purpose in each wall of a zinc box 50 cm. square with a glass cover. The box contains basins for hot water, sand, curettes, and sticks for scraping the hands, and a large number of dishes and test-tubes all ready to be inoculated with the scrapings. Before the tests the entire box is sterilized, with air-tight covers over the short cylinders [illegible]

Kuester's Osteoplastic Mastoid Operation. PASSOW.—The JOURNAL, vol. xxxiii, p. 1608, reviewed the operation described by Kuester in the *Cbl. f. Chir.* of October 28. Passow protests against his derogatory remarks in regard to the "dis-[illegible] methods," and claims that a skin flap is sufficient covering for even a large defect at this point, and that by leaving the defect open for a while, post-operative conditions can be supervised much more satisfactorily, with the possibility of further intervention if needed. With Kuester's method this would require the raising of the bone flap, and nearly all his published observations mention the "persistence of a slight discharge."

Syphilis of the Aorta As a Cause of Aneurysm. [illegible] Kuester [illegible]

[illegible] connective with [illegible]. The walls of the aorta [illegible] small [illegible] cells; [illegible] small [illegible]. The [illegible] in [illegible] destroyed and [illegible] connective tissue [illegible] frequently following the [illegible] was before them, or yields to necrosis in the intervals, which thus become thinner and [illegible]. These changes are similar to what is observed in other organs in syphilis: focal or diffuse proliferation with many cells, frequently polynuclear giant cells, leading to necrosis and transformation into shrivelled connective tissue and corrugated scars. This lesion suggests an obvious etiology for aneurysms, [illegible] opens a promising prospect for specific treatment from which we may not only expect the arrest of [illegible] of the cicatricial corrugation and thickening of the wall at the affected points, which will increase its resistance to the blood-pressure.

Transplantation of Skin Flaps Without a Pedicle. [illegible] Krause's method of flap transplantation has many advantages over the Thiersch flap, in case of infected wounds, chronic ulcers, etc., but its chief superiority lies in the fact that it becomes transformed into strong cicatricial tissue, while the Thiersch flap retains its sensitiveness and seldom or never grows thick. Another advantage is that flaps without a [illegible] in [illegible]'s experience have grown and enlarged with the growth of the child. Cicatricial contractions of the joints are especially benefited by transplantation of these flaps [illegible]

Three Gastro Enterostomies, One Resection of the Intestines and Two Entero-Enterotomies Performed on One Patient. Recovery. H. Kehr. This unusual observation demonstrates that failure of one operation need not deter from another attempt. The patient was a young woman with a history of five years of symptoms evidently due to an old ulcer in the stomach; extreme myasthenia. The *circulus vitiosus* soon followed the first operation, which was a Hacken posterior retrocolic gastro-enterostomy, and it was supplemented by a Braun entero-enterostomy. The vomiting of bile reappeared in a few weeks. Woefler's anterior gastro-enterostomy was then done and worked finely for a few months, when the *circulus vitiosus* was again evident and in an aggravated form. Opening the abdomen again with a right-angled incision, a "chaos of adhesions" was found and, detaching them down to the stomach, it was discovered that the opening in the Woelfler intestinal loop had become entirely obliterated, while the first posterior gastro-enterostomy was still working, although defective. A Roux-Woelfler gastro- and entero-enterostomy was then made and the abdomen closed after having been open two hours. The patient made a smooth recovery and has gained 8½ pounds in the twenty-five days since.

Zeitschrift f. Orthopaedische Chirurgie (Stuttgart), vii, 2 and 3.

Death from Fatty Embolism After Orthopedic Interventions. E. Payr.—Three more deaths from fatty embolism after apparently insignificant orthopedic interventions have occurred at Nicoladoni's clinic at Graz, and Eberth has lately reported a similar case, besides the five previously on record. Payr finds that they can be classified as cerebral and respiratory embolisms. In the former the sensorium was first agitated, passing into coma, with dyspnea and cyanosis only in the last stages. With the respiratory form the sensorium was undisturbed, and the symptoms all pointed to the lungs, which had been congested and altered by months of confinement to bed, rendering the capillaries in the lungs less elastic. In the four at the Gratz clinic there was pronounced status thymicus. The persistent thymus in adults is not the cause of death, but [illegible] nutrition characterized by enlarged tonsils, enlarged follicles at [illegible] vascular anomalies especially notable in the narrower aortic system [illegible] the heart, noting in such cases a fresh hypertrophy and granular degeneration of the tissues. Abnormal nutrition and disturbances of the heart action lead to altered conditions of pressure in the circulatory system, which in turn produce such changes in the cardiac nerve-centers that the heart, under the influence of violent excitations or inhibitions, may suddenly become incapable of continuing its functions. Ortner announced that the clinical course and prognosis in a variety of affections may differ widely with status thymicus from the ordinary picture, as has since been effectively demonstrated by many deaths during narcosis. Obstruction of extensive capillary regions in vital organs may also produce the same effect, and fatty embolism therefore takes rank as the fourth occasional cause which may induce death by altering the conditions of the circulation in peculiarly susceptible persons. The status thymicus affords conditions which may render fatty embolism fatal, while in ordinary conditions it would pass unperceived. Death is not immediate in these cases, but follows a period of gradual obstruction by repeated arrivals of fatty particles. In respect to the prophylaxis, Payr observes that possibly the status thymicus may be recognized aside from the familiar criteria of the enlarged lymphatic apparatus of the upper air-passages, by the amount of hemoglobin in the blood, which Paltauf states is subnormal. But there is a wide field for prophylaxis in another line, that is, in avoiding forcible orthopedic interventions of all kinds, and substituting gentle measures. He illustrates a simple lever and plaster cast contrivance with which he reduced, in a few weeks, a connective-tissue ankylosis of the knee, of 110 degrees, by gentle gradual pressure alone. He also noted that the extent and intensity of fatty embolic processes are in direct proportion to the size of the bones and the duration of the affection entailing the deformity that requires correction.

Gazzetta Degli Ospedali (Milan), November and December, 1899.

Radical Cure of Hemorrhoids. A. Cecherelli.—Modifying the usual Whitehead method, Cecherelli takes great pains to leave the anus intact and as much of the sound tissue between the nodules as possible, making a number of small scars instead of a single large one, and suturing the wound after each excision at once, to forestall hemorrhage. By this means the elasticity and contractility of the lower portion of the rectum is retained and strictures prevented.

Combination of Serum and Sublimate in the Cure of Diphtheria. D. D'Afflitto.—In a severe epidemic of diphtheria at Crucoli, D'Afflito had occasion to treat 104 patients. Two died from syncope forty-five days and fifteen days after recovery; one from paralysis of the heart the seventh day of the disease, and the fourth from bronchopneumonia two weeks after recovery from severe croup. Five cases were treated with Behring's serum and ninety-nine with local applications of sublimate, painting the throat morning and night with a .5 per cent. solution of corrosive sublimate in equal parts water and glycerin. The first application was made with a cotton wad with which the false membranes were gently removed: after this it was applied twice, each time with a fresh wad. Lactic acid at 2 per cent. was used as a spray or gargle during the interim. Two deaths occurred with each method of treatment, four in all. D'Afflito proclaims, as the result of this experience, that the ideal treatment of diphtheria consists in the associated serum and sublimate treatment. Either alone may cure, but in case of severe diphtheria "exclusivism is imprudent," especially as mixed infection is frequent in these cases.

Physiopathology of Olfactory Nerves. V. Grassi.—The local or general morbid states that affect the nervous apparatus of the sense of smell are more numerous than generally supposed, and Grassi urges further research in this line, as the neuroses of the sense of smell deserve attention on account of their frequency and relative gravity and the relations that may exist between them and rhinology and even general medicine. He proposes as a test, an alcohol solution of benzoic acid, 1 to 5; ten drops poured on a disc of blotting paper 5 cm. in diameter. Ten square cards, the thickness of visiting cards, are then placed over the disc, with a hole in the center of each varying from 5 to .5 cm. A glass funnel 5 cm. in diameter and 10 cm. long is placed over the concentric holes in the cards, and the subject breathes once through the funnel. If he perceives the odor of the benzoic acid, his sense of smell is normal; if not, he removes cards until he does perceive it, unless he is anosmic.

Resistance of Tubercle Bacilius to Desiccation and Putrefaction. G. LUCIBELLI.—The research here reported established that tubercle bacilli in sputa dried on glass had lost their resistance in eighteen days, exposed to diffused light, but retained it for sixty to eighty days in the dark. Bacilli in putrefied sputa kept in diffused light in a fluid were extremely resistant, still virulent four months later, after which time they became gradually attenuated; this change commenced more rapidly in glass tubes with fused ends than those plugged with cotton. The attenuated bacillus did not regain its virulence when inoculated from one guinea-pig into another. The bacilli, when scanty in sputa, lose their staining power on the putrefaction of the sputa, but if they are numerous they retain it a long time.

Catgut Stitch Abscesses. MARTINI. After many tests and experiments with strictly aseptic catgut made from fresh material, catgut made from putrefied carcasses and sterilized, and ordinary catgut, Martini announces that strictly aseptic catgut, made from fresh material and duly sterilized, is absolutely free from the objections which have contributed to deter surgeons from the use of catgut. The chemotactic action noted so frequently with catgut which is certainly aseptic, but not made from absolutely fresh material, is due to one or more chemical bodies, probably alkaloids of putrefaction, soluble but resistant to high temperatures.

Experimental Exposure of Intestines to Air. DE GAETANO.—Incising the abdomen and exposing the intestines of animals to the air, and to the effect of various stimulants and manipulations, showed that the consequences most to be feared were the effect on the heart function, especially during narcosis, and the adhesions and other serious disturbances that follow after a longer or shorter period, leading to cachexia and death of the animals.

New Method of Craniocerebral Topography. BONOMO.—This method is based on the "true horizontal line of the skull, the line that, starting at the orbitozygomatic angle, follows the upper edge of the superior curved line and terminates at the upper depression of the inion." This indicates the plane of the median cranial fossa, the height of the temporal ridge, the upper margin of the mastoid, the insertion of the tantorium and the course of the lateral sinus. "Perpendicular lines drawn at right angles to this line, from the median point of the zygoma, etc., cross the most important pre-Rolandic centers, etc., and the topography is much more exact than when based on the features of the face."

Societies.

Columbus Academy of Medicine.—At the annual session of the Academy, Columbus, Ohio, the following officers were elected: president, A. Timberman; vice president, C. A. Cooperrider; secretary, A. M. Steinfield; treasurer, F. W. Blake.

Jefferson County Medical Society.—The annual meeting of this Society was held in Birmingham, Ala., the 18th ult., and the following officers elected: President, Wyatt Heflin, Birmingham; vice-president, G. B. Heathcock; secretary, Wm. M. Jordan; treasurer, R. V. Mobley.

Montgomery County Medical Society.—This Society held its annual session in Montgomery, Ala., Dec. 16, 1899, and elected the following officers: president, J. L. Gaston, Montgomery; vice-president, Samuel Billing; secretary, Charles T. Pollard, Montgomery; treasurer, M. Sturm, Montgomery.

International Medical Congress.—The executive commit[illegible] Paris [illegible]. It has contracted with the great traveling agencies for a certain [illegible]

Morgan County Medical Society.—At the annual session of this Society, in Jacksonville, Ill., Dec. 15, 1899, the following officers were elected: president, W. C. Cole, Jacksonville; vice-president, J. G. Franken; secretary, Edward Bowe; treasurer, E. F. Baker, Jacksonville; librarian, H. C. Campbell, Jacksonville.

South Texas Medical Association.—This Association held its seventh semi-annual session recently, in Houston, Texas, and the newly-elected officers are: president, J. H. Ruess, Cuero; vice-presidents, R. T. Morris of Houston and J. T. Moore of Galveston; secretary and treasurer, D. S. Weir, Houston. The next meeting will be at Beaumont.

Luzerne County Medical Society.—At the meeting of this Society, Dec. 20, 1899, at Wilkes Barre, Pa., a resolution was offered requesting Congressman Davenport to oppose a certain Senate bill which opposes vivisection in the District of Columbia. It was also voted to urge the city council to pass an ordinance establishing a board of health, as contemplated by the third class city law under which Wilkes Barre is now supposed to be governed.

Toronto Post-Graduate Medical Society.—This society was organized by the late Dr. J. E. Graham, in 1898. A few weeks ago a meeting was held at the Toronto General Hospital, for the purpose of reorganization. At that meeting Prof. H. B. Anderson was elected honorary president; H. A. Bruce, honorary vice-president; and A. D. Stuart of the present house staff, president. The membership is made up of the house surgeons of the various city hospitals and fifth-year men doing hospital work. Meetings will be held on the first and third Mondays of each month, at the various institutions.

Western Surgical and Gynecological Association.—At a meeting, held at Des Moines, Iowa, Dec. 27 and 28, 1899, this Association elected the following officers for the ensuing year: president, O. Beverly Campbell, St. Joseph, Mo.; first vice-president, A. C. Bernays, St. Louis, Mo.; second vice-president, J. R. Hollowbush, Rock Island, Ill.; secretary-treasurer, George H. Simmons, Chicago; executive council, H. C. Crowell, Chairman, Kansas City, Mo.; Lewis Schooler, Des Moines, Iowa; J. P. Lord, Omaha, Neb.; J. E. Moore, Minneapolis, Minn., and M. L. Harris, Chicago. Minneapolis, Minn., was selected as the place for holding the next annual meeting. Chairman of the Committee of Arrangements, A. W. Abbott.

International Sanitary Conference.—The various powers signing the agreements of this Conference, at Venice, apply its provisions differently, and consequently the lack of concerted action is a menace to some of the contracting states. The health authorities of Italy, in view of these facts, recently petitioned the government to take steps for another international sanitary conference to remedy these defects in the Venice program and others which time has developed, and a circular has been sent out by Italy, to all the powers represented at Venice, asking whether they did not consider a new reunion opportune. The *Semaine Médicale* observes that there is little chance of a favorable reception of the proposition as so many international questions are attracting attention just now, adding: "Besides, as we have often demonstrated, sanitary conventions can have no practical value unless the various governments are ready to devote the necessary amount of money for international hygiene, and unless England —and here is the principal point—is willing to comply with the wishes of other countries. The English are the masters of international sanitary relations and they do not seem disposed to abate a whit of their supremacy."

N. Y. County Medical Association.

[illegible]

[illegible] this method, now so much in vogue in Europe. The usual incisions and dissection were made per vaginam, but no attempt at hemostasis until the time of drawing down the fundus of the [illegible]

[illegible]

[illegible]

[illegible] It was not until after the [illegible] appropriate dietetic and medicinal treatment.

Dr. [illegible] said that while some observers had [illegible] he personally believed that it was the chief, if not the only, cause of hepatic cirrhosis in early life. It was common in children between the sixth and twelfth years. According to his experience, beer seemed to be even more potent than spirituous liquors in producing this pathologic condition.

[illegible] DIAGNOSIS AND TREATMENT OF CYSTITIS.

Dr. Ramon Guitéras read a paper with this title. Acute cystitis [illegible] most commonly the result of an extension of a gonorrhea from the urethra. Congestion of the bladder wall, distension of this viscus, and immoderate indulgence in horseback or bicycle riding were powerful predisposing causes. Cystitis should not be confounded with mere irritability of the bladder, or with posterior urethritis, prostatitis or seminal vesiculitis. If the urine were passed into three glasses it would be found, in cases of cystitis, that the last glass contained more pus than in cases of posterior urethritis. In the latter condition, the first glass would contain the most pus, and would also show shreds. Prostatitis would manifest itself by painful sitting, and tenderness and enlargement of the prostate on digital [illegible]. The same method of examination [illegible] in cases of seminal vesiculitis, tenderness and enlargement of the seminal vesicles, and in the later stages it would be possible to express the detritus into the bladder by massage. In cases of chronic cystitis, the first and third glasses would contain more pus than in the second glass. In differentiating cystitis from pyelitis, it should be remembered that in the former the urine is usually alkaline and contains more pus, and more constantly than in pyelitis, and that disease of the kidney [illegible] associated with pain in the lumbar region. The cystoscope is also an important diagnostic aid. In treating acute cystitis it was recommended that hot sitz baths or hot rectal douches of saline solution be given twice a day. Alkaline diluents and antispasmodics should be given internally, the latter in the form of suppositories when the pain is intense. When the urethra is not too sensitive, irrigation of the [illegible] results [illegible] and for this purpose [illegible] is better than a solution of permanganate of potassium, 1 to 4000, gradually increased up to 1 in 1000. In the later stages a solution of nitrate of silver, 1 in 16,000 to 1 in 4000 could be substituted with advantage. Where the urine is ammoniacal, great benefit would follow from the internal use of urotropin in doses of half a dram three or four times daily. Where the cystitis is the result of stricture, prostatic enlargement or new growths, the special treatment is obvious.

Dr. Alexander J. C. Skene, in opening the discussion, dwelt more particularly on cystitis in women, and its etiology. He took the ground that cystitis in women is much more frequently the result of trauma than of sepsis, and instanced, in support of this view, the fact that when he had abandoned the use of metallic catheters, using in their stead the soft-rubber ones, the frequency of cystitis as a sequel to catheterization very greatly diminished, though the same aseptic precautions were observed with the metallic as with the soft instruments. The speaker also directed attention to the development of cystitis in women as a result of maintaining the standing position for a long time. Such a mode of life is much worse than excessive walking, and the explanation is in the fact that the circulation is improved by walking. Direct inspection of the bladder in some of these cases revealed the presence of a small area of ecchymosis. Dr. Skene asserted that another important cause of cystitis in women is exploration of the bladder with the cystoscope or endoscope, even though done skillfully and under strict asepsis. Such aids to diagnosis, while convenient, are not essential in many instances. He ordinarily relies on a skilful analysis of the urine to give him the necessary information. Thus, if the patient is directed to urinate a little, to wash out the urethra before the specimen of urine is collected for examination, it would be easy to exclude a urethritis; and if, after having thoroughly washed out the bladder, the next portions of urine coming from the ureters contain the products of inflammation, it is fair to assume that the abnormality is not in the bladder, but in the ureters or kidneys. In the local treatment of cystitis it should ever be borne in mind that the bladder should receive the washing fluid very slowly, and that distension should be avoided. While he would admit that the stronger solutions of nitrate of silver often seem to give prompt relief, this is usually only temporary, and the best results were secured from the use of a solution not exceeding in strength 1 to 2 gr. to the ounce. When ulcers are present, the ulcerated area alone should be treated, and the best application is a rather caustic one. For neoplasms of the bladder, Dr. Skene recommended performing suprapubic cystotomy and seizing and compressing the growth in an electro-hemostatic forceps.

Dr. Eugene Fuller said that atony, traumatism, deficient drainage, calculi and tumors of the bladder might all act as causes of cystitis. Cystitis in the male most commonly arises from the urethra by an ascending infection.

Dr. F. N. Otis discussed the technic of washing the bladder. He recommended that, in cases of cystitis associated with posterior urethritis, the catheter should only be introduced to a point just within the external sphincter, which would be known by one's ability to introduce fluid without it running out again on the removal of the syringe. The patient should be allowed to evacuate the fluid, thereby cleansing the urethra as well. The double-current catheter is a failure, and should be eschewed. Where the disease is confined to the bladder, a soft-rubber or silk catheter should be used. In all cases of atony, especial care should be exercised not to distend the bladder with fluid, and it is well to secure complete emptying by pressure with the hand over the pubes.

Dr. R. Guitéras, in closing, expressed the belief that all of Dr. Skene's examples of cystitis arising from trauma could be satisfactorily explained on the theory that the injury caused congestion of the bladder, which it is well known is a powerful predisposing factor in the production of cystitis, acting apparently by affording favorable conditions for the entrance of an infection.

SYPHILIS OF THE NERVOUS SYSTEM AND THE USE AND ABUSE OF MERCURY AND IODIN IN ITS TREATMENT.

Dr. William M. Leszynsky read a paper with this title. It is to appear in the Journal, with the discussion.

Cincinnati Academy of Medicine.

Dec. 11, 1899.

ACUTE DILATATION OF STOMACH.

Dr. Joseph Eichberg presented a specimen from a patient who had succumbed to an attack of pneumonia. When the stomach, after its removal, was distended with water, it contained ten pints. This complication on the part of the stomach during the convalescence from an acute disease is exceedingly rare. He also suffered from a granular kidney, and it is most frequently in cases of interstitial nephritis that acute dilatation of the stomach has been observed.

PYONEPHROTIC KIDNEY.

Dr. Chas. Seth Evans presented a specimen from a kidney removed eight days previously from a woman suffering with pyonephrosis. The complaint began about twelve years ago, when she first noticed an increased amount, with turbidity, of the urine. Since that time she has had one attack of renal colic. She has never passed any calculi, gravel or sand. The disease always affected the same side. Micturition was frequent and painful. On examination, two weeks ago, he found an enlarged and somewhat displaced kidney on the right side, and also discovered two cicatrices from incisions made during a former operation. One of these incisions was anterior, the other in the loin. She gave a history of having been operated on twenty months before for floating kidney. The kidney, on being laid bare, was twice its normal size and filled with cysts. The adhesions were too firm to break up without great danger of wounding some of the important structures in the neighborhood, so the operation was completed by shelling the diseased organ from its capsule. Eight days after the operation, her pulse was normal, and she passed thirty-eight ounces of urine.

GALL-STONES.

DR. GILES MITCHELL presented specimens from a woman, aged 50 years, who has for two years had attacks of what she called biliousness, which attacks were attended with much pain, and from which she recovered by the use of moderate doses of calomel at night, followed by a saline purgative in the morning. She was not jaundiced, but gave a history of having had jaundice when eleven years of age. On opening the abdomen, the gall-bladder was found to be considerably distended, but the stones could be readily palpated. Before being opened, the gall-bladder was stitched to the peritoneum with a running suture. The bladder was then incised, the stones removed, the wound irrigated and the incision closed save for an opening for a small drainage-tube. The operation was made four days ago. The highest temperature she has had is 101 F.

PHYSICIAN'S PROBLEM IN HEREDITY.

DR. DAN MILLIKIN presented a paper on this subject. In the discussion, the speakers for the most part narrated instances of heredity that had been brought to their attention.

DR. JOHN OLIVER reported a family in which the hemorrhagic diathesis was well marked. Here the transmission was confined, in each case, to the eldest son of the family, that is to say, the women escaped, though the eldest sons of the girls showed this peculiar trait and died before they reached maturity. Subsequent children born of the same mother showed no trace of this tendency.

DR. D. I. WOLFSTEIN said that the German government investigated the history of a certain criminal family for four generations, and found it had its inception in a criminal father and a criminal and epileptic mother. During this period there have been twenty-seven criminals, while others belonging to this family have been the vctims of degenerative affections of various kinds. It has been estimated that during the time this record has been kept, this one family has cost the German government about one million marks.

DR. LOUIS STRIKER reported a case which had come to his attention about six months ago. A gentleman had come to him, with his two children, with the report that two of his family had become blind with atrophy of the optic nerve at their fourteenth year. He wanted to know whether his children, aged 10 and 14, would be liable to the same affliction. The sight of the children was perfectly normal.

Dr. Alexander then described the technique of his operation of perineal prostatectomy. He said that, in most instances, the suprapubic incision would be required in order to allow of the prostate being pressed down sufficiently far. He prefers the longitudinal incision, as it answered every purpose, and healed more quickly than the transverse one. The floor of the membranous urethra should be divided up and a little into the apex of the prostate, and then the mucous membrane of the prostatic urethra should be broken through as near the apex as possible, and the enlarged lateral lobes enucleated. Having succeeded in removing the lateral lobes, the so-called middle lobe enlargement could be pressed down into the cavity and enucleated. The incision should be sufficiently deep to go not only through the capsule of the prostate, but well into the enlarged lateral lobe. The failure to attend to this point accounts for most of the failures. The prostatic urethra above the vera montanum should be preserved intact.

LOOSE CARTILAGES IN THE KNEE-JOINT.

DRS. B. FARQUHAR CURTIS, SAMUEL LLOYD and **JOHN F. ERDMANN** reported cases in which they had successfully removed floating cartilages from the joint.

OPERATING CYSTOSCOPES OF NITZE AND CASPER; AND THE FIELD FOR BOTTINI'S PROSTATIC CAUTERIZATION.

DR. WILLY MEYER exhibited and demonstrated these instruments, so difficult to obtain in this country. Speaking of the Bottini method of treating hypertrophy of the prostate, he declared it to be his conviction, founded on an experience with the method in 23 cases, that it has come to stay. Nitze, he said, had operated sometimes fifteen times on cases of tumor of the bladder using his snare attachment, and he assumed that these papillomata of the bladder were benign. On this point Dr. Meyer expressed the opinion that if Nitze's cases were examined some years afterward, many of them would be found to be malignant. The operating cystoscope perhaps finds its most useful application in connection with litholapaxy, because it enables the operator to determine by direct inspection whether or not all fragments of calculi have been evacuated.

DR. L. BOLTON BANGS was of the opinion that the Nitze instruments might be useful for the treatment of recurrences, but were not appropriate for first operations, because these growths were apt to be malignant. He had known the Bottini cutting instrument to fail absolutely in some cases, but thought it would prove useful in cases of soft prostatic hypertrophy.

DR. S. ALEXANDER objected to the Bottini cautery operation, on the ground that it only partially removed the mechanical obstruction, and that even its most enthusiastic advocates did not claim that it would restore the impaired function of the vesical muscle. Another objection to it was that it did not give proper drainage. From personal observation he was convinced that the good effects claimed for this operation were at best only temporary, and the patient was left in a poor condition for any subsequent radical operation.

California Academy of Medicine.

San Francisco.

RESECTION OF ELBOW-JOINT.

DR. HARRY M. SHERMAN presented a patient on whom he had performed resection at the elbow-joint for tubercular disease. The particularly interesting feature of the case was an incident that occurred during the operation and which shows the resistant character of nerve tissue. The ulnar nerve was exposed for about 3 to 4 mm. of its length. After swabbing out the wound with pure carbolic acid, he carefully wiped off the acid, cleansed the wound and packed it. In due course healing took place, but at no time was there any trouble arising from the application of the acid to the nerve. An abscess formed in the cicatrix but this was scraped out and cauterized. The wound then healed well, and the young man has a fairly useful joint, with more than the usual amount of motion at that elbow. As a rule, "flail" joints result from excision, and the arm is not very useful; here, however, while the joint is not at all strong, it has most of the normal motions.

While the elbow was healing the patient complained of pain in the upper part of the left thigh. Nothing could be found by superficial palpation, but on deep palpation a distinctly fluctuating mass could be outlined and aspirated, thus removing a considerable amount of pus, and the abscess remained empty. The Doctor could find no bone lesion that could explain this as a "cold" abscess, and considers it merely a tuberculous focus in the soft tissues of the thigh, the growth of which eventually produced the abscess cavity which he evacuated. There has been no recurrence, but the man complains of pain in that region on damp days.

SKIAGRAPH OF SARCOMA OF FIBULA.

DR. SHERMAN also exhibited this skiagraph, showing a condition that does not correspond with any X-ray picture he has ever seen of tuberculosis in bone. The fibula presented a peculiarly fragmented appearance; the lime salts had been entirely absorbed at some points, while at others their partial absorption gave the bone the appearance of fragmentation already mentioned. The clinical picture, together with the appearance of the skiagraph, led him to believe that he will find, on operation, a sarcoma.

DR. THOMAS W. HUNTINGTON considered the first case presented by Dr. Sherman the best result he had seen after resection at the elbow-joint. He does not like prolonged packing. Many wounds will heal much more quickly if this period of packing is made shorter, and after the cavity is clean the pack simply acts as a foreign body and is an irritant. This is particularly true when we are dealing with the shafts of bones, as in osteomyelitis. He considered it interesting to know that the carbolic acid did not affect the nerve harmfully.

DR DUDLEY-TAIT said he had never seen a better result follow resection of the elbow-joint. He thinks it would be well to carry into general surgical work the methods [illegible]

[illegible] with the [illegible] of the gall-bladder [illegible] until the [illegible] is found to [illegible]. In regard to the result he asked whether much of the humerus was removed.

Dr. Sherman answered that all of the epiphysis was removed, about 1½ inches [illegible].

Dr. T. W. Huntington recalled a case in which the operator inadvertently irrigated the wound with almost pure carbolic acid. The acid was put into the bag of the fountain syringe in which the proper amount of water to make a 2.5 per cent solution had already been poured. The mixture was not good and when the stream was turned into the wound almost pure carbolic came from the irrigator. The wound surface was pretty well seared, but no harm resulted.

Dr. Harold Brunn asked whether anesthesia was observed after the operation reported by Dr. Sherman.

Dr. Sherman answered in the negative.

Dr. Brunn then pointed out that the axis-cylinder was not injured, and, such being the case, no lasting harm would be done to the nerves.

Dr. Henry Kreutzmann expressed surprise that modern surgeons are still using carbolic acid, when we have so many things that are better.

Dr. Sherman said that he had found carbolic acid extremely useful. It is, as we well know, not an acid at all, but an alcohol. Ethyl alcohol will antidote the effects of phenyl alcohol before it has remained in contact with the tissues for two minutes. We may even wash the hands with pure carbolic acid, if we subsequently, and within two minutes, rinse off the carbolic acid with alcohol. At the Children's Hospital he is having all dressings made with sterilized rubber gloves on the hands and the amount of suppuration has much lessened. He is having carbolic acid, 2.5 per cent. solution, used on one floor and salt solution on another, and can see no difference between the two floors. When he is a little more certain of this he will abandon the use of carbolic acid altogether and use salt solution.

DEGENERATION OF OVARY.

Dr. Henry Kreutzmann presented a specimen of pseudomyxomatous degeneration of the ovary, portions of the peritoneum, tube, etc. The specimen had been removed two weeks before. He recalled the recorded cases of this peculiar condition, some thirty or forty in number, laying stress on the fact that practically all the patients had died within a year or two after the operation, apparently from subsequent involvement of the whole peritoneum with growths of a similar character. In some the tumor had ruptured and the sticky contents were found in the abdomen; in others the sticky contents were allowed to escape into the peritoneal cavity at the time of operation. In all, general degeneration, of the pseudomyxomatous variety followed. He detailed a case which he saw in 1896.

Dr. J. Henry Barbat said he reported a case some four years ago, on which he had operated and found the entire abdomen filled with this sticky mass; it had to be scooped out with the hands. There was a large ovarian cyst which had ruptured and part of the contents had escaped; the remainder had to be scooped out. It was quite impossible to wash out the material. The patient did very well, however, and died three years later, from tuberculosis of the lungs. He could not see that she was harmed by the presence of this material in the peritoneal cavity, and that certainly did not cause her death.

Dr. Dudley Tait said he reported a case five years ago. The tumor was very large, and peculiar in shape, looking very much like the intestines. There has been no recurrence.

PRIMARY CARCINOMA OF BONE.

Dr. Guido Caglieri reported a case of this condition. The patient was 52 years old and gave no personal or family history. He complained of some pain in the neck and said a tumor had appeared there a few months before and was growing. The anterior and posterior triangles were quite well filled with what the Doctor thought to be enlarged, tuberculous glands. They were hard and connected. He could discover no malignant growth from which these could have been caused. It was decided to operate and clean out these glands, because one of them had broken down. At the time of operation the possibility of their being secondary to some malignant growth elsewhere was mentioned, but nothing of the sort could be found. The patient did fairly well for a couple of days; then he began to get worse. At the end of a week the entire region of the operation was enormously enlarged and the appearance of the wound and skin showed clearly that the mass was cancerous.

Death resulted in the sixth week following the operation and the post-mortem examination revealed a most peculiar condition: Springing from the sixth rib, and protruding into the lung, was a large mass. The glands of the mediastinum, the neck, and in fact in the whole vicinity, were cancerous. A section received from the mass near to the site of the operation showed every appearance of carcinoma.

Dr. Philip King Brown said that while primary carcinoma of bone is so extremely rare as to, in every case, lead to some doubt and enforce a most careful examination, this was, in his opinion a case of primary carcinoma of bone.

Dr. Douglass W. Montgomery said it did not appear to him to be a carcinoma, but had more the appearance of a form of sarcoma.

Dr. Brown said that the clinical picture taken in conjunction with the section, led him to believe it carcinoma. The mass, weighing five or six pounds, grew in six days, and is a hard mass, while sarcomata are softer. A few places of the section only do not look like carcinoma, but the section entire has more the characteristics of carcinoma. In many respects it resembles an endothelioma.

Dr. Dudley Tait was inclined to believe it a carcinoma, primarily of the sixth rib. He said that the exceedingly rapid growth of a hard mass of this character is certainly a point that must be considered in forming an opinion. The history of the case enforces on us the fact that it is unwise to do any incomplete operation for cancer.

TUBERCULOSIS OF THE EPIDYDIMIS.

Dr. Dudley Tait exhibited a specimen of testicle which had been removed for the cause named. He stated that he did not think it right that the Academy should adhere to the opinion, expressed at a previous meeting and published, that radical surgical methods alone should be employed in dealing with this condition. He thought that as the testicle is a gland with internal secretions of value to the individual economy, it should be preserved when possible. The specimen exhibited showed that the epidymis alone was involved and the testicle itself might have been saved.

Chicago Academy of Medicine.

Nov. 10, 1899.

LARYNGEAL PARALYSIS.

Dr. Edward T. Dickerman reported a case of this disease as follows:

The patient was sent to my clinic by Dr. Favill, who had examined him and found his general physical condition normal. He is an American, 24 years of age. His father died of pneumonia; his mother is alive. He had been rather dissipated, drinking and smoking heavily; had never been sick, but gave a history of a hysteric blindness when about 15 years of age. About one year ago, he noticed that he was slightly hoarse, had a sore throat, and about this time he found that on exertion he was short of breath. His respirations at night were noisy and he appeared to be choking. He lost about twelve pounds in weight from January 1 to June 1, and consulted his family physician, who told him he had tuberculosis and must go west. He went to Montana and worked on a ranch, and says his health was perfect, and the only thing that bothered him was shortness of breath, some obscure pains in the chest and legs, while his noisy respiration at night was a nuisance to everyone. He never had a cough, nor expectoration.

On examination I found his general condition perfect. The nose and pharynx were normal in appearance. On looking into the larynx I found the ventricular bands slightly congested, also the aryepiglottic folds. The vocal cords were in a position of pronounced adduction. There was no relaxation of the free borders of the cords; a very slight movement about equal in extent during inspiration and expiration was noticed. On phonation the cords approximated. A diagnosis of recurrent pharyngeal paralysis was made, with the cords in a position of adduction. As is well known, early paralysis of the muscles supplied by the recurrent laryngeal, no matter where the lesion lies, at first cause a preferential paralysis of the abductors, followed later by the other muscles of the larynx.

The cause of this paralysis was now looked for, and after the most careful search by myself, I asked Drs. Moyer and Goodkind to look the man over, and they were unable to find in his physical condition or central nervous system any adequate cause to explain his condition.

I then took him to the Fuchs X-ray laboratory, and here nothing abnormal could be found in the chest. I think the most probable cause is an acute laryngitis or diphtheria, affecting the nerve endings, or causing a neuritis, but this does not, to my mind, satisfactorily answer the question. Functional diseases, as hysteria, as a rule, affect the adductors, but it is possible to have the condition as here shown. Any organic disease in the medulla would surely produce other symptoms, so that I am at a loss to locate the cause.

DR. JAMES G. KIERNAN—While I have not examined the patient, the type of face is that of a degenerate. Where there is a degenerate condition there is going to be what is called hysteria, as well as local neuroses produced by slight causes. In these degenerate subjects or in the neurotics, the primary factor, essentially an important feature, is an unstable neurotic condition, but secondary to this, as in hysteria and in neuropathic states, atrophies, etc., may occur. There is no reason why a degenerate might not have secondary congestions, which are much more frequent than secondary hysteric conditions.

DR. HAROLD N. MOYER—The case is interesting in its general features, and I think the diagnosis of bilateral abductor paralysis is correct. This is as far as we can go. If you ask what constitutes the pathologic anatomy, it resolves itself into a peripheral neurotic trouble, a paralysis of the nuclear origin of these nerves, or a paralysis due to pressure along the course of them, or an actual degeneration of the nerves themselves. So far as physical diagnosis will permit one to go, we are confident there is no pressure along the course of the nerves, interfering with their function. As to whether there is partial nuclear degeneration at the point of origin of the nerves, it is impossible to say. We may assume that the case is hysteric. If we use the term as simply synonymous with the word functional, I will not quarrel with the diagnosis. If you use hysteria, however, in the sense that it is a well-defined symptom-complex, characterized by fairly constant grouping of symptoms and progress, then it is clearly not hysteric. We are not justified in going one step beyond that in discussing the case.

DR. WILLIAM L. BALLENGER—How long has the patient been under observation?

DR. DICKERMAN—About five days.

DR. BALLENGER—How long has there been abductor paralysis?

DR. DICKERMAN—Since last February.

DR. BALLENGER—Has there been any improvement?

DR. DICKERMAN—He has manifested symptoms of paralysis since that time. He has shortness of breath, stridor and slight hoarseness. He has had these symptoms since last February. It was not until some time last June that he consulted a physician, who did not examine his larynx, but his chest, and from hearing the history, told the young man that he thought he had some lung trouble and had better go west.

DR. BALLENGER—Does he give a history of having had inflammations of the throat?

DR. DICKERMAN—The only history I have been able to elicit is that about the time he first noticed the trouble his mother woke him up after hearing him make a noise during sleep. He had sore throat at that time, and some trouble with the ear. His hearing is perfectly normal now.

DR. BALLENGER—Was there any pharyngeal involvement?

DR. DICKERMAN—Yes.

DR. BALLENGER—That is the point I wanted to clear up. These paralyses may result from the presence of tumors or aneurysms of the aorta; in other words, from pressure in the chest cavity on the recurrent laryngeal nerve, or they may be of central origin, or there may be peripheral inflammations of the laryngeal nerve, or paralysis may result from rheumatic or gouty attacks, developing a perichondritis. It seems to me that this case is probably one of peripheral neuritis, the result of streptococcal inflammation of the pharynx, the larynx, or of the neighboring parts, and the toxins resulting from the infection may have excited a neuritis and thus produced the paralysis. I do not wish to be placed on record as stating positively that the case is of that type, but if it is not, it must be from some other toxin—perhaps syphilitic. Dr. Dickerman stated, in narrating the history of the case, that syphilis or venereal disease was denied. He stated, however, that the patient had been a man of intemperate habits, and perhaps in his "rounds" he contracted the disease, and this might be an expression of it. The most probable explanation is this: It has been suggested that the man is apparently a degenerate, and as degenerates are more easily affected by the toxins than others, a slight toxemia may have occurred several months ago when he had pharyngeal and laryngeal inflammation, and a neuritis was excited which has expressed itself as a bilateral abductor paralysis.

DR. DICKERMAN—There is very little I can say in regard to this case, except that I am convinced that the paralysis is not due to syphilis. The man gives no history of that disease and an absence of enlarged glands and scars, such as we might expect to find. In regard to whether it is a peripheral neuritis which has involved only the filaments supplying the posterior crico-arytenoid muscles, that is a question I am unable to state. I am inclined to believe, however, that it is not this condition, as in such cases the tensors of the larynx are often involved. The larynx, after remaining for a certain time in adduction, gradually seeks the position of abduction, which is the ultimate result of a complete paralysis of the recurrent laryngeal nerve. Abductor paralysis only exists for a certain length of time where the whole nerve is involved; it gradually goes on to a state of adduction paralysis also, and remains in the cadaveric position or one of passive inspiration. Here we have a case that has existed for a year and has given all the symptoms of bilateral abductor paralysis. Candidly, I have not been able to make up my mind what the cause of paralysis in this case is, and I shall watch the patient with interest to see if any changes take place, and if eventually total paralysis of all the muscles supplied by the recurrent laryngeal occurs.

DR. REUBEN PETERSON presented the report of a case of "hernia of the appendix."

(To be continued.)

Topeka (Kan.) Academy of Medicine and Surgery.

Dec. 4, 1899.

MICROSCOPIC DIAGNOSIS OF DISEASE.

DR. C. E. MUNN gave a talk on this subject, and reported an interesting case of malaria where the plasmodium malariæ was demonstrated by the microscope. He reported another case where the symptoms pointed to some disease of the kidney. On examination albumin, urates and phosphates were found in abundance. He suspected tuberculosis and then took 100 c. c. of urine and added a solution of borax and boric acid and let it stand over night. In the morning the sediment had been precipitated and the clean solution was above. He filtered and made smears of the nitrate and found the tubercle bacillus.

He next reported a case of an army officer with a [illegible] testicle. He followed the usual treatment with iodin, strapping, etc., but without success, and later an abscess formed, was opened, and the pus contained the tubercle bacilli. The bacilli were also found in the urine and seminal vesicles. He advised change of climate. Six months later tender swellings developed on the chest, which also contained tubercle pus. He urges that we should always use the microscope early in all doubtful cases, and that the careful analysis of urine in all cases of disease is of the utmost importance.

He reported another case of a soldier with absolutely no symptoms of tuberculosis. He had never been on the sick list, but on examination of the sputum the tubercle bacilli were found in abundance. He was immediately sent to the hospital and the same afternoon died of hemorrhage, before any one could reach him.

N. Y. Academy of Medicine.

Surgical Section, Dec. 11, 1899.

PROSTATECTOMY.

DR. ALEXANDER B. JOHNSON presented a patient of 60 years.

on whom he had done this operation through a perineal incision. The removal of the prostate had been accomplished easily, and there had been little shock or bleeding. Irrigations of the bladder had been practiced daily with boric acid, for seven days, after which the retained catheter had been left out. On the eighth day the patient had begun to void his urine voluntarily. It was worthy of note that the employment of faradization in connection with the after-treatment had seemed to have a decided effect in the way of restoring the tone to the bladder, and so diminishing the quantity of residual urine. The speaker thought that the period of convalescence could be reduced by so modifying the operation as to avoid opening through the prostatic urethra. His proposition was, after having enucleated one lateral lobe of the gland, through an incision in its capsule, to endeavor to avoid tearing through the prostatic urethra by shaving off the rather firm attachment of the gland along this line with a blunt-pointed knife. This process would be repeated on the opposite side, and then a drainage-tube introduced through a longitudinal slit in the floor of the membranous urethra. The hemorrhage should not be greatly increased by this procedure, for, the area over which the prostate was firmly adherent to the urethral wall did not appear to be very extensive in any case. In the case just reported, at the end of six weeks the man had been able to retain from six to eight ounces of urine, and emptied his bladder only every four or five hours during the day.

Dr. Eugene Fuller presented a case in which he had used both the suprapubic and perineal incisions in connection with the operation of prostatectomy. The bladder had been foul and very atonic, and under these circumstances, he said, he believed hemorrhage could be more satisfactorily controlled and better drainage secured by having a suprapubic opening.

Dr. Forbes Hawkes also presented a case of prostatectomy in which, after having enucleated the enlarged lateral lobes, he had removed the median lobe without opening the prostatic urethra, by passing his fingers down through the lateral pouches, an assistant making counter-pressure through the rectum. A good functional result was obtained.

Dr. Samuel Alexander said that in considering the value of any operation for the relief of prostatic obstruction, the causes of urinary retention should be well considered. One of these, and one often overlooked, was a displacement of the insertion of the fibers of the vesical muscle, as a result of which there was partial retention. He recognized three forms of so-called middle lobe enlargement of the prostate. The first was that in which the enlargement was limited to the anatomic isthmus of the prostate, forming an oval bar at the neck of the bladder. The second variety consisted in a growth in the anatomic isthmus, with enlargement of the glands at the internal urethral orifice—the most common variety. The third form was that in which there was a growth of the prostatic glands situated directly beneath the mucous membrane of the prostatic urethra above the vera montanum, giving rise to an upward enlargement from the floor of the urethra. A radical operation for the relief of prostatic enlargement should remove the mechanical obstruction, relieve the venous stasis, restore the attachment of the vesical muscle to approximately the normal, and relieve congestion of the bladder by furnishing adequate drainage.

Toronto Clinical Society.

Dec. [illegible], 1899.

MALARIA.

Dr. W. O. [illegible] presented a boy aged 8 years, who lived in New York City prior to two years ago. He was first seen by Dr. Thistle just after he had passed through a severe chill, his temperature then being 104.4 F. Palpation revealed a markedly enlarged spleen. The patient was quite well the day before, and apparently so two or three days after. First examination of the blood showed no parasite, but eventually in every slide examined, and usually found at the stage where they almost completely filled the corpuscle, with pigment about the periphery. The white blood-cells showed an extreme quantity of pigment and evidences of phagocytic activity. Since entering the Hospital for Sick Children, the patient has had only one chill, which was quite typical, followed by a temperature of 105 F., succeeded by the sweating stage. No chills have been recorded since, but the chart shows moderate elevation every alternating day. He was put on two grains of quinin three times a day, and the disappearance of the parasites noted in three days, with rapid reduction in the size of the spleen.

LARVA MIGRANS.

Dr. Graham Chambers exhibited a photograph of a lesion which was situated on the pectoral regions. At first it appeared on the back in the form of a serpiginous line one-eighth of an inch in diameter; the line increased from one-half to three and one-half inches every day. A fly-blister was ordered to be applied to the lesion, about an inch beyond the advancing margin; the result was a complete cure in a short space of time. In this exceedingly rare skin disease, the larva of the genus Estrus or bot-fly burrows in the skin, producing the lesion. In Central and South America the disease is not so uncommon; and it is supposed that this form of fly deposits the ovum under the skin, and this develops into the larva; although in this case the larva was not demonstrated. Authorities state it has to be cut out, but in this case the fly-blister cured it.

KOCHER'S EXCISION OF ELBOW.

Dr. Bingham said that about the middle of 1896 this patient, a man aged 31, was struck on the elbow with a small piece of coal. There was very little pain at the time, and for two years he continued at his work, although most of that time the pain was quite severe. The arm gradually drew up and extension became more difficult. In January, 1899, Kocher's operation was performed; and the result has been as perfect as one gets in these operations. He now has good control of that arm, although the biceps is not at all developed. He can lift heavy weights, but can not do pushing movements. Dr. Bingham described the operation at some length, and stated that the only danger is that the surgeon may not remove enough bone.

AMPUTATION FOR CRUSHING INJURY.

Dr. H. A. Bruce showed a specimen which he had removed about the junction of the middle with the upper third of the leg. A brakeman, when a train was shunting in a country town, fell from the car and was rescued, just as the fire-box of the engine was about to pass over his body. Both bones of the leg about the lower third were badly comminuted, many pieces being detached from their periosteum, with much laceration of the surrounding tissues. The skin was not lacerated, but apparently incised in two places, the posterior aspect being considerably bruised. The foot was warm, and the patient had power to move the toes of that side.

PATHOLOGIC SPECIMEN OF ATHEROMA.

Dr. Harold C. Parsons showed these specimens to bring out a point of clinical interest, viz., the condition of the radial pulse as an indication of the condition of the rest of the arterial tree. The specimens were from a woman of 76 years. The pulse had always been soft, and it was quite evident that the radial artery was quite healthy, as also were the other arteries that could be felt. The woman had died of gangrene beginning in the great toe of the left foot. At postmortem, the most extreme degree of atheroma was found in the coronary vessels, they appearing as though a button of bone surrounded their orifices. The anterior tibial vessels were quite normal. The kidneys showed a marked degree of sclerosis; also found in the left lobe of the liver.

Sterilization of Catgut with Alcohol. A. Bardy confirms his previous statements in regard to the value of alcohol vapors in the sterilization of catgut, and now reports, in the *Gaz. des Hôp.*, 98, that tests with surgical requirements sterilized in glass with alcohol vapors at 125 C., showed that they were still absolutely aseptic two years afterward. The catgut becomes dry and brittle by this process, but regains all its flexibility and strength when dipped for a few minutes in 80 per cent. alcohol. Thus prepared the catgut is entirely free from water and, in contact with moist substances, swells, forming a strong and durable ligature which shows no signs of yielding even after eight days.

THE JOURNAL OF THE
AMERICAN MEDICAL ASSOCIATION.

SATURDAY, JANUARY 6, 1900.

INSOMNIA.

Sleep may be interfered with by a variety of causes, some of which may be preventive, while others may awaken the individual. The disturbance is essentially a symptomatic manifestation, though often the most conspicuous one. It may be associated with organic disease or with functional disturbance of other origin. It may be due to the action of poisons, introduced from without or generated within the body. The etiologic factor is sometimes obscure. Among the more common causes are pain, disease of the cranium or its contents, respiratory and circulatory disturbances, febrile and toxic states, nutritive impairment and chemical influences in general. The sleeplessness of old age must be attributed to changes in the blood-vessels of the brain, and in the cerebrum itself.

A number of the less common causes of disturbed sleep were discussed recently by Oppenheim[1], before the Berlin Society for Psychiatry and Nervous Diseases. The qualification, psychogenic or deogenic, is applicable to insomnia due to excessive mental activity, delusions, or emotional disturbances, as in the insane, the hysteric, and the neurasthenic. Closely related to this variety of sleeplessness is that associated with hyperesthesia of the special senses, particularly of hearing. Profound visual or auditory impressions likewise may prevent sleep. Insomnia due to pain of any variety or origin may be designated algogenic or dolorose. Some forms of pain appear or undergo exacerbation only during sleep. Various paresthesiæ may have a disturbing influence on sleep Pruritis also may act in the same way. An abnormal sense of heat or cold—thermoparesthesia—is not uncommon. There may, further, be paresthesiæ of the special senses, as manifested by tinnitus aurium or visual hallucinations. Olfactory and gustatory paresthesiæ are rare as causes of insomnia. Gastro-intestinal disorders, and particularly their nervous features, are important factors in the etiology of sleeplessness. Cardiac and vascular disturbances exert an unfavorable influence on sleep. Palpitation of the heart and a sense of pulsation in various parts of the body may have a disturbing effect. Respiratory disorders, and particularly asthmatic states, have a like effect. Sleep may be interfered with, further, by manifestations of motor irritability, such as painful spasm and twitching of varied kinds. Insomnia is rarely due to secretory disorders, such as hyperidrosis, salivation, polyuria, and pollakiuria. Sleeplessness may be of sexual origin, sometimes of psychogenic variety, at other times from excess, and at still others from erections.

The influences by which sleep may be prevented are not identical with those by which it may be interrupted, though some of these cause both results. There are some disturbing factors, further, that arise only during sleep, such as dreams, nightmare, night-terrors, and the like. The symptoms of gastro-intestinal insufficiency may be aggravated by sleep, which they in turn help to disturb. Pain sometimes occurs only at night—nyctalgia—and occasionally only during sleep—hypnalgia—and in this way it may cause insomnia. Epilepsy likewise may occur under the same conditions. Oppenheim cites an interesting case in which in the sequence of an attack of pneumonia complicating influenza, pulse and respiration ceased whenever the patient went to sleep, so that it was necessary to keep her awake in order to prevent death. This condition persisted for eight or ten days and then gradually subsided. It was attributed to the toxic influence of the influenza poison on the medullary centers.

In the way of treatment, the primary indication is, as always, the removal or the modification of the causative condition. This will require careful scrutiny of the patient, and the adoption of appropriate corrective measures. In addition, attention to diet, to exercise, and to personal hygiene will be helpful. In some cases a warm bath, in others a cold pack, in still others massage will achieve the desired result. The method suggested by Dr. Learned, namely, holding up some part of the body from the bed, as a foot or a hand or the head, may be practiced successfully in some cases. In the way of drugs, bromids hold first place, because of their general efficiency and of their relative freedom from danger. Chloral and paraldehyde are also deserving of confidence, as are several similar preparations. Opium or its derivatives will often succeed in inducing sleep when other remedies would fail, but it should ordinarily be reserved as a final resort because of its potency and the danger of habituation.

THE PLASMA CELL.

The origin, morphology and face of the cells of inflammatory infiltrations are of great interest, one reason being that the relations of the inflammatory cells of undoubted hemal origin to the new-found issue have not yet been definitely established. Recently one element in the inflammatory infiltration has been singled out as a distinct cell with definite tinctorial and morphologic peculiarities. This is the plasma cell, which Unna first differentiated from the cells with which it had been previously confused, by the affinity of its protoplasm for methylene blue. It is interesting to follow the attempts of various investigators to prove by means of the changes, which the plasma cell undergoes, that cells of hemal origin may give rise to fixed tissue. Now the plasma cell is characterized tinctorially by the blue stain which its protoplasm takes on and holds fast after treatment with methylene and blue; and morphologically by being round or oval, when lying free, and cubical, polygonal, or elongated under various conditions producing pressure; the protoplasm seems more condensed at the margins, the center being less deeply stained, and the nuclei, which are round, are almost without exception eccentric in their situation; the chromatin network of the nucleus is also quite characteristic, there being five to eight coarser chromatic granules distributed along the periphery of the nuclear membrane. For these reasons more stress is now laid on the morphologic than on the tinctorial peculiarities, and it is quite proper to say that the plasma cell is a morphologic entity. The claim of Unna that plasma cells are young connective-tissue cells has not received any support whatsoever. It is now generally agreed that this cell is a derivative of the lymphocytes—small, mononuclear leucocytes—the principal reasons being the similarity of the nuclei of the two cells and the appearance of plasma cells in the splenic pulp and in the vessels in conditions of artificial leucocytosis. Councilman describes the emigration of plasma cells from the blood-vessels of the kidney in the acute cellular nephritis of diphtheria and scarlet fever. Plasma cells are also normally present in the blood-producing organs of many animals. While there is considerable obscurity as to the exact origin of the plasma cell, and while the significance of the activities whereby lymphocytes are rendered mobile and changed into plasma cells is understood, yet it must be regarded as established that in inflammatory infiltrations the plasma cells are essentially of hemal origin.

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[1] Berliner Klin. Woch., Dec. 4, 1899, p. 1069.

The next question is, has the plasma cell the power of development so that it may, for instance, change into connective tissue, or, to put it in another way, can connective issue be of hematogenous origin? This question has not been settled. Certain transitional forms, so-called, are observed in granulation tissue, which some interpret as proof of plasma cells becoming fibroblasts, but conclusive and unimpeachable evidence of this transformation has not yet been brought forward.

The demonstration of the presence of the plasma cells in inflammatory infiltrations, and the further establishment of their origin from lymphocytes are, however, important advances in the morphology of inflammation, and the efforts to differentiate the various cell forms in inflammatory states have been materially furthered.

POPULATION AND PROSPERITY

A socialist writer recently, in describing New Zealand institutions, which are in some respects advanced experiments of the application of socialistic theories, expressed the opinion that while it still has its evils and defects, that archipelago, if not yet the model, is a very fortunate community. In one respect statistics appear to bear out this opinion; it has apparently a lower death-rate than any other population of equal size. The total death-rate in 1895 was 9.90 per 1000, and in 1896, 9.10, as against 18.7 in England and Wales, 22.3 in France, and 22.2 in the German empire in 1895. If the statistics are correct, New Zealand is, as Dr. Drysdale says, probably the healthiest country in the world. Its mortality from tuberculosis was in 1896 only 7.4 to the 10,000 inhabitants. Against this low death-rate we have, however, a correspondingly low birth-rate, only 26.33 per 1000, which is down toward what is considered the danger mark in continental Europe. What this indicates we are not prepared to say, but in a new country with comparatively sparse population, like New Zealand, the same causes for a declining birth-rate ought not exist as in the older and more dense populations of Europe and parts of this country. A scarcity of women is not said to exist, but there must be a lessened number of families, for the average number of children to a marriage is given, and is a little above that of England and Wales, viz., 4.32 to 4.16. New Zealand has also its proportion of illegitimate births, but they do not appear to materially affect the general statistics. The proportion of children under 5 years of age was, in 1896, according to Newsholme,[1] 119 to the 1000, as compared to 123 in England, which certainly does not show a difference that can account for the low death-rate, and indicates rather an equalization of conditions in this particular. Dr. Drysdale, in his communication to the *Lancet,* attempts to account for the low death-rate by the low birth-rate, which has lessened the struggle for food supplies. It is not necessary, however, to credit this to the lowered birth-rate, for in a productive underpopulated country, under good or approximately good laws, food will necessarily be abundant and cheap, and the birth-rate will not enter as a factor into the question till the population has grown to meet the productive or rather the supplying capacity of the country. The low death-rate will have to be accounted for by the general healthfulness of the country, the sound constitutions and generally wholesome lives of its settlers, and the abundance of suitable food; in short, its general prosperity. The low birth-rate is still to be accounted for, and with the very respectable proportion of young children, is rather hard to explain. The marriage-rate, though increasing, is apparently still low; Drysdale quotes it as 6.85 to 1000 population in 1896, and this would correspond with the low birth-rate, which in New Zealand has actually led to a contraction of the schools and dismissal of teachers for lack of children to be taught.

We can see no reasonable cause for this state of things in New Zealand, other than that existing for the same conditions of affairs in other prosperous communities, and that is neo-Malthusianism, working out its results by delayed marriages, celibacy and marital continence, as well as by the less respectable and even criminal practices often credited with this result. Drysdale says the statistics of New Zealand remind him of the low birth- and death-rates of a comfortable London suburb, Hampstead, where births are 18 and deaths 12 to the 1000. It is true that full feeding is not, in the animal kingdom, specially conducive to fecundity, and imaginative biologists and psychologists have associated the sexual appetite with that of hunger, but in the human species we can not attribute all such effects as those here in evidence to such a causation. The modes of life in New Zealand are not supposed to be analogous in any way to those of animals that in captivity fail to breed, though doubtless civilization is in some ways and to some extent a check. Whatever action such physical and external conditions may have must be partial, and voluntary human agency must be invoked to account for the rest.

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[1] Vital Statistics, p. 88.

In an economic point of view a lowered birth-rate is a sort of necessary sequence of a lowered death-rate, and the natural increase of birth-rate, of 26 to a death-rate of only 9 or 10, would rapidly double the population, and adding the increase from immigration, it is easy to see that the problem of population is one that will in time still necessarily trouble the New Zealanders. The noteworthy fact remains that at this early stage, before their area is crowded or their natural resources taxed, they are already beginning to show the signs that in older countries are to some extent reckoned as indications of national decadence. It may be that with the other social problems now undergoing or attempting solution in that Britain of the southern hemisphere, that of population is also to be to a greater or less extent worked out, or new facts are to be developed which may enlarge our notions on this as well as other economic questions.

The subject is one of interest to physicians as well as to political economists, and has therefore been thought worthy of mention here.

NATIVE DRUG PLANTS OF THE UNITED STATES.

We print in our "Miscellany" this week, an extract from the recent report of the U. S. Secretary of Agriculture, Hon. James Wilson, in which he asks Congress for an appropriation to enable his department to co-operate with the commission appointed by the Pan-American Medical Congress, to investigate the medicinal flora of the United States.

It will be a surprise to many of our readers to learn that this work has never been done in a thorough and systematic way. It is true that the "U. S. Dispensatory" and the "U. S. Pharmacopeia" and other important publications contain valuable contributions to the knowledge of our medicinal plants; but there does not exist at present anything like a complete list, to say nothing of assays or other pharmacologic investigation, of our medicinal flora. This situation was recognized at the meeting of the first Pan-American Medical Congress, where an international commission was appointed, having for its object the classification and investigation of the medicinal flora of all of the countries and colonies of North and South America.

This work has been taken up with more or less zeal in the different American countries—notably in Mexico, where the government has established and maintains the Instituto Medico Nacional, under the efficient supervision of Dr. Domingo Orvañanos. As a result of the splendid work which has been conducted in this institution, under the patronage of the president of Mexico, the medicinal flora of that country have been carefully investigated, all the drugs of real value have been assayed, their alkaloids have been isolated, and the entire medicinal resources of that republic have been placed on a strictly scientific basis.

In Cuba much preliminary work has been done under the efficient direction of Dr. Gomez de la Maza, whose "Diccionario Botanico de los Nombres Vulgares, Cubanas y Puerto-Riqueños," has at least furnished a key to the final investigation of the medicinal plants of those two of our insular dependencies, which might well be conducted to completion under the auspices of the present military government.

The work in Venezuela is already well under way at the hands of Dr. Francisco A. Risquez and other efficient collaborators. Chili is also active in the investigation of its plants, and intimations have been received to the effect that other of the South American countries are recognizing the importance of this step—in all of which governmental aid is being afforded. In Mexico this is almost unstinted, and as a result Mexico, in this regard, has acquired a position in the scientific world that is clearly ahead of any other country of the Western Hemisphere.

It is a matter of some chagrin that this splendid movement, which was inaugurated in the United States at an international American medical congress, held under the auspices of the United States government, should be less advanced in this country than in any other. The trouble has been in the want of funds. Application has been made to previous administrations for assistance to carry on this work, which is so clearly and distinctly of national importance that its burden ought not to fall on any one class. The excellent international commission, under the presidency of Dr. H. H. Rusby of New York—and especially the subcommission for the U. S., under his direct supervision—have been paralyzed for want of money. Applications to previous administrations have been fruitless. The last year was a very inopportune one for commanding the attention of Congress to scientific questions. The present year, however, Secretary Wilson has taken up the matter with clearness and intelligence, and, ably seconded by Mr. Frederick V. Coville, botanist to the Department of Agriculture, the movement is being brought to a focus.

But little can be said in addition to Secretary Wilson's report, which will add to the force of the recommendation. No one can appreciate the importance of this investigation more than do the physicians of the United States—for, while they are in no sense the direct beneficiaries, they are in a position to comprehend with special accuracy both the economic and humanitarian aspects of this movement. The producers of medicinal plants, the gatherers of them, the manufacturers of refined products and the afflicted who are relieved by them, together with the numerous dispensing pharmacists, all over the country, are to be counted among those who will benefit most in a material sense by the results of this investigation. It devolves on the medical profession, however, to bring its direct influence to bear on Congress to secure the small appropriation asked for; this should be done without any hesitancy.

CONDITION OF THE PUPIL IN SLEEP AND COMA.

The medical profession has learned that the condition of the pupil is of very great diagnostic value in a number of conditions which are [illegible], and experience has taught that it is usually contracted in the early stages of all acute inflammatory processes of the brain or its membranes, in the early stages of cerebral hemorrhage, and in the presence of intracranial tumors, located in the third nerve nucleus. It is also not to be forgotten that certain drugs cause contraction of the pupil, and that it may be in this condition as a result of chronic tobacco poisoning. So too, it is not to be forgotten that at the beginning of an attack of hysteria or epilepsy, myosis may be present, and that among watchmakers and jewelers, who continually inspect objects at a near point, the pupil may become abnormally contracted, apparently as the result of habit. Our attention has been called to this important question by an article by Dr. W. H. Robey, Jr.[1] He calls attention to the fact that in children, and indeed in adults, the pupil is always in a condition of myosis during sleep, and that this condition is physiologic. The matter was brought to his attention in a manner that indicates the value of recollecting the physiologic fact that we have just stated.

A sleeping child was brought to him with a history that it had fallen from a table, had struck on its head, become unconscious, vomited and had been dull and stupid ever since the injury. The question arose as to whether the fall was primarily produced by an epileptic fit, or whether it had resulted in some cerebral injury, which accounted for the unconscious condition of the patient when brought to professional notice. An examination of the pupil of the child showed it to have tightly contracted pupils, and, naturally, under these circumstances, the conclusion might have been reached that this myosis was due to irritative lesion of the brain. After the child's pupil had been examined, the patellar reflexes were applied, and this caused the child to wake up, when the pupil returned to its natural size. We believe, with Dr. Robey, that the contraction of the pupil during sleep is not generally known as being a physiologic phenomenon, and the fact that if the eye is opened during sleep, and the light strikes on the pupil, no reaction takes place in it, may still further mislead the physician. The moment that the patient awakes, the ordinary movements of the pupil to accommodation and light take place.

LEGISLATION IN GEORGIA.

The veto of the act legalizing and recognizing osteopathy in Georgia, published in our "Correspondence" in this issue, calls for notice. Governor Candler's veto expresses very fairly and concisely the reasons why the bill should not become a law, and its advocates will not find it easy to answer it. Osteopaths will shift the issue if they can and claim that they do not pretend to practice medicine in any sense, but that transparent falsehood will find few believers. Governor Candler has acted like an honest man and a man of good sense in his action in the matter, and it is to be hoped that other governors in like circumstances will follow his good example. It is time for legislation to cease putting premiums on ignorance in matters involving the lives and welfare of the people; if it does not, the executive should stand in the way of such idiotic measures, as has been so well done in this case by the governor of Georgia.

A JUST DECISION.

A recent decision of the Illinois Supreme Court, as given in the newspaper reports, is of importance to the pharmaceutic and medical profession. A general storekeeper and his wife, who was apparently also his partner in business, were found guilty in a local justice court of violating the pharmacy law in selling patent medicines along with other merchandise. The case went up to the supreme court in regular course, and it has affirmed the judgment of the court below in fining them for violation of the law. Under this decision, the practice, common heretofore, of country stores dealing in patent and proprietary drugs, will have to be discontinued or they will have to employ registered pharmacists as assistants. Very probably further efforts will be made to repeal the statute or, if possible, to have it declared unconstitutional, but their success is doubtful. The decision is one that medical men can certainly approve, and they should use their influence with the public against any efforts that may be made to render it invalid. The danger of ignorant dispensing of unknown remedies ought to be obvious enough to legislators as well as judges, and the law as now interpreted ought to be secure from possible change or repeal.

THE REWARDS OF MEDICAL PRACTICE.

If there be any who believe that the practice of medicine is a royal road to fortune, their minds should be disabused by communications like those of which two appear in the *Lancet* for Dec. 9, 1899. One of these is an appeal for funds for the widow of a medical practitioner, in order that she may join a hospital to be trained as an obstetric nurse and become self-supporting, the husband dying from typhoid fever after having been partially invalided for nearly five years by an accident, and leaving his widow utterly unprovided for. The second communication is likewise an appeal, this time on behalf of a practitioner himself and his half-starving family. This man was reduced to sheer poverty in consequence of disease, but in spite of his sufferings he labored on, and made some provision for his children, but even this eventually became jeopardized by the necessities of the family. We have no doubt that these appeals will be generously responded to by members of a self-sacrificing profession, but we fear that the cases to which they refer are by no means isolated. Instances like these should stimulate medical men everywhere to the organization of, and assumption of actual membership in, mutual aid societies, of which examples are in successful operation at least in New York and Philadelphia.

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[1] Boston Med. and Surg. Jour., Dec. 21, 1899.

THE INDEX AGAIN.

We have received many letters complimentary to the index sent out with last week's JOURNAL, and as one of these contains an adverse (?) criticism we publish it.

BUFFALO, N. Y., Dec. 30, 1899.

To the Editor:—The index to the current volume of the JOURNAL is a marvel of completeness, and the JOURNAL itself is now in the extreme front rank. Allow me to suggest that, as it has become so large, it should be divided into three volumes a year instead of two. A volume of 1720 pages is too heavy to handle with any degree of comfort.

ALVIN A. HUBBELL, M.D.

We are delighted to receive such criticisms; at the same time we are afraid that it will be impossible to gratify our correspondent by dividing the JOURNAL into three volumes a year. However, we will suggest a partial remedy for the arduous task of handling such large volumes, by repeating what we said six months ago, viz., . . . "the half-yearly volume now makes a very large book, too large to handle easily when several volumes have to be searched. Often the indexes of several volumes have to be examined before the desired matter is found. The suggestion we make is that an extra copy of the index be kept, aside from the one bound in the volume, to be used in looking up subjects. In a few years the great value of this system will be appreciated in the economy of time and labor, the several indexes being kept together in a cover for the purpose. To accommodate those who desire to take this hint, we have had extra copies of the index printed which we will send on receipt of three two-cent stamps. This is not a money-making scheme on our part, as the cost of paper, printing, mailing and postage will be more than six cents. It is a scheme on our part, however, to assist our readers, by making available, with little labor, the large amount of information contained in the bound volumes."

DANGERS OF CIGARET SMOKING.

There has been considerable vapid utterance as to the dangers that lurk in the cigaret, while but little authoritative evidence has been adduced on the one or the other side of the subject. With the object of reaching a definite decision in the matter, the *Lancet* has carried out a series of investigations that disclose the absence of any foundation for the charges that have been so recklessly made. Cigarets of American manufacture, both obtained from New York City and purchased in London, were found absolutely free from foreign toxic substance, with regard to their paper wrapper as well as their tobacco body, morphin, phosphorus, arsenic, mercury, copper and other heavy metals being especially looked for. The only evidence of metal present was in the case of the copper used in the lettering of the paper wrapper, but the amount of this was so infinitesimal as to be incapable of the slightest injury. The amount of nicotin in the leaf used in making these cigarets is, in fact, less than is present in other kinds of tobacco. It is doubtful, further, whether any nicotin ever reaches the mouth of the smoker, except that present in the tobacco moistened by the lips. Practically none is contained in the smoke-products. As pointed out by the *Lancet*, the question of injury to health that may readily result from excessive or premature smoking of tobacco in any form is quite another matter. Any danger that appertains to cigaret-smoking is, it would appear, attributable rather to the method than to the materials.

THE ANTIVIVISECTION BILL.

The objection to the proposed Gallinger antivivisection bill, aside from the fact that it is only an entering wedge for more general and objectionable measures, is that it subjects those legally authorized to conduct experiments to unreasonable restrictions, to make reports if called for at any and all times, and to be subject to the visitations of hostile non-professional inspectors, male or female. Anyone who is acquainted with the tendencies of the sentimentalists who will seek these positions can readily conceive the obstruction and annoyance they can cause, hence the need of every effort being made to prevent their success with this measure. We print elsewhere in this number a letter, addressed by Dr. R. T. Morris of New York City to Senator McMillan, the chairman of the committee that has the Gallinger antivivisection bill in charge. In this letter are briefly given the useful results of experiments on animals by the writer himself. His letter is one the antivivisectionists will find hard to answer, and yet it is only the statement of the experience of one surgeon. It ought to carry weight with the legislators, and if it is backed up by similar communications from other physicians and surgeons who are able to give similar testimonies, it should be irresistible. Any one of our great medical centers, and many of the lesser ones, can furnish men of national reputation who can give witness to the value of the methods of animal experimentation in their hands to the world. Such facts will go farther with practical sensible men, such as we assume the majority of our senators are, than any amount of mere general statements as to the usefulness of vivisection, and it is hoped there will be many more presented.

THE STORY OF THE TWENTY TUBERCULOUS CLERKS.

The story that has been going the rounds, both in the lay press and in medical journals, and to which editorial allusion has already been made[1], has at last been traced to its source, and that is apparently not a medical one. The *Presse Médicale* of Nov. 22, 1899, quotes from *Podwyessotskys Archiv*, which in turn took the item from the journal *Rossia*, the following interesting news: "Within a short time there occurred twenty cases of tuberculosis among employees of the municipality of Kharkow, who had to make frequent reference to the archives. Physicians conceived the idea of examining certain of these, and found them literally covered with Koch's bacilli. Inquiry showed that, a long time before, one of the clerks working on these documents had consumption and was in the habit of moistening his finger in his mouth before turning the pages. He had thus undoubtedly infected those he touched, whence the inoculation of tuberculosis of all those using the same documents later." The story is not therefore originally from a medical source, in fact it has not the preciseness and detail of a medical history; the cases did not occur in a labor bureau in Germany, nor in the state offices of Middlesex, to one or both of which they have been credited, and so far as we can learn there has been no regular medical report of the case anywhere. It is within the range of possibility that tuberculosis might be acquired in such a way, but the story as told would rather imply that the paper of old official documents was in this case an extremely good culture-medium and preservative of the bacillus, or that the original clerk had made a general smear of their pages. The item has been going around so long and, it would appear, so incorrectly told, that it seems worth while to give this latest and presumably more correct version.

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[1] Journal Nov. 4, p. 1174.

Medical News.

Dr. Edmund C. Brush of Zanesville, Ohio, has been appointed surgeon-general on the staff of the governor of that state.

Kiel reports twenty-eight women students at the university, only sixteen unmarried. Five are between 30 and 70 years of age.

A cablegram states that Dr. Green of Alabama, U. S. Marine-Hospital Service, has been detailed as medical attache to the American consulate at Bremen, for the inspection of immigrants.

Dr. Robert Fletcher, principal assistant librarian of the Surgeon-General's library, Washington, D. C., will begin a series of lectures on forensic medicine at the Johns Hopkins Hospital, Jan. 5, 1900.

An exhibit of the literature on the subject of sanatoria for consumptives was opened last month at Wiesbaden, on the initiative of the local physicians, in view of the proposed erection of a sanatorium at Nassau.

It is announced in *Vratch* that the military medical academy at St. Petersburg has recently been presented with 300,000 roubles to endow scholarships for students in the three upper grades. The donor is the son of a physician.

By the will of the late Daniel Sharp Ford, publisher of *Youth's Companion*, the Cambridge (Mass.) City Hospital will receive $6000, Massachusetts General Hospital $7000 and the Children's Hospital of Boston, $5000.

By the will of Mme. Medwednikow of Moscow 5,000,000 roubles are to be distributed among the local hospitals and colleges, with provision for the erection of three new hospitals, and 500,000 roubles to endow scholarships at the University.

According to the *St. Petersburg Med. Woch.*, Dec. 16, 1899, Dr. Schabelski of Ssaratow, was sentenced to Siberia on account of his participation in an abortion case, but by the efforts of Prince Urussow, this sentence has been remitted to a fine of 10,000 roubles.

The German government has made an annual appropriation of 20,000 marks for the new Institute for Marine and Tropical Diseases, at Hamburg, reserving five tables for the State, and the privilege of appointing a medical assistant and sending physicians for special training.

The Russian Red Cross Expedition sailed Nov. 28, 1899, via Odessa and Port Said for Pretoria, accompanied by six physicians and two other officials. The field-hospital is arranged for twenty-five beds. The Russo-Holland Expedition started in December, with four Russian physicians under a Dutch physician-in-chief.

The death of George W. Goodrich, Webster City, Iowa, is reported, with the statement that he carried an insurance policy of $2000 in the A. O. U. W., and that three days previous to his death he dismissed the family physician and called in a "Christian Scientist." The order refuses to settle unless a physician's certificate be appended, or the body be disinterred and a post-mortem examination held.

The annual prizes of the Paris Academie de Medecine were distributed in December, amounting to $7600, not including the famous Audiffred prize for a sovereign remedy for tuberculosis, for which the income from an endowment of $144,000 is waiting. There were 171 competitors for the twenty-seven prizes. All were awarded to natives of France or the Colonies, although the competition is international. No serious communications were received from this country, it appears.

British Congress on Tuberculosis.—At a meeting held in London, Dec. 18, 1899, it was decided to hold a national congress on tuberculosis, in the spring of 1901, to which will be invited representatives from India, Canada and all British dependencies, and in addition "honored guests from other countries." A large and influential general committee was appointed for the purpose of perfecting arrangements, raising funds, etc. The Prince of Wales has consented to open the congress in person and preside at its meeting, and this, with the additional fact that some of the leading men of the country, both in and out of the medical profession, are on the general committee, assures success from the start.

Medical Service in the Transvaal.—The *British Medical Journal's* special correspondent, writing under date of November 22, says that the Boer ambulance arrangements are of the most primitive character, e. g., he cites a bearer, who left Johannesburg with one of the ambulances, and its only equipment was one wagon, fitted to hold three men, two bell tents, and a stock of drugs. Each medical man had a fairly good case of instruments, and each dresser a bearer case, and while there were twelve stretchers, no stretcher bearers were provided. Their method is to select any convenient building for a field-hospital, one doctor with some of the dressers to go on the field, while the other two remain at the so-called field-hospital. The dressers attend the wounded on the field and then get Kaffir men to carry them on the stretchers to the building, whence serious cases are sent to Newcastle by train or wagon, as conditions permit. At Newcastle a large house serves as a hospital, with two doctors and five nurses, but it is their practice to send all capable of traveling on to Johannesburg. As to the nature of the wounds made by the Boer rifles, he noted from cases in the Wynberg Hospital, that all except two were bullet wounds from Mauser rifles, and all the men agreed as to the small amount of shock produced by the Mauser bullets, also as to the slight amount of pain felt at the time of being hit. One notable circumstance is that the majority of the wounds were those in the extremities.

A National Bureau of Public Health.—Active steps are now being taken toward creating a bureau of public health in the treasury department, and it will depend largely on the support given to the committee of which Dr. U. O. B. Wingate is chairman, whether or not the bill will receive favorable consideration by the present congress. Senator Spooner introduced the bill in the senate (S. 1440), on the 12th ult., and it was referred to the Senate Committee on Public Health and National Quarantine; this committee has been enlarged to nine members, and Senators Spooner, Depew, and Deboe have been added to it, with Senator Vest as chairman, as before. This bill is one that has been twice endorsed by the ASSOCIATION, also by the American Public Health Association, as well as by numerous medical and business organizations throughout the country. It will be introduced in the House in the near future, and will go to the Committee on Interstate and Foreign Commerce of that body, with Mr. Hepburn of Iowa as chairman, and it should be remembered that the bill (H. R. 1011) to create a bureau of public health, introduced by Mr. Mahon on the 5th ult., is not the ASSOCIATION bill, but a measure exceedingly objectionable and liable to mislead many unless care is observed. If every physician interested in this important legislation will use his utmost influence from now on with his senators and congressmen, urging them to support the "Spooner bill," success will be attained. Let a solid and persistent front be maintained and before the next meeting of the ASSOCIATION we will have a bureau of public health.

CONCERNING THE PLAGUE.—In the *Lancet* of the 16th ult., the special correspondent from India, writing under date of Nov. 26, 1899, comments on the Viceroy's recent tour in the plague and famine districts, and says that he inaugurated the first improvement scheme in Bombay. This involves an area of about twelve acres, having a population of 833 persons to the acre. This entire area is to be reconstructed with model dwellings, built in blocks, and every block is to front on a street and every room to have a capacity of 480 cubic feet per head. Provisions for the accommodation of the displaced population are to be made elsewhere, and the density will be limited to 500 people per acre. It is not expected that financial returns will be derived from the letting of the new dwellings, but that there will be a decided loss, as the people for whom the improvements are contemplated can not afford to pay a profit-yielding rent. The essential point is to ameliorate the conditions in which the poorer classes of Bombay exist, in spite of the financial loss. Similar large schemes of reconstruction are contemplated in other dense parts of Bombay. The writer's statistics show that the plague is diminishing nearly everywhere, the figures for the week ending Nov. 11, 1899, giving 2939 deaths for all India, against 3971 the previous week. The Peninsular and Oriental Line steamer *Ballarat,* from Calcutta, sailing for London, arrived in Plymouth the 16th ult., with a case of bubonic plague on board. The *British Medical Journal's* figures for the deaths from plague in India for the week ending Nov. 19, 1899, show a decrease in the Bombay Presidency, but an increase from 74 to 100 in Bombay city, and for the same week, in Calcutta, the deaths rose from 33 to 44. For the week ending Dec. 7, 1899, in Mauritius, 37 fresh cases occurred, with 29 deaths. The report of the marine-hospital service for the week ended Dec. 30, 1889, gives the following statistics: 19 cases and 19 deaths are reported from Hongkong during the seven days ended Nov. 11, 1899; there were 60 deaths in Calcutta, November 22-28, and 110 deaths in Bombay, November 15-21; 6 cases and 6 deaths in Kurrachee, India, November 11-18; 1 case was reported from Japan. The disease is said to be abating in Niuchwang, China. Press dispatches from Honolulu, the 18th ult., state that the plague has appeared among the Chinese of that city. There were 5 deaths from the disease previous to Dec. 12, 1899, and 3 more December 22-25. The sum of $25,000 has been appropriated to be used by the board of health in stamping out the disease. A complete house-to-house examination has been made, and the entire city will be placed in a sanitary condition. The bodies of all victims will be cremated and bacteriologic examinations made in all cases. All vessels leaving the port for any of the other islands must remain in quarantine outside the harbor seven days. It is proposed to secure a vessel to be anchored outside the harbor, to be used as a floating hospital for the care of all plague cases. It is said that owing to the occurrence of the plague in Honolulu, the state and local health authorities of San Francisco are taking special precaution against the danger of its admission to that port. The transports *Centennial, Newport* and *Tartar,* and the steamer *Gaelic* will be detained in quarantine for some time to come. It is also stated that many deaths have occurred in New Caledonia. Six new cases and 2 deaths were reported from Oporto during the week ended Dec. 31, 1899, making the total number of cases reported there 292, with 106 deaths. A committee has been appointed by the German public health authorities, to compile a series of instructions on the subject of the plague, intended exclusively for the profession. The committee consists of Gaffky, Pfeiffer, Gerhardt and Sticker. The work is already in the hands of the printer. Thiroux writes from the Isle de Reunion, to the Paris *Jour. des Debats,* that the disease prevailing there and diagnosed as plague, by the experts of the Pasteur Institute, is really nothing but an affection that has been familiar there for sixty years, known as infectious lymphangitis, never occurring in an epidemic form and never regarded as especially contagious nor as serious as many other diseases. He adds that no one has anything to say about beri-beri, and yet this disease is far more serious and extremely contagious, and is daily making more and more headway on the islands of that vicinity, and is much more to be feared than their infectious lymphangitis even under its new name, "the plague."

NEW YORK.

A COMMITTEE of the legislature is preparing a report concerning tuberculosis in cattle. It is expected this report will favor making inspections of herds at the request of their owner, and the destruction of diseased animals with, perhaps, the payment of an indemnity.

A NEW HOSPITAL—St. John's—has just been completed, with accommodations for over 200 patients, in Long Island City. As it is in the vicinity of many factories it will have a large emergency service. It is under the direction of the Catholic sisters of St. Joseph.

STATE HOSPITALS FOR CONSUMPTIVES.

A committee of the State Board of Charities has now in preparation a report regarding the feasibility of establishing state hospitals for cases of pulmonary tuberculosis. It is understood that the committee will recommend the establishment of one or more hospitals for this purpose under the care of the state, to be supported by a per capita tax levied on the locality from which each patient comes. The committee is composed of Harvey W. Putnam of Buffalo, E. V. Stoddard of Rochester, and Stephen Smith of New York City.

New York City.

AN AGREEMENT has just been reached between the associations of druggists and their clerks, by which the plan recommended in the Assembly last year, by Dr. Nelson H. Henry, is adopted. This is to require 140 hours in two consecutive weeks.

SO SHARP is business competition among undertakers engaged in burying the poor who die in the city hospitals, that

[illegible]

[illegible] FRACTURE OF CERVICAL SPINE.

[illegible]

[illegible] DISLOCATION WITH DEATH.

On Christmas eve a young soldier from the garrison at Fort Hamilton entered a saloon and seeing an old friend at the bar with his back to the door, called out a Christmas greeting to him. The friend, being deaf, did not hear the salutation, so going up behind him, the soldier repeated his greeting and, at the same time, seized the other first by the shoulders and then by the chin and gave him a sharp twist. The only reply was a groan as the man fell to the floor. Medical aid was summoned and it was found that a dislocation of the cervical spine had been produced and had caused paralysis. The victim of this overfriendliness was only able to speak a few words before his death some hours later.

VITAL STATISTICS.

The number of deaths in this city during 1899 was 65,218, against [illegible] in 1898. The annual death-rate per thousand was [illegible], against [illegible] in 1898 and the percentage of deaths in those under 5 years of age [illegible], against [illegible] in 1898; in the Borough of Manhattan, 18.49 against 19.11 in 1898, and [illegible] against [illegible] in 1898, in those under 5 years; in the Borough of Bronx—where the mortality is increased by the many large institutions located there—it was 22.61, against 27.10 in 1898, and under 5 years, 31.7 against 33.9 in 1898; in the Borough of Brooklyn, 17.50 in 1899, 18.19 in 1898, and under 5 years, 37.3 against 38.6 in 1898; in the Borough of Queens, 18.67 against 19.92 in 1898, and under 5 years, 37.3 against [illegible] in 1898; in the Borough of Richmond (Staten Island), 18.79 against 19.94 in 1898, and under 5 years, 30.9 against 32.9 in 1898. Among the diseases which show an increase in the number of fatal cases are the following: measles, scarlet, typhoid and malarial fevers, diarrheal diseases, cardiac disease, sunstroke. Among those which show decreased mortality are influenza, diphtheria, cerebrospinal meningitis, bronchitis, pneumonia, pulmonary tuberculosis, Bright's disease and nephritis. In 1899 the deaths from pneumonia in New York City exceeded those from phthisis by more than five hundred.

[illegible] OF HOSPITAL SATURDAY AND SUNDAY ASSOCIATION.

The annual collection of this Association was taken in the synagogues and churches of New York City on Dec. 30 and 31, 1899. Last year, after deducting the necessary expenses, the amount received was over $70,000, and it is hoped that this year it will reach $100,000. While, during the past few years, the amount of the hospital contributions has gradually increased, it has not grown as fast as the percentage of increase in the needs of the institutions benefited. The Association includes thirty-eight hospitals, and the general collection is [illegible] among them on the basis of the work performed during the preceding year. During 1899 these hospitals cared for 34,740 patients, of whom 21,032 were free, and in addition treated 300,995 in their dispensary departments. The expenses of this work exceeded the aggregate income of the hospitals by $786,448, and for the making up of the deficit the institutions are dependent on private benevolence. In addition to the contributions received from religious bodies, collections are also taken among the professions, trades and exchanges, and from the general public by contribution boxes distributed in all parts of the city. In return for the collection in the trades and professions, the Association, through the hospitals it represents, pledges itself to take care of any contributing employee, or of anyone requiring free hospital treatment who is recommended by a contributory employee, until the entire amount contributed by any trade is exhausted, at the rate of $1 a day for each patient.

MARYLAND.

CARE OF INSANE IN MARYLAND.

Much interest centers in the proposed amendments to the laws relating to the insane of this state. Under the present law the insane pauper can be committed only by a jury in the circuit court of Baltimore. As a matter of fact this procedure was found so cumbersome that it fell into disuse many years ago, and as a consequence nearly all of the insane in public institutions are held on illegal commitments, simply the certificate of two physicians. The recent attempt to revive this law has proven very unsatisfactory and burdensome. The time of the criminal court is unnecessarily occupied with insanity cases, many insane persons are sent to jail because of the difficulty involved in commitment, and many more are kept at home to their own detriment and to the danger of other members of the family. The plan proposed, which received the sanction of the Maryland Medical and Chirurgical Faculty at the November, 1899 meeting is as follows: The person alleged to be insane is examined by two competent physicians resident in the state. If insanity be found, a certificate is filled out and signed, the signature to be before any person qualified to administer an oath. The certificate is then presented to a judge of a court of record, who shall endorse the finding of insanity, or if not satisfied may order a new examination or may require a trial by jury. This is substantially the law that has been tried and found satisfactory in other states, and the objection of publicity, that has been made to it, does not hold good, since the magistrate who administers the oath simply witnesses the signatures, and the endorsement of the judge is not a matter of public record. Another defect in the present law is that "no one will be deemed a lunatic pauper who shall possess in his own right any property." This works great hardship in the case of those possessing small property, insufficient to pay the rate required in public asylums for private patients, viz., $7 a week, and which, if devoted to such purpose, would, in many cases, take away all means of support from the man's family. The only way in which such a patient can be dealt with under the law is for the property to be made over to the county, or city, to be held in trust, the profits accruing from it being used for the support of the men in the asylum. As a matter of fact, the law has been constantly disregarded in such cases. Under the proposed amendments the question as to the financial condition of the person committed is referred to the county commissioners or the supervisors of city charities, who fix the rate suited to the condition of the individual whether he is to pay full or half rates or is to be supported outright. Provision is also made for the commitment and detention of emergency cases for three days, until certificates can be obtained. It is also proposed to make it legal for superintendents of institutions to exercise the right of discharge or parole of patients who have recovered or are greatly improved, and to enlarge the power of the state lunacy commission—hitherto only advisory—so as to give it the power to transfer from the county almshouses such cases as, in their judgment, are not properly cared for, to one of the state institutions at the expense of the county, or to send patients back to the almshouses or from one asylum to another when the change is deemed expedient. Thus the insane are brought under the control and care of the state, and the next step will be the maintenance of all the insane at the expense of the state. At present the state can afford accommodation for less than one-half of its dependent insane, and the plan proposed will emphasize the necessity of immediate increase of the accommodations of our asylums. There are a number of minor changes contemplated, or a revision of form of certificate, requiring a female attendant to accompany a female patient to an asylum, and certain details relative to the work of the lunacy commission. Amendments to the lunacy laws of the state were offered in the legislatures of 1896 and 1898 but failed to pass; though, with the needs of reform so glaring and so conspicuously brought out, and with all the officers of asylums arrayed in this effort for new provisions, backed by the powerful influence of the Maryland Medical and Chirurgical Faculty, there is a certain prospect that these matters will not be neglected by the next legislature, which meets this winter. Too much praise in this connection can not be awarded to the energetic secretary of the lunacy commission, Dr. George J. Preston.

MARYLAND EXAMINATION STATISTICS.

The fall examinations of candidates for license to practice medicine in Maryland, held Nov. 8-11, 1899, gave the following results: Of the 26 applicants, 5 failed, and of the failures, 2 were from the Baltimore University and 1 each from the College of Physicians and Surgeons, Baltimore; University College, Richmond, Va.; University of Maryland and Baltimore Medical. The highest mark, 96, was reached by a Johns Hopkins man, and the lowest, 65, by one from University College. One from the University of Maryland and one from the University of Virginia tied, with 92, for second place. There were 7 Baltimore colleges represented among the candidates, and 6 of other states. Of the 6 Johns Hopkins men, the lowest received 89. There were 72 questions in obstetrics, hygiene, pathology, anatomy, physiology, practice, therapeutics, materia medica, medical jurisprudence, chemistry, gynecology and surgery. (See the JOURNAL, xxxiii, Dec. 23, 1899, p. 1635, for results of the preceding examinations.)

Baltimore.

THE RESIDENT physicians of the Johns Hopkins Hospital gave a reception and dance at that institution the 29th ult.

DR. J. GIBBONS SMART has been appointed demonstrator of surgery in the College of Physicians and Surgeons.

DR. AND MRS. PEARCE KINTZING gave a reception to the students of the Woman's Medical College, on the afternoon of the 28th ult.

FORTY nurses and the house staff of the Maryland University Hospital were entertained there Dec. 29, 1899, by the Ladies Auxiliary Board.

DR. WALTER JONES, associate in physiologic chemistry and toxicology in the Johns Hopkins University, has returned from a six months' trip abroad, spent in research work.

EXTENSIVE improvements have been made to Provident Hospital, an institution conducted entirely by colored physicians, and the only one of its kind in the state. An auxiliary society of colored women is being organized in its interest.

THE MORTALITY for Baltimore for 1899, was 10,102, nearly 300 less than last year. The greatest number of deaths occurred in January and July; the smallest in November and December. The population of the city is 541,000.

DRS. REID HUNT and Walter Jones, of the Johns Hopkins Medical School, will read papers before the Convention of American Naturalists, at Yale University. Professors Howell and Abell, Johns Hopkins University, will also read papers there, before the section on physiology.

THE NEW building of the College of Physicians and Surgeons was formally opened on the evening of the 20th ult. It had been used for purposes of instruction since Oct. 2, 1899, but only just completed. Addresses were made by Dr. Thomas Opie, dean, the mayor, Dr. Charles F. Bevan, chairman of the building committee, and Prof. William H. Welch, of the Johns Hopkins University.

PENNSYLVANIA.

Two deaths from tetanus have occurred in the region of Stroudsburg, Pa., during the past week. In both instances injury from rusty nails was the supposed cause.

HYDROPHOBIA FROM BITE OF CAT.

Abraham K. Lefever, a farmer, 45 years of age, living near Lancaster, Pa., was bitten on the hand by a stray cat, four months ago. The animal was killed and the wound treated by a physician. It healed and no inconvenience was manifested until the 22d ult., when he began to suffer from pains in the arm, and on the following day spasms set in and death ensued a few days later. Consciousness was preserved to the last.

FRAUD IN EXAMINATIONS.

While only recently a thorough examination was made into the frauds (see JOURNAL, xxxiii, p. 1621) before the State Medical Examining Board of Pennsylvania, it is thought that the real facts in the case were not divulged sufficiently. It is again charged that an organized clique, composed of eighteen students, existed last year whose business it was to secure the papers previous to the examination, and for them each to pay $20 each to the one at the head of affairs who would get the papers for them. It is also charged that there were two graduate physicians who assisted the students in passing the required examination by furnishing certain papers necessary.

Philadelphia.

THE REPORT of the Gynecean Hospital, for the year, shows that 197 patients were admitted, and that 339 operations were performed. The cost for maintenance was $17,000.

OWING TO the fear of bubonic plague entering this country, orders were given during the past week to detain here the quarantine ship, *Senator*, which was about ready to proceed to Havana harbor.

THE SEVENTH annual commencement of the training school of the Jefferson Medical College was held Dec. 18, 1899. Dr. W. W. Keen gave the principal address, and a gold medal was awarded by Dr. Edward P. Davis.

ATTORNEYS for the men recently imprisoned for removing the labels from and selling packages of oleomargarin for butter, as noted in the JOURNAL at the time, are making efforts for pardons, although they have served only a little of their sentence.

MOUNT AIRY, a district in the Twenty-second ward, has been pronounced in an unsanitary condition, on account of the lack of sewerage facilities. Certain members of Councils have promised to do all within their power to better its condition. In this district there are 2000 or 3000 people, with no sewers in the district.

MUNICIPAL HOSPITAL.

In the acquisition of ground, on which will be erected buildings for the accommodation of an increased number of patients in this hospital, $35,000 will be spent. This was appropriated by Councils, and it was also recommended that $15,100 be spent for repairs and improvements of the hospital proper, besides $13,900 which has been given for purchasing temporary buildings.

INCREASE IN MORPHIN SALES.

One of the daily papers claims that morphin fiends are increasing, and that the doctors are to blame for encouraging the habit. It says that forty-six drug stores were visited for the purpose of getting information on the subject, and forty-one druggists admitted that an increased amount of morphin was consumed. It is claimed that the law regarding the sale of the drug is openly violated, and that no pretense is made toward ascertaining the name of a purchaser.

DISTRICT OF COLUMBIA.

HEALTH OF THE DISTRICT.

The report of the health officer for the week ended Dec. 16, 1899, shows the total number of deaths to have been 114, of which 66 were white and 48 colored. At the close of the week there were 80 cases of diphtheria; 67 of scarlet fever and 7 of smallpox under treatment; 103 births occurred during the week.

Washington.

WASHINGTON ASYLUM.

Chairman McMillan of the Senate District Committee has approved the recommendation for separating the Washington Asylum Hospital and Almshouse from the workhouse. The association of three different concerns under one head has long been a source of considerable criticism, and has caused unnecessary annoyance and suffering to the poor but innocent who have been mixed up with the criminals committed to the institution. It is to be hoped that Mr. McMillan, as chairman of the Senate District Committee, will secure the necessary appropriation for bringing about this laudable result.

COLUMBIAN UNIVERSITY HOSPITAL.

At the recent meeting of the Board of Governors of this institution the reports of the several officers were submitted, showing it to be in a flourishing condition. The hospital has been in operation but one year, during which time 1079 patients were treated in its dispensary. The pay rooms have been constantly filled. The institution is supported by voluntary subscriptions and donations. At the election the officers of the past year were reappointed.

WOMAN'S CLINIC.

The annual report shows this institution to be doing a large amount of work, and the attendance grows larger each year. The patients are attended solely by women physicians.

Support has been by voluntary contributions alone, but the work and expenses have increased to such an extent as to require a [illegible] appropriation.

ILLINOIS.

Chicago.

Dr. John G. [illegible] was seriously injured by a locomotive while crossing a railroad track, Dec. [illegible], 1899.

THE NEW home of the Illinois Training School for Nurses, of which four rooms are to be devoted to the use of sick nurses, was dedicated Dec. 26, 1899.

THE Women's clubs of the city are actively supporting a plan now pending before the Board of Education for the establishment of a department of physical culture in the public schools.

At the coroner's inquest it was ascertained that the Dowie patient reported to have died of tuberculosis, met death from diphtheria. A great many persons have been exposed to the disease.

DR. NICHOLAS SENN has left the city for Corpus Christi Bay, Texas, where he will spend the month as a guest of the Tarpon Club. He will put in his spare moments completing his work on surgery.

It is said that the University of Chicago has established a quarantine against students who live in Dixon, Ill., and who returned there for the holidays. Reports of the prevalence of smallpox in Dixon caused the authorities to take steps to prevent any possible spread of the disease.

KENTUCKY.

Louisville.

VACANCY IN INSTITUTION FOR FEEBLE-MINDED.

Dr. James R. Ely, has just resigned his position as superintendent of the State Institution for Feeble-Minded Children, at Frankfort. Among the applicants for the position are Dr. A. H. Stewart of Richmond, Dr. Stanley, now connected with the Hopkinsville Insane Asylum, and Dr. J. P. Gilmer of Louisville. The appointment will be made at once.

SMALLPOX.

As a result of a conference held by the Board of Public Safety and the Fiscal Court, it has been agreed that in the event of smallpox being prevalent in the city, for every patient from the county, cared for at the City Eruptive Hospital, the county will pay $1 a day for food, nursing and clothing. In addition, Dr. Harris Kelly, of the Eruptive Hospital, will receive $25 a month, or fraction thereof for each county patient coming under his care.

Correspondence.

Canada.

(From Our Regular Correspondent.)

TORONTO, Dec. 23 and 31, 1899.

TORONTO now has a home for incurable children.

AN UNUSUAL termination to a case of typhoid fever took place in Hamilton this week, where a young man, the subject of this malady, suicided by cutting his throat with a razor.

Reports of the hospital at Golden, B. C., to the contrary, the authorities state that they are not closing its doors. This hospital draws its patients from the mining camps of Golden, Palliser and Beaver. The government grant has been taken away, but the hospital is prepared to stay, and plans are being prepared for an isolation annex.

"SANICULT," a doctrine propounded by Dr. Wm. Manning, New York City, who has been in British Columbia explaining this new system of "curing" disease, is another "ism" that will have to be added to the long list of quackeries exploited in that province as elsewhere.

CIRCULAR LETTER ON THE DIAGNOSIS OF SMALLPOX.

Owing to the extreme prevalence of smallpox in the County of Essex, Ontario, the Provincial Board of Health has issued a circular letter to practitioners in the province setting forth the salient points in the diagnosis of the disease. The circular concludes with a suggestion to physicians that when such cases occur in practice, they will immediately isolate the cases, vaccinate the family and others exposed, report to the local health authorities, who in turn are to immediately report to the Central Board of Health at Toronto.

A MEDICAL DEFENSE ASSOCIATION FOR ONTARIO.

There is pending in the Court of Appeals of Ontario a case of considerable importance to medical practitioners in this province. Dr. J. Moore Conerty, Smith's Falls, Ont., is the defendant in an action for damages for alleged malpractice on a "strumous lad" of 10 years, the subject of a Colles' fracture. The accident occurred in September, 1896, as the result of a fall from a beech tree, there appearing in addition to the fracture at the lower end of the radius, a few slight scratches on the back of the hand and a bruise on the hypothenar eminence of the thumb, near its inner margin, designated as about the junction of the middle with the inner third of the outer head of the flexor brevis pollicis muscle. The fracture was treated in the usual manner, and after the lapse of three weeks the splints were removed and union found to be perfect, with no deformity. A callus was then noticed at the site of the bruise on the hypothenar eminence referred to, which subsequently sloughed, and the resulting contraction produced extreme adduction of the thumb so as to interfere with flexion of the index finger. The criminal negligence seems to be chargeable to the boy's parents. Suit for $6000 was brought and the case set down for hearing in 1898. No medical testimony could be obtained by the plaintiff at that time, and the case was referred, and later judgment was given for the defendant with costs, even though some medical testimony was at this time forthcoming. An appeal was immediately taken to the divisional court (H. C.), and there a new trial was ordered and all the costs assessed on the doctor. The counsel for the physician at once appealed from this judgment to the court of appeals, where the case now stands for argument. It is just for this very class of cases that a medical defense association is desirable. Before the publication of the history of this case, the *Dominion Medical Monthly*, in its November issue, had already commenced the revival of an agitation which commanded much attention some years back; and urged on the profession the desirability of either the Ontario Medical Council or the Ontario Medical Association taking up the elaboration of a scheme for the mutual protection of the members of the profession from these troublesome actions which are no doubt often instigated by pettifogging lawyers anxious for briefs, costs, etc. It is promising to note that the members of the Medical Council from the two divisions in that district of the province, Nos. 15 and 16, are interesting themselves among their constituents to the extent of standing at the back of their brother practitioner both morally and financially.

OSTEOPATHY AT OTTAWA.

From Ottawa comes the report of a "doctor" of this cult, the first instance of the introduction of this particular "pathy" into Canada. "Dr." F. G. Cluett, who is the practitioner of osteopathy referred to, and whose profession comes under the Ontario Medical Act, was summoned to appear at the police court on the 18th ult., for a breach of that act. The magistrate, while not thinking that the practice of this science was contrary to the act, said that the employment of the title of "Doctor" was not justifiable in the defendant in this province. The minimum fine that the law calls for in such cases was imposed and the defendant's lawyer gave notice of an appeal. The magistrate thought that the case was one of sufficient import for an authoritative pronouncement to be given on it; therefore, the fine will not be collected until the higher court renders a decision on the case. In the meantime the defendant is allowed to continue his vocation.

TO CURE THE INEBRIATE POOR.

A deputation from the Ontario Medical Association, consisting of Dr. Gilbert Gordon, president of the Toronto Medical Society, Drs. Oldright and Roseburgh, Toronto, and Dr. Coventry, Windsor, interviewed the premier of the province, last week, in regard to the proposed scheme for the treatment of pauper inebriates, similar to that which has been advocated by the Prisoners' Aid Association. The mode of treatment was suggested to be under government surveillance; and wards should be set apart in the general hospitals of the province for such treatment. A grant of $10,000 was asked from the government, $5000 of which ought to be handed out immediately for the purpose of getting the work under way. It is estimated that there are about 1600 pauper inebriates in the province, but the proposition was made to treat only 300 or 400 the first year. Premier Ross promised that the whole matter would be laid before parliament at the approaching session.

GOITER IN THE DISTRICT OF MONTREAL.

During the last four or five years, Dr. J. A. Springle of Montreal has been investigating the extent of this malady in this district, and particularly in and around the Laurentian Mountains. The population, largely French in its origin, has in addition several half-breed mixtures of Scotch, French, Irish and English, with Indians and a few Eskimo. Goiter or "grosse gorge" is usual in this part of the Laurentians in all those born and brought up there; even a slight fulness of the gland being observed in a large number of males. Not that goiter is common in the city of Montreal or in the other cities and towns of the province of Quebec, but the more isolated the community, the greater the incidence of the disease. In considering the conditions under which the farmers or "habitants" are placed, the southwestern part of the province is of a dolomitic limestone covered over with lower silurian limestone. The diet of these "habitants" consists usually of fish, salted and smoked meats, bread, milk and eggs, during the summer months. In winter, when meat can be kept frozen, it is a staple article of diet on the poorest "habitant's" table. Intermarriages in the remotest districts are quite common, even to the extent of first cousins, despite the edicts of the church. As to the source of the drinking water, those in the neighborhood of streams and rivers use this source of supply; farther inland they use wells, so the goitrous districts may be divided into those using well water and those using river water. In the province of Quebec, the animals also suffer in goitrous areas, though no case of goiter's existence was demonstrated in wild animals. Indians are commonly subjects of the disease. Of domestic animals, cattle, sheep, horses and dogs are commonly affected in the goitrous areas, the young frequently dying of the disease. Those sections of the province drained by the St. Maurice River have rich deposits of iron, copper, manganese and abundance of limestone, and it may be that here as elsewhere, water impregnated with the salts of these may be the cause of the prevalence of the disease.

LECTURE ON THE NERVE-CELLS.

Dr. A. B. MacCallum, professor of physiology at Toronto University, delivered a public lecture on this subject in the University, recently. He stated that the nerve-cell is the most marvelous and most wonderful thing that we know, and that it and its processes constitute the physical basis of mind, consciousness, memory and intelligence. He combated the doctrine of Nordau, that the race is degenerating, referring also to the views expressed by Lombroso and Sir James Crichton-Browne, making special reference to Pearson's "National Life and Progress." The pessimistic opinions of Le Bon, and the lately expressed views of Lecky in the "Map of Life," were given to show that even one of the most gifted and cultured writers of the day holds to equally gloomy views with Nordau. In entering a vigorous and earnest protest against adoption of these views, Professor MacCallum said it could not be denied that there are tendencies in the life of the people of to-day which are not for the best, and that the ideals of the multitude are on a lower plane than they have been at any time in this century. Still, although mental disease may be on the increase, he thinks that might be to the better means of diagnosis, and that these tendencies and changes do not constitute a proof that the race is degenerating. It is through optimism only that great achievements are possible; and there is a pleasure as well as a duty in this optimism.

THE SECOND CANADIAN CONTINGENT

Twelve hundred and twenty men are to compose the Second Canadian Contingent to South Africa, mostly mounted. In some quarters much disappointment has been expressed that an opportunity was not being afforded to the medical students and younger practitioners in the country to attach themselves to field-hospitals. In the matter of loyalty to the mother country, old Trinity's sons stand well to the fore, it having been announced that two of her students have volunteered and that two graduates in general practice in Ottawa and Cobourg, respectively, Drs. Vaux and Field, are to be sent along by the Dominion government. So far the insurance companies have refused to carry risks on the present company, but as far as the city of Toronto's men are concerned, it is expected that the city will provide the insurance.

DIPHTHERIA IN MONTREAL.

Montreal is having rather more than her share of this disease, and some fear is being expressed that it may become epidemic. There are more cases in the Civic Hospital than there have been in several years past; scarlet fever cases are also plentiful. Dr. Laberge, the M. H. O., attributes the prevalence of the diphtheria to the fact that the doctors have a custom of not reporting cases of a mild character, and do not report them at all until they begin to show dangerous symptoms. This certainly is a very serious state of affairs, that an enlightened city and intelligent profession should so ruthlessly trifle with the lives of citizens. Some trace the cause of the disease to the existence of dangerous and foul privy pits in the immediate vicinity of several of the cases.

BARBER SHOP INSPECTION.

There has been some talk in Toronto lately in regard to having barber shops placed under some system of inspection. As is well known, some very bad forms of skin disease may emanate from these places, and it may be that the talk will be fruitful of some good results. It is noticed, as a sign of the times, that some of our tonsorial artists are now using a carbolic acid solution in which their razors are immersed before being used.

London.

(*From Our Regular Correspondent.*)

LONDON, Dec. 9, 1899.

THE STAFF OF THE "MAINE."

The popular lions of the hour in London are unquestionably the doctors and nurses of our American hospital ship, the *Maine*. Not only have they been invited to Windsor to a special private reception by Her Majesty, who has since presented them with a flag, but they are the center of attraction at half the fetes and entertainments of the town. The lady superintendent, Miss Hibbard, addressed an assembly of representative women summoned by the Matrons' Council, at the rooms of the London Medical Society, yesterday, on the "Evolution of the American Army Nurse." At its conclusion the medical staff were introduced to those present, by the director-general of the army medical department, Surgeon-General Jameson, General Muir, and Sir John Furley. Presents of equipment for the *Maine* continue to pour in from all sides, and the inevitable comic touch was given this week by the solemn presentation of a supply of "exclusive tea" by a prominent firm, "identical with that supplied to Her Majesty for her own private use," so that a delicate aroma of royalty will pervade the whole vessel, and it will be a social privilege of the highest order for Mr. Atkins to be brought home in her. But in any case, that is a far more desirable interchange of tea between our two nations than that which occurred in Boston harbor a century ago. [Mention of the sailing of the *Maine* was made in our news columns last week. Ed.]

ANTIVACCINATIONISTS

The antivaccinationists' guardians of Leicester are not entirely out of the legal "woods" yet, in spite of their tardy and half-hearted compliance with the mandamus to appoint a vaccination officer. The writ for the personal arrest for disobedience to an order of court, which was suspended some weeks ago on the understanding that they were about to comply, came up before the Queens Bench yesterday, and instead of dismissing it at once as was expected, Mr. Justice Darling made some severe strictures on their conduct, which in his opinion had "combined the maximum of a recalcitrancy with the minimum of contrition." He declared himself still far from satisfied with the compliance of the guardians, and ordered that the question of their arrest should remain open until it was clear that the new appointment was a genuine and not an illusory compliance, and intimated that even then apologies and explanations of their past conduct and they [illegible] freely would be required.—See JOURNAL xxxiii, p. 1178.

ARMY MEDICAL DEPARTMENT.

The disgraceful short-handedness of the British Army Medical Department, of which so much has been heard, was set forth in [illegible] figures by Surgeon-General Houghton this week. Forty years ago there were 1100 medical officers on the army medical staff and even that was a scarcely adequate establishment; now with 70,000 more men in the ranks, there are hardly 800. Such figures make their own comment and the severe object lesson of the Transvaal War seems likely to produce as great an improvement in the support of the army medical service by a reluctant government as the Cuban campaign has in our own.

CANCER LABORATORY.

Contributions are continuing to come in to the new cancer research laboratory after the generous start given by the £1000 donation of Mr. Davis. The antivivisectionists add their mite, of course, and of the usual helpful quality. Their high priest, Mr. Stephen Coleridge, is out with a letter to the daily papers, in which he dares not openly oppose the laboratory; he makes it the occasion for a venomous attack on the governors of the hospital for diverting funds intended for the direct use of the sick and suffering to "a totally different object," all because the governors, in their appeal for funds for the laboratory, expressed a natural unwillingness to use much of the hospital's subscriptions for this purpose, as they had barely enough to meet expenses now. This is the second time, within the past few months, that he has attempted to divert subscriptions from a hospital to stir up public feelings against it solely because, forsooth, it permitted members of its staff to engage in vivisection! Not even the patient who is attended by a vivisector is to be fed and cared for if he can help it. Love of guinea-pigs seems to be degenerating into something perilously near hatred of humanity.

TRAINED COOKS.

A most sensible suggestion has just been made in the daily press, by the superintendent of the National School of Cookery, viz., that while much has been said of trained field-surgeons, trained nurses and appliances of every sort for the hospitals and hospital ships, nothing has been heard of trained cooks. She is sure that there are many trained in invalid cooking, who would gladly volunteer for service, and whose skill would add greatly to the comfort and chances of convalescence of the sick and wounded. The subject is unquestionably a most important one and has not received its due share of attention in hospital arrangements.

RIGHT TO TITLE OF "PHYSICIAN."

The General Medical Council has had an unusually long and busy session of nearly a week in length. The proposition of the Apothecaries Society, growing out of the lamentable Hunter case, that a friendly test case should be brought before the courts, by the Society and the Council, to settle the question of the right of an L. S. A. to use the title "physician," each partly agreeing to pay its own costs, was, after much wrangling, referred to a special committee with instructions to report back to the Council, in other words, hung up for six months. There appeared little inclination to take any positive steps toward medical reciprocity or admitting foreign practitioners to practice in England, although in deference to the formal action of the English Government in bringing the matter before them, a polite and colorless opinion was expressed that it might be well to refer the question of the advisability of admitting Italy to the privileges provided for in the act to the legal authority, the privy council. Although the provision exists, it has so far only been extended to a few [illegible]

The Antivivisection Bill.

New York City, Dec. 27, 1899.

To the Editor: Apropos to the announcement of the introduction of Senator Gallinger's antivivisection bill again, I have furnished the following concise and explicit data for Senator McMillan, who is chairman of the committee that will discuss the Gallinger bill. This has been done at the suggestion of a legislator who states that legislative committees give more attention to this form of presentation of a subject than they do to more elaborate and less definite methods of arguments. It is very important that other surgeons and other physicians give a similar account of their personal work immediately.

Yours truly, ROBERT T. MORRIS, M.D.

NEW YORK, Dec. 27, 1899.

Hon. James McMillan:

My Dear Sir:—The president of the AMERICAN MEDICAL ASSOCIATION has published an announcement to the effect that Senator Gallinger has again introduced into Congress the bill, "For the Further Prevention of Cruelty to Animals in the District of Columbia"—present Senate Bill No. 34. I assume that members of your honorable committee are already aware of the specious nature of the drawing of the bill, and that they understand its real objects—first, to prohibit vivisection; and secondly, to aid the passage of similar bills in all state legislatures. I assume further that the committee will wish to be guided by brief statements of fact rather than by other sorts of argument, and to that end I have requested some of the members of the medical profession to send to you an account of the advances in medical science that have been made by them personally through the aid of animal experimentation. Herewith is appended a concise account of that part of my work which has been recorded in the literature of the profession:

1.

Peritonitis usually leaves in its train adhesions of the abdominal organs which cause lifelong discomfort and invalidism for the patient. Such adhesions commonly cause also the death of the patient. Surgeons have sought in many ways to find relief for their patients with peritoneal adhesions, and with varying degrees of success—generally with failure. I experimented with rabbits and developed a plan of procedure known as "the aristol film method," that has been accepted as successful by surgeons. To have experimented in this way upon human beings would have been heartless and unsatisfactory, because it was necessary to correct several errors in theory, and this I was enabled to do readily by chloroforming and examining the rabbits at such steps in the experiment as seemed desirable. The outcome of my experimentation has been the direct means for avoiding unsatisfactory experimentation upon thousands of human beings, and it has been the direct means for saving life and preventing suffering on the part of such human beings.

2.

Surgeons frequently have to operate upon appendicitis patients when infection has advanced to such a stage that it is necessary to apply a drainage device. The drainage device necessitates leaving a weak point in the structures of the abdominal wall. Hernia develops at such weak points. By experimenting upon dogs and rabbits I was enabled to devise a plan of procedure which successfully obviates the danger of hernia. My plan of suturing the cecum to the weak point in the abdominal wall in patients would not have received the support of surgeons, because it was believed that dangerous angulation of bowel would occur at such sutured points. My experiments with dogs and rabbits disproved the idea that angulation of bowel would occur, provided that the work was done in a certain way; and this has allowed surgeons to give their patients the benefits of a procedure which obviates much human misery. The method has been widely adopted.

3.

A method for the removal of dead bone by the application of dilute mineral acids has been advocated from time to time by various surgeons, but, for an unknown reason, the treatment was not very successful. By experimenting upon the carapace of a living turtle, I found a cause for the failures, and added a plan of procedure of which surgeons have been glad to avail themselves in the interest of their patients. Without such animal experimentation the cause of failure would probably have remained undiscovered.

4.

After certain abdominal operations surgeons have commonly applied abdominal supporters that were a source of much discomfort for their patients. By experimenting upon rabbits I determined that such supporters could be discarded. The fact would have been discovered eventually in our work upon patients, but my experiment gave an early decision in the matter and patients who would have suffered discomfort are now relieved, as a result of facts brought out by the experiments.

5.

Surgeons discovered that they were aided in a part of their work in the abdominal cavity by touching a part of the bowel with a salt which excited active movement of the muscular coat of the bowel. This indicated the direction of any given loop of bowel. By experimenting with rabbits for the simple purpose of confirming the widely published reports upon the desirability of this step in progress, I discovered that it was accompanied by a grave danger known as the production of intussusception. By publishing the report upon my discovery surgeons were enabled to avoid subjecting their patients to the grave danger. Incidentally my experiment demonstrated the mechanicism of intussusception. This had been the subject of much discussion in the medical profession, but my experiment can now be done as an object-lesson in the presence of an audience.

6.

Surgeons are experimenting upon patients to discover the best way for curing tuberculosis of the peritoneum. I experimented upon rabbits and developed information which is of much value in the understanding of the subject.

These experiments above noted have been directly of benefit in relieving human suffering. In addition, I have performed many other experiments that gave valuable negative testimony.

As a lover of animals and as a member of a humane profession I have taken as much care to avoid suffering upon the part of the animals as I would be expected to take. My experiments, like those of vivisectors of my acquaintance, have had for their object the single purpose of benefiting humanity. My own work demonstrates only a trifling proportion of the advance that is annually made by surgeons in various parts of the world through animal experimentation. Unfortunately, the men who are doing advance work in the interests of science and humanity usually have such contempt for the methods of the uninformed antivivisectionists that they will not even deign to make a statement of their side of the case, and legislative committees are apt to be influenced by the emotional, well-meaning people who make strenuous effort to convince committees along the lines in which they themselves have been misinformed. The fact that there are physicians among the antivivisectionists is evidence simply of the fact that such physicians have been too much interested in other matters to give attention to the proper acquirement of knowledge upon this subject.

Very respectfully yours,
ROBERT T. MORRIS, M.D.
Professor of Surgery in the New York Post-Graduate Medical School.

Osteopathy in Georgia.

ATLANTA, GA., Jan. 1, 1900.

To the Editor:—I enclose a copy of the veto of Governor Candler of this state, of an act passed by the General Assembly of Georgia at its recent session, providing for the establishment of a board of examiners, authorized to license osteopathic practitioners.

By this wise and patriotic service, the governor has challenged the admiration of the best people in the state, and he surely deserves the appreciative applause of every intelligent citizen, and more especially of every respectable medical practitioner in America.

The act was passed by both branches of the legislature, in spite of the most earnest protests of the medical profession, and was promptly vetoed in response to representations made by the profession embodying reasons why this act should not become a law.

We recognize the fact that in this age of fads, of fakes, of frauds and of cranks, this skirmish is but the opening of the fight. The effect of the successful circumvention of our present laws would be their practical destruction; this wedge would have led the way to other incursions, and would have amounted to the virtual repeal of existing statutes regulating medical practice.

The governor is certainly entitled to the thanks and to the cordial commendation, not only of the medical profession, for his praiseworthy interposition, but also of every person, without the ranks of the profession, who reveres the majesty of law, who loves his fellow-man.

JAMES B. BAIRD, M.D.
Chairman Com. on Medical Legislation, Med. Assn. of Ga.

The following is the veto, which was also referred to in the JOURNAL of Dec. 30, 1899, p. 1659, and is editorially commented on this week.

VETO OF ACT NO. 173, ENTITLED AN ACT REGULATING THE PRACTICE OF OSTEOPATHY IN THE STATE OF GEORGIA.

I withhold my approval from this bill because, aside from the objection that it advertises one particular school, "The American School of Osteopathy of Kirksville, Missouri," there is no necessity for such an enactment. It provides among other things, for the creation of another Medical Examining Board in the State. There are already three of these boards, and any graduate of any "lawfully chartered Medical College" may go before either of them, present his diploma and be examined. If he passes an examination satisfactory to the Board, the members of which are selected because of their eminence in the profession and their skill in medical science, he is authorized to practice medicine anywhere in this State and apply any treatment he may deem best, including the methods of Osteopathy. If he is not a graduate of a reputable medical college and can not pass a satisfactory examination in the usual branches of medical education, he ought not to be licensed to engage in the practice of medicine.

A. D. CANDLER, Governor.

Dec. 21, 1899.

The Army Ration.

SAN JUAN, P. R., Dec. 27, 1899.

To the Editor:—As a supplement to the article by my scientific friend, Colonel Smart, on the Army Ration (see JOURNAL, xxxiii, p. 1507), let me add a few practical observations gathered in Porto Rico.

Duty has taken me at one time or another since the first days of the American invasion into almost every town from Ysabela, on the northwest coast, to Humacao, on the east coast and then up the military road to this capital. In the district of Guyama and southern Humacao it was part of my business to investigate the cause of deaths among the natives.

Everywhere I found the main causes assigned to be anemia and phthisis. Everywhere I went I was struck by this ever-prevalent anemia. The pale, yellowish, waxy skin, the bloodless lips and swollen puffy features formed a picture never seen by me out of tropical Porto Rico. Yet I soon found that these people had been living on rice, beans, maize, dried codfish and fruits. Meat very rarely entered into their diet. They and their fathers before them had lived exclusively on the diet urged by the public press as suitable for tropical climates, and the result filled the hospitals with such ghastly cases of anemia that no one who has once seen the picture can ever forget the impression. On the other hand, I soon discovered that the people who lived in the towns and could afford it, eat two hearty meat meals daily. These people, I believe, used more meat than we used in American cities, and there is no doubt in my mind that I have used more meat, and felt more need for it, since I have been here than I ever used in the same time in the United States. Yet I am one of the few who did not have to go home on account of ill health; the natives who eat in the hotels with me, and as freely as I do, are perfectly healthy individuals, and show not the least trace of anemia.

Only a few days since, a native informed me, with much gusto, that one of the best things that Porto Rico affords is *chuleta de cardo*—pork chops—surely one of the most unsuitable articles of diet for a tropical climate, as our physiologic friends will tell us, and yet the absence of this, in my opinion, made that native anemia to a noticeable degree.

These observations are so common in this climate, and have been so forcibly impressed on me that I feel more and more the wisdom of going very, very slow in urging alterations in the rations.

Very respectfully,
F. E. [illegible], Asst. Surg., U. S. A.

Hydrogen Dioxid in Burns.

[illegible], Ohio, Dec. [illegible], 1899.

To the Editor:—In connection with Dr. [illegible]'s paper in the JOURNAL of Dec. 23, 1899, I want to give voice to a use for hydrogen dioxid that has been too little known. The idea was original with Dr. Geo. W. Crile, of Cleveland, Ohio, and I am only giving his suggestion and my own experience with it.

Gunpowder burns are very troublesome things, and the ordinary treatment has usually failed to prevent the black stain [illegible] that if one thoroughly [illegible] the [illegible] of each pigmented spot the epithelium is gradually [illegible] and the consequent [illegible] I have found it necessary to [illegible] open and have used the solution of [illegible] with perfect results, absolutely no pigment remaining. Very truly,

C. H. Browning, M.D.

Pathologic Exhibit for A. M. A.

Louisville, Ky., Dec. 28, 1899.

To the Editor:—It gave me great pleasure to read in the Journal of Dec. 2, 1899 (see Journal December 16, p. 1564, December 23, p. 1630) a letter from Dr. Frank B. Wynn, relating to a section on pathology in the Association. No one feature could be of more interest than this. It encourages study in this special department, and by an exhibit profits the whole profession.

The Indiana State Medical Society deserves great credit for starting this project, and the display last June was of great interest to all of us. I hope, therefore, that the suggestion of Dr. Wynn will be carefully considered, and that each state society may follow in this very worthy undertaking.

Respectfully,

Joseph M. Mathews, M.D.

Association News.

Competition for the American Medical Association Medal.—At the meeting of the American Medical Association, held June 4, 1897, it was resolved to restore the former policy of the Association in favor of offering annually a gold medal for meritorious scientific work. The committee for this year, consisting of Drs. George M. Gould of Philadelphia, E. Fletcher Ingals of Chicago and T. W. Huntington of Sacramento, Cal., desires to direct attention to the following rules governing the competition:

1. The medal shall contain the seal of the United States or a seal of the Association, to be hereafter designed, on one side and an Esculapian staff on the other, together with the name of the recipient of the medal and suitable inscriptions.
2. The commercial value of the medal shall be $100.
3. A standing committee on prize medals, consisting of three members of the Association, shall be elected by the Business Committee as follows: One for one year, one for two years and one for three years, and thereafter one to be elected yearly to hold office until in either case his successor has been duly elected. In no case shall a member of the Business Committee hold a place on the Committee on Prize Medals.
4. The competing essays shall be typewritten or printed and shall bear no mark revealing their authorship; but instead of the name of the author, there shall appear on each essay a motto, and accompanying each essay shall be a sealed envelope containing the name of the author and bearing on its outer surface the motto of identification. No envelope is to be opened by the Committee until a decision has been reached as to the most deserving essay, and the other essays have been returned to their respective owners. The Committee shall have authority to reject and return all essays in case none have been found worthy of the Association medal. Competing essays must be in the hands of the Committee not later than March 1, 1900. For further information address any member thereof.

Book Notices.

The Cranial and First Spinal Nerves of Menidia. A Contribution upon the Nerve Components of the Bony Fishes. With Seven Plates. By C. Judson Herrick, Associate in Comparative Neurology, Pathological Institute of the New York State Hospitals. State Hospital Press, Utica, N. Y., 1899.

This monographic work, which has appeared simultaneously in the latest issues of the *Archives of Neurology and Psychiatry*, and the *Journal of Comparative Neurology*, is a study of the cerebral developments of one of the lower vertebrates. Its interest to physicians and medical students is in the light it, with other similar investigations, throws on the origin and development of the like organs in the higher vertebrates and in man, and it is only within the aid of such researches that we can properly understand the questions that arise especially in relation to the brain and nervous system in medicine and in human anatomy and physiology. The broad culture that a medical teacher or investigator should possess necessarily requires a knowledge of comparative anatomy, the more thorough the better. In neurology this is perhaps more obviously true than in other special departments, but it is true in all. The study of evolution is, as Herrick points out, a useful supplement to the study of pathology, showing, as it were, an experiment of Nature carried out in detail over an indefinite period of time, as compared with the rapid course, and our consequent lack of ready grasp of processes of disease. The utility of such works as these to the medical man is therefore obvious, though it may not be every practitioner who can command the time for their thorough study. To the working neurologist some acquaintance with them ought to be indispensable. This study was awarded the Cartwright prize for 1899, by the Alumni Association of the College of Physicians and Surgeons, Columbia University, New York.

Text-Book of the Embryology of Invertebrates. By E. Korschelt, Professor of Zoölogy and Comparative Anatomy in the University of Berlin. Vol. I: Porifera, Cnidaria, Ctenophora, Vermes, Enteropneusta, Echinodermata. Translated from the German by Edward L. Mark, Ph.D., Hersey Professor of Anatomy in Harvard University, and W. McM. Woodsworth, Ph.D., Instructor in Microscopical Anatomy in Harvard University. Vol. II: Phoronidea, Bryozoa, Ectoprocta, Brachiopoda, Entoprocta, Crustacea, Palæostraca. Vol. III: Arachnida, Pentastomidæ, Pantopoda, Tardigrada, Onychophora, Myriopoda, Insecta. Translated from the German by Matilda Bernard. Revised and edited with additional notes by Martin F. Woodward, Demonstrator of Zoölogy, Royal College of Science, London. London: Swan, Sonnenschein & Co., Ltd. New York: The MacMillan Co. 1899.

This translation of a leading German work on embryology will be welcomed by English-speaking biologists, and while it is not exactly in the direct line of medical study, it should be also valuable to a large section of our profession. Comparative embryology, even more than some other departments of zoölogic study, is a close collateral to medicine, and no physician will be the worse for an acquaintance with this subject. The three volumes here presented give one of the most complete, available presentations of the subject in our language, and with the coming fourth volume, which will probably soon appear, will form a standard authority covering the whole ground of invertebrate embryology.

The translators and editors, both American and English, have done their work well, and their additions bring the subject up to our present knowledge. One can not but regret, however, that it was ever originally written in German. The controversy as to the signification of the word *Anlage* is familiar to all readers of recent English and American scientific literature, and here we have it translated by different words in the first, and second and third volumes, respectively. As the editors call special attention to this fact, and to other terms loosely employed by the Germans, no harm is done, but it would have been better for scientific purposes had the original language been as definite and exact as some others.

Each volume has its own index, and is complete in itself. The work as a whole, as far as translated, is a most valuable addition to morphologic literature in our language, and one that we trust will have the reception it deserves.

Bacteria: Especially As They Are Related to the Economy of Nature, to Industrial Processes and to the Public Health. By George Newman, M.D., F.R.S. (Edin.), D.P.H. (Camb.), Etc. Demonstrator of Bacteriology in King's College, London. Illustrated. New York: G. P. Putnam's Sons. 1899.

This volume in the Science Series published by Putnam's Sons in New York and Murray in London, gives a very excellent popular statement of the present state of our knowledge regarding bacteria. While not written as a laboratory text book, it will doubtless find its way into many physicians' libraries, and the dissemination of its information among general readers can not fail to be of benefit. There is too much newspaper misinformation in regard to germs and the diseases they produce, hence the value of popularizing works like this, that are also scientific as well as popular. The style of the book is good and its make-up, uniform with the others of the series, is attractive. The illustrations are fairly numerous and assist the text.

Manual of Diseases of the Nose and Throat. By Cornelius Godfrey, A.M., M.D., Clinical Professor of Laryngology in the University and Bellevue Hospital Medical College, New York City. Illustrated with 92 engravings and 2 colored plates. New York and Philadelphia: Lea Brothers & Co. 1899.

This appears to be a very convenient compendium of nose and throat disorders, though hardly a work that would fully satisfy one who wished to go very deeply into the subject. Its advantages, however, to the student and general practitioner, will doubtless make it popular and useful. It is well illustrated, the style and descriptions are clear, the therapeutics up-to-date and the author has added, at the end of the book, a short chapter of formulæ with explanatory text, which will be found of service.

Deaths and Obituaries.

Elliott Coues, M.D., died Dec. 25, 1899, in Baltimore, Md. He was born in Portsmouth, N. H., in 1842, graduated from the Columbian University and the National Medical College, Washington, D. C.; served as surgeon in the United States Army from 1862 to 1865; was professor of zoölogy and comparative anatomy in Norwich University, Vermont, in 1869; professor of anatomy in the National Medical College, Washington, D. C., from 1877 to 1887; professor of biology in the Virginia Agricultural and Mechanical College in 1883. As an author, he was best known by his scientific works, and issued hundreds of papers and books in the various departments of zoölogy. As an ornithologist, he ranked among the first in the world, and his contributions were recognized by his being made a member of some fifty or more foreign and American learned societies. He was connected with various government expeditions, and had been editor of a number of historic works in recent years. He was one of the leading collaborators of and contributors to the Century Dictionary. While these show his general wide range of knowledge and versatility, it may also be said that he dipped into various extra-scientific subjects, such as theosophy, in which he was one of the leaders in this country, and took part in the exposition of the noted Mme. Blavatsky. Of late years he apparently took less interest in this, but was still interested in various subjects beyond the average understanding, while also keeping up his scientific contributions of the highest merit. Since 1864 he had been one of the most prominent naturalists and scientific men of this country, and notwithstanding his excursions into other fields he had maintained and increased his reputation in this regard so that his fame is world-wide.

William Buckingham Canfield, M.D., Baltimore, Md., editor of the *Maryland Medical Journal*, died in New York City on the 26th ult. A month before, while in New York City, he fell from a step, fracturing his skull. For a time he improved, but meningitis developed. His family was related to Governor Buckingham of Connecticut and descended from Governor Leete, a colonial governor of the same colony. Dr. Canfield [illegible] born in Baltimore in 18[illegible], took the degree of A.B. at Princeton, and his M.D. at the University of Maryland in 1880, and later from the University of Berlin. He was lecturer on clinical medicine at the University of Maryland, [illegible]

David L. Huntington, M.D., lieut-colonel U.S.A. (retired), died in Rome, Italy, Dec. 20, 1899. He was born in Charleston, [illegible] well as subsequently from the University of Pennsylvania's medical department At the beginning of the Civil War he was appointed an assistant-surgeon in the regular army, served on General Grant's staff, and, as medical director, accompanied General Sherman on his march to the sea. At the close of the war he was stationed at different forts in the West, fought with the Indians, and in 1876 was assigned surgeon-in-charge of the Soldiers' Home in Washington, D. C. He also, in the meantime, acted in the capacity of assistant-surgeon general, as well as that of acting surgeon-general, U. S. A. For some years before his retirement, which dated from April, 1898, he was in charge of the U. S. Army Medical Museum, and in that capacity contributed largely to the medical and surgical records of the Civil War. After his retirement, which was after a continuous and exceptional service of thirty-six years, Lieut.-Colonel Huntington lived abroad with his wife, son and daughter.

Gustavus Storrs Winston, M.D., College of Physicians and Surgeons, New York City, 1863, died at his home in New York City, Dec. 29, 1899, aged 66. He was the son of Frederick S. Winston, the president for many years of the Mutual Life Insurance Company. Of this company Dr. Winston was medical director for about twenty-five years, and a great part of the time was the ranking official of his bureau. As a judge of values in life risks he was scarcely equaled and rarely criticised.

Christopher Souder, M.D., Larwill, Ind., died Dec. 14, 1899, at the age of 57 years. During the Civil War he served in Company F, 44th Indiana Volunteer Infantry, and was wounded in the battle of Chickamauga, and was also in the battles of Fort Donelson and Pittsburg Landing. He was a graduate of the Cincinnati Medical College, class of 1870.

Henry F. Gehring, M.D., Starling Medical College, Columbus, Ohio, 1884, of Chateaugay Lake, died at Malone, N. Y., Dec. 30, 1899, from blood poisoning following an operation performed by himself a few days before.

Jonathan M. Higgins, M.D., University of Pennsylvania, 1861, died in Philadelphia, Dec. 15, 1899, aged 58. He was long identified with the schools of his vicinity.

Newton H. Ritter, M.D., formerly a practicing physician at Philadelphia, and a graduate of the Jefferson Medical College, class of 1884, died near Wernersville, Pa., Dec. 16, 1899, aged 50 years.

William L. Russell, M.D., Baltimore, Md., died on the 21st ult. of nervous prostration superinduced by la grippe. He was 65 years of age. He received the degree of M.D. at the University of Maryland in 1869.

F. C. Rainer, M.D., Fort Scott, Kan., a graduate of Starling Medical College, Columbus, Ohio, was accidentally killed while hunting, Dec. 15, 1899.

Henry G. Saunders, M.D., Grand Rapids, Mich., a graduate of the medical department of the University of the City of New York, class of 1847, died Dec. 22, 1899, aged 80 years.

Reed Carrington, M.D., a graduate of the Medical College of Virginia, 34 years of age, died at his home near Sandidges, Va., Dec. 19, 1899.

William M. Ralston, M.D., Horton, Kas., a graduate of Rush Medical College, Chicago, class of 1886, died Dec. 6, 1899, at the age of 41 years.

Casper Scheurmann, M.D., who was born in Germany in 1834, and has been in this country thirty-four years, died in Milwaukee, Wis., Dec. 21, 1899.

Walter Boardman, M.D., Lancaster, Pa., died suddenly, Dec. 16, 1899. He was a graduate of Jefferson Medical College, class of 1883.

Jesse C. Miller, M.D., Marklesburg, Pa., a graduate of the Jefferson Medical College, class of 1884, died suddenly Dec. [illegible] 1899.

Thomas O'Callaghan, M.D., Jersey City, N. J., died Dec. 27, 1899, in New York City, while making a professional call.

O. B. Griggs, M.D., formerly of Willimantic, Conn., died at Providence, R. I., at the age of 77 years, Dec. 22, 1899.

William Griffin, M.D., Carver, Minn., died while on a visit to Superior, Wis., Dec. 24, 1899.

A. P. Walter, M.D., Jersey City, N. J., and formerly of [illegible]

Stuart B. Carlisle, M.D., Mt. Vernon, N. Y., aged 51 years, [illegible]

T. J. [illegible], M.D., Morrisville, Vt., aged 64 years, died Dec. 17, 1899.

Samuel M. [illegible], M.D., Lancaster, Pa., died Dec. 22, 1899, aged 68 years.

Harry Cowan, M.D., Danville, Ky., aged 38 years, died the 20th ult.

Albert L. Boyd, M.D., Watertown, N.Y., aged 33 years, died Dec. 14, 1899.

William Camp, M.D., Middleton, N.Y., aged 57 years, was [illegible] found Dec. [illegible], 1899.

W. W. Evans, M.D., Sycamore, Ill., died Dec. 19, 1899, aged 67 years.

C. O. Mathews, M.D., Dennison, Texas, died Dec. 14, 1899, aged [illegible] years.

Neil McKechnie, M.D., Holdrege, Neb., died Dec. 21, 1899, suddenly.

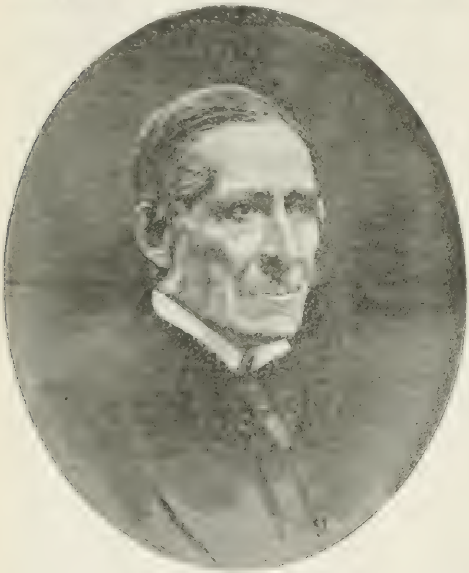
[illegible] Whitley, M.D., Birmingham, Ala., was murdered Dec. 2[illegible], 1899.

John A. P. Baker, M.D., Abingdon, Va., died Dec. 21, 1899.

J. H. Phares, M.D., Clinton, Ia., died suddenly, the 12th ult.

DEATHS ABROAD.

Sir James Paget, the eminent surgeon, died in London, Dec. 30, 1899, at the age of 86 years. For nearly half a century he had been one of the leaders in the medical profession of London. He was born in Yarmouth in January, 1814, and was the son of [illegible]. He studied at St. Bartholomew's Hospital and became a member of the Royal College of Surgeons in [illegible] and an Honorary Fellow in 1843. He held appointments of lecturer on physiology and surgeon to St. Bartholomew's Hospital, and professor of surgery and anatomy at the Royal College of Surgeons. He was a Fellow of the Royal Society, vice-chancellor of the University of London, and consulting surgeon to St. Bartholomew's Hospital, sergeant-surgeon to the Queen and surgeon to the Prince of Wales. He received the honorary degree of D.C.L. from Oxford and that of LL.D. from [illegible], and in 1871 he was created a baronet. In his earlier studies he paid much attention to pathology, and it was mainly through his efforts that its importance was [illegible]. His [illegible] Surgical Pathology, a work which passed through many editions, was for many years used as a text-book in both English and American colleges. In 1857 he delivered the Croonian Lecture, the Hunterian Oration in 1875, the Bradshaw Lecture in 1882, and the Morton Lecture in 1887. He was president of the International Medical Congress held in London in 1881. He resigned his hospital positions in 1875, and since that time had devoted himself to consultation practice and scientific study. Although advanced in years, he remained an untiring student in all branches of science up to the time of his death. Besides his skill as a surgeon he was known as a brilliant orator, and his gift of eloquence has been transmitted to his two sons, one of whom is dean of Christ Church, the other vicar of St. Pancras.



Sir James Paget, Bart.

Sir Thomas Thorne-Thorne, London, England, died Dec. 18, 1899, aged 58, his death being sudden. At the time of his demise he occupied a position of honor and responsibility, that of principal medical officer to the Local Government Board (London). He has been a leading spirit in quarantine work, or rather against the system of quarantining adopted by many nations, his view being that every nation should have proper facilities for dealing with contagious diseases in all ports.

Dr. Schnizlein, a prominent practitioner in Munich, is dead.

J. Mitwalsky, privat-docent of ophthalmology at Prague, died recently.

Dr. Azam, professor of pathology at Bordeaux, is dead.

A. Brujew, professor of dermatology at Charkow, died recently.

Miscellany.

Best Method of Gaining Strength.—With several other physical directors, Dr. W. G. Anderson of Yale has been carrying on a series of observations in order to determine the kind of exercise best to develop the physical strength of athletes. It was found that baseball players were the only ones who lost weight during their season of training. The track athletes and the gymnasts gained most rapidly.

Development of Eastern and Western Women.—As a result of anthropometric measurements of the girls at Wellesley College, and the University of Nebraska, Dr. J. W. Seaver has noted certain differences in the physical proportions. He is quoted as saying that the Wellesley girl has the smaller chest girth, while the Nebraskan is deeper chested and is particularly stronger in lung capacity. In height, the Wellesley girl leads. There is an interesting difference in the heads of the two types: that of the Wellesley girl is much larger; she is flat-headed. He accounts for the difference in the types by the predominance of Teutonic blood in the West.

Diagnosis of Incipient Tuberculosis and Croup in Children.—A Greek confrère writes to the *Annales de Méd. et de Chir., Inf.* (July 15, 1899) that he has succeeded in correctly diagnosing many dubious cases in young children by inducing a coughing spell with a spoon inserted in the throat. This brings up more or less sputum, which is then taken up on a cotton wad for microscopic examination. The spoon can be inserted in the space back of the last molars in older children. By this means a positive result is attained in many cases in which examination of the mouth had been negative.

Can Testify as Non-Expert.—Among the witnesses who testified as non-experts in Commonwealth vs. Cressinger, first testifying to their acquaintance and opportunities of observation of the prisoner, and then being asked whether, from such acquaintance, they had observed any indications of unsound mind, which the Supreme Court of Pennsylvania holds admissible, was one who was a physician. It was especially objected that the jury would be impressed with that fact in weighing his testimony. But the supreme court holds that it would be quite proper that they should be. He was not called as an expert, nor did he testify as such, but as a neighbor, who had employed and observed the prisoner. To this, the court adds that he was competent, and admitted on the same ground as the others who were allowed to testify as non-experts, and his education and practice as a physician merely made it probable that his opinion was more valuable than that of ordinary observers.

Within Terms of Policy.—A controversy arose in the case of the Standard Life and Accident Insurance Company vs.

Schmaltz, whether the death for which it was sought to recover on a policy of insurance resulted from injuries caused by external, violent, and accidental means. At the time he was injured, the insured was a strong, healthy, active, muscular man, weighing from 170 to 175 pounds. He had occupied the position of railroad machinist for seven or eight years, and had frequently lifted cylinder heads from engines without accident or injury, as other machinists had also been accustomed to do. Yet, while removing, in the usual way, one that weighed about 80 pounds, which, having loosened with a steel bar, he sought to catch, in order to prevent it from falling, he ruptured a blood-vessel in his stomach, causing his death. Under these circumstances, the supreme court of Arkansas holds that the jury was warranted in finding that the death was caused by "external, violent, and accidental means." Nor does it consider that, this being so, the insurance company was exempted by a stipulation in the policy sued on that it did not cover injuries from overexertion, wrestling, lifting, unnecessary exposure to danger, as one of the duties of the machinist was to remove cylinder heads, and the company insured him in that occupation.

Acute Diabetes in Boy of Five Years. In the *Lancet* for Dec. 23, 1899, p. 1735, is reported, in detail, a case of very acute diabetes in a child 5 years of age. While diabetes in children is not uncommon, the case is of note for several reasons: 1. Nothing wrong with the child was noted until ten days before admission to the hospital, and then only constipation. Five days after this the symptoms led the patient's parents to suspect something was the matter, but not until two days before admission did they feel any alarm and call in medical aid. 2. The only urinary symptom noted by the parents was incontinence of urine for two nights preceding admission. Albumin was present with the sugar, a combination giving a very bad prognosis. 3. Heredity was not a factor in this case. 4. The sweet smell in the breath, said to indicate impending coma, did in this patient, the coma following muscular weakness, drowsiness and a rapid breathing.

Causes of Twin Pregnancies.—D. Ghelline observes that these, in a single ovum, only occur once in 700 ordinary deliveries, while other twin pregnancies are noted in 90, on an average. The frequency of malformations in the uni-ovular twin pregnancies also indicates that it is an abnormal process. Multi-ovular vesicles can not be considered the cause of multiple gestations—two ripe ovules have never been noted in a single vesicle in woman, and even in multiparous animals, multi-ovular vesicles are rare and the number of ovules is always less than the number of the litter. There is a difference in animals between the ovaries of multiparous and uniparous females. In the first the specific, ovigenic tissue of the ovary predominates, while in the others the stroma is more abundant. Twin pregnancy can therefore be attributed to the predominance of the germinal epithelium over the stroma. The more ovules and the less stroma the more vesicles ripen and the more frequently they burst. If this law is true, twin pregnancies should accompany multiparity, which is what is actually observed. From the biologic point of view, therefore, Ghelline asserts that twin pregnancies are an atavistic phenomenon, while single pregnancies indicate the predominance of stroma, a more advanced stage of development.

Examining Physician's Report.—The examining physi- [illegible] ciation issuing life insurance certificates to its members upon the assessment plan, made a personal examination of a member [illegible] on the life of the member, in connection with, and as part of, [illegible] stated in the physician's report, and the defendant association objected on the ground that the paper was not evidence of the facts stated in it, but only of the fact that such a report was made. The judge overruled the objection, and held that the statements in the report were in the nature of admissions by the association of the facts therein stated, not conclusive, but competent to go to the jury on the subject. And the Supreme Court of Wisconsin now holds that this ruling was correct. It says, McGowan vs. Supreme Court of Independent Order of Foresters, that the statements were made by one of the defendant's officers, as a part of his official duties, and within the scope of such duties. Such statements, it continues, are plainly statements of the company or association itself, and must be regarded as upon the same plane as the admissions of agents generally, made during the transaction of the agency business, and within its scope, which are deemed parts of the *res gestæ*, or essential circumstances of the transaction.

Proposed Investigation of Native Drug Plants of the United States.—The Secretary of Agriculture, Hon. James Wilson, has embraced the following paragraph in his annual report which, in more particulars than one, is of interest to the medical profession:

> The collection of the native drug plants in the United States, considered from a purely financial standpoint, aside from medical and humanitarian aspects, involves the expenditure of millions of dollars annually. The commercial extermination of some of the most useful species is already threatened, and doubtless others would be found in the same conditions were the facts known. The price of one native plant, ginseng, our exports of which average more than a million dollars annually, has more than quadrupled in the past thirty years, so that its cultivation, as urged four years ago by this Department, has now become profitable. It is clear from this and many similar cases that the native drug industry is capable of either decline or improvement, according to the way in which we handle it.
>
> The Pan-American Medical Congress has recently submitted to me a proposition to co-operate with this Department in a the facts known. The price of one native plant, ginseng, our native drug plants. By accepting this proposal we shall secure, in a research of which we have long felt the need, the cordial assistance and support of an influential association of learned physicians; we shall encourage each of the other American nations, all of which are represented in the Pan-American Medical Congress, to proceed with a similar investigation of their own medical flora; we shall furnish a basis for the remunerative employment of much land and many people, and we shall stimulate the great growth and growing trade in drugs between the countries of North America and South America. I urge the appropriation of $10,000 to enable this Department to co-operate in this investigation. (See p. 49.)

The Public Service.

ARMY CHANGES.

Movements of Army Medical Officers under orders from the Adjutant-General's Office, Washington, D. C., December 15 to 21, 1899, inclusive:

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

William H. Forwood, colonel, asst. surgeon-general, U. S. A., [illegible] officers for promotion.

E. F. Geddings, acting asst.-surgeon, relieved from the Division [illegible]

[illegible]

[illegible]

[illegible] board in New York City, to amend the regulations of the army transport service.

[illegible] motion.

[illegible]

James E. Miller, acting asst.-surgeon, previous orders directing him to proceed from Des Moines, Ia., to the Department of California revoked.

[illegible] Major [illegible] surgeon U. S. A. [illegible] Washington Barracks, D. C., [illegible] of the Hospital Corps company of [illegible]

[illegible] surgeon U. S. A., to report [illegible]

[illegible] U. S. A., to re[illegible] [illegible] examination for promotion [illegible]

[illegible] from Key West, Fla., to [illegible]

[illegible] surgeon U. S. A., to re[illegible] Washington, D. C. [illegible] examination for promotion.

NAVY CHANGES.

Changes in the Medical Corps of the U. S. Navy for the week ending [illegible] 1899:

[illegible] W. W. [illegible] duty at the naval [illegible]

[illegible] Port Royal Naval Sta[illegible] [illegible] wait orders.

[illegible] from the [illegible] on re[illegible] [illegible] at the Port Royal Naval [illegible]

[illegible] duty at the naval hospital, [illegible]

[illegible] W. [illegible] detached from the [illegible] Decem[illegible] [illegible]

[illegible] Navy Yard, January 4 [illegible] Norfolk Navy Yard, on [illegible] reserved [illegible] and to be ready [illegible]

[illegible] R. [illegible] detached from the *Brooklyn* and [illegible]

[illegible] detached from the *Brooklyn* [illegible]

[illegible] detached from the *Solace* and ordered to [illegible]

[illegible] H. [illegible] Lowndes, detached from the *Princeton* [illegible]

[illegible] J. Stoughton, detached from the *Monadnock* and [illegible] via the *Solace*.

[illegible] D. [illegible] detached from the *Monterey* and [illegible]

MARINE-HOSPITAL CHANGES.

Official list of changes of station and duties of commissioned and non-commissioned officers of the U. S. Marine-Hospital Service for the [illegible] ending Dec. 21, 1899:

[illegible] granted leave of absence for one month [illegible] on or about Jan. 15, 1900.

[illegible] H. [illegible] detailed under the provisions of the Act [illegible] March 2, 1899, as a member of a commission [illegible] the [illegible] and prevalence of leprosy in the United [illegible]

[illegible] G. T. Vaughan, detailed under the provisions of the Act [illegible] March 2, 1899, as a member of a [illegible] the origin and prevalence of leprosy in [illegible]

[illegible] J. B. [illegible] granted leave of absence for 7 days [illegible]

[illegible] M. J. R[illegible] detailed under the provisions of [illegible] March 2, 1899, as member of a [illegible] and prevalence of leprosy in [illegible]

[illegible] to Fortress [illegible] quarantine [illegible] for temporary duty.

[illegible] granted leave of absence for [illegible]

[illegible] granted leave of absence for 30 [illegible] January 2, 1900.

[illegible] days' [illegible] Ky., and report to [illegible]

[illegible] Building, [illegible] New York [illegible] Wednesday, Feb. 7, 1900 [illegible] the grade [illegible] U. S. Marine-Hospital Service [illegible] 21 and 30 years of age, graduates [illegible] furnish testimonials from [illegible] of the examination. 1 physical [illegible]

[illegible] physical examination candidates are required [illegible] any ailment which [illegible] in writing and begin with a short [illegible] candidate. The remainder of the written [illegible] of the various branches of medi[illegible]

The oral examination includes subjects of preliminary education, history, literature and natural sciences.

The clinical examination is conducted at a hospital and when [illegible] candidates are required to perform surgical operations [illegible]

[illegible] San Francisco [illegible]

The tenure of office is permanent. Officers traveling under orders are allowed actual expenses. For further information, or for invitation to appear before the board of examiners, address the Supervising Surgeon-General, U. S. Marine-Hospital Service, Washington, D. C.

CHANGE OF ADDRESS.

Booth, C. C., from Youngstown, O., to Eau Gallie, Fla.
Brown, G. M., from 798 Maxwell to Provident Hospital, Chicago.
Delaup, S. P., from 2218 to 833 St. Charles St., New Orleans, La.
Dunn, B. S., from Boston, Mass., to Whitestone, N. Y.
Goodwin, W. H., from [illegible] to Fairmount, Ill.
Hickey, C., from [illegible] to Mt. Vernon, Ind.
[illegible] from [illegible] to 102 S. Eastern Ave., Joliet, Ill.
[illegible] R. [illegible], from Mt. [illegible] to [illegible], Ia.
[illegible] L. L., from 877 W. Polk to 173 Ogden Ave., Chicago.
Nelson, C., from [illegible] North to 3651 Wentworth Ave., Chicago.
P[illegible] J. G., from [illegible] to Rockwood, Tex.
[illegible] J. B., from 112 S. Leavitt to 918 W. Van Buren Street, Chicago.
Strom, A. E., from House of Correction to German Hospital, Chicago.
W[illegible] J. F., from [illegible] to Sulphur Springs, Colo.
Wyland, G. A., from Marcellus, Mich., to 329 W. Erie St., Chicago.

THE JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION

is published weekly at 61 Market Street, Chicago, Ill. The subscription price is five dollars per annum in advance. Postage in the United States, Canada and Mexico free. Foreign postage, $2.50. Subscriptions may commence at any time. Volumes begin with the first issue of January and of July.

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The Journal of the
American Medical Association

Vol. XXXIV CHICAGO, ILLINOIS, JANUARY 13, 1900. No. 2.

Address.

MEDICINE AND LAW.[*]

BY DUNCAN EVE, M.D.
NASHVILLE, TENN.

From my earliest recollection the science of medicine was to me a charm and a fascination, as presenting instrumentalities, agencies and opportunities of greatest good to the human family. Hence I should be singularly inappreciative, if I did not esteem the honor of presiding over the deliberations of this august body, assembled from the various states composed of and bordering the great Mississippi Valley, to advance our noble calling and thereby promote the happiness of our fellow man, as one of the most grateful of my life. Thus influenced, it is but natural that I should now wish to suggest something that, perchance, might be useful and pleasingly remembered.

The sciences of medicine and law are confluent and blend in the splendid duality of medical jurisprudence, and it is to be regretted that so few members of the two professions give this subject the attention which its importance demands. A knowledge of this science is imperative and should be understood by every physician and surgeon for his own safety and protection.

A discussion of this subject would be especially appropriate in Chicago, where, notwithstanding the medical profession takes front rank and is distinguished for names that can never be forgotten, yet its members are tortured to martyrdom by suits for malpractice, thick as "leaves in Valambrosa," or blackberries in a southern "brier-patch." You might infer that my sympathy in this respect is natural from a similar experience. This inference is correct. Yet in a rather large and varied experience, I have never lost a suit or compromised a case. I will therefore attempt to offer some thoughts on malpractice and the "damage suit," on which subject I had the pleasure of presenting a paper four years ago to the Tennessee State Medical Society.

Strange as it may appear, no systematic work gives a formal or technical definition of malpractice; I must therefore quote from a well-known jurist on this subject: "Malpractice is the unskillful or negligent treatment of a patient by a physician or surgeon, or some one undertaking to act as such, resulting in injury to the patient."

To constitute malpractice, unskillfulness and injury, or negligence and injury, to the patient must concur. The inquiry is natural: "What is meant by unskillfulness?" It is the want or absence of learning and experience in medical science. How much skill is required? The answer is: "ordinary skill." What is ordinary skill? Such skill as is usually possessed by the profession at the time and place when and where the patient is treated. This is what the law terms reasonable and competent skill in medicine. What is ordinary skill now would have been extraordinary, wonderful, incredible skill half a century ago. Oh! that I had time to speak of the triumphs and glories of medicine and surgery. How inspiring the theme, how it thrills and begs for utterance! But I must leave that for some one of talent, who can do this subject justice.

A doctor may be practicing in a sparsely settled country, and however well he may be informed in the theory of his profession, he has not the means and opportunities of observation, experience and association presented in a city. Hence the reasonableness of the rule which does not hold him to as rigid accountability as one more fortunately located.

A physician may *legally* contract for extraordinary skill and the law will hold him to his contract, but the Code of Medical Ethics wisely forbids such agreement. He is required to exercise ordinary diligence in the treatment of his patients, though he could legally contract for greater attention.

What reasonable diligence is, in contradistinction to neglect, depends on the nature of the disease or affection and the conditions and circumstances surrounding the case. For example, diligence in chronic rheumatism would be gross neglect in iritis, as Ellwell illustrates.

Contracts are expressed or implied—expressed, where agreed between the parties; implied, when inferred by the law from the facts and circumstances. The physician or surgeon who opens an office or holds himself out to the community as practicing, impliedly contracts for the possession of ordinary skill, and promises the exercise of reasonable diligence. He impliedly says to the patient, I am able to treat you and will not neglect you. When a patient or his friend or his relative calls such a physician or surgeon, he by implication promises to pay the usual and reasonable fee without a word being said on the subject. The contract for the amount of the fee, the time of payment, etc., may be fixed by the parties. The fee, however, is due when the services are rendered, unless otherwise agreed.

A physician or surgeon is not to be judged by results. He is not an insurer, unless in violation of medical ethics he, by express contract, becomes such. When he possesses ordinary skill, and exercises reasonable care and diligence, no recovery for damages can be had against him. This constitutes his whole duty. In evidence of skill he has the right to prove that he is a graduate of a reputable school, and to have established his reputation and standing by the evidence of his professional brethren. Even if there be not ordinary skill and diligence the patient can not recover, if no injury results therefrom.

If a person undertakes to act as a physician or surgeon, though he be neither, he is held accountable for any injury he thus causes.

A patient is compelled to co-operate with his physician in the treatment of the case. He must obey instructions; no matter if to do so is painful or whatever the excuse, the physician can not be made responsible for injuries resulting from such disobedience on the part of the patient. In cases of doubt and uncertainty, where the profession and authorities are not agreed as to treatment, the medical attendant *must exercise his own best judgment.*

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[*] Presidential Address delivered before the Mississippi Valley Medical Association, Oct. 3, 1899.

A physician *can* decline to attend a patient for reasons satisfactory to himself; nor is he required to give his reasons therefor. He is not a common carrier, hotel-keeper, or "yellow dog," but has the same rights and privileges as other professional gentlemen. The opposite opinion seems sometimes to be entertained by the community. A greater error could not prevail. Having, however, accepted a case, he must continue treatment until recovery or death terminates the relation, or the patient discharges him.

Pauper patients require the same skill and diligence as pay-patients. Our profession is justly distinguished for its charity and gratuitous treatment of the poor, yet most of the suits for alleged malpractice are brought by pauper patients, and of all, they are the most critical and exacting, and the least grateful. This is discouraging; nevertheless, it is a fact.

A well-known authority declares that two-thirds of the cases charging malpractice arise from *fractures and dislocations. Deformity* is the result of many fractures and can not be prevented. Patients who have had the very best treatment for fractured clavicles, Colles' fractures, etc., consult with doctors until they find one who will express an unfavorable opinion as to the plan of treatment adopted, or at least suggests that a better result could have been obtained. With this opinion, *patients* advise with lawyers and a suit for malpractice is instituted. Unfortunately, enmity, jealousy and rivalry are too often the cause of damage suits. A doctor is usually "at the bottom of it."

Prof. Austin Flint, Sr., abandoned the practice of surgery, and confined himself exclusively to the practice of medicine, because of the danger arising from damage suits. It does really seem that the safest course for a surgeon to pursue—not knowing what a jury might do—is to make over his property to his family.

The consent of a patient for an operation does not absolve the surgeon from responsibility; his duties and relations remain unaltered thereby. When he possesses the necessary qualifications and performs the duties required, he is not held responsible for mere errors of judgment; nor is he liable for declining professional assistance or consultation.

Owing to the fact that members of our profession do not make it a rule to learn their rights and duties to their patients, and reciprocally, those of their patients to them, they subject themselves to the continuous anxiety of doubt and uncertainty as to what they ought to do, or ought not to do; or what they ought to have done, or ought not to have done; and hence throw themselves unreservedly on their lawyers for direction and instruction. Now, while it is well to retain counsel with whom they can advise, yet it should be remembered that the lawyer must investigate before he can decide, and it often happens that the lawyer is not himself a medical jurist, and he needs instruction as much as the doctor. Besides this, it is in emergencies needing immediate action that one must use this knowledge.

A well-known medico-legal work, which is authority both in this country and England, lays down the following points as established law:

"1. A physician or surgeon, without a special contract for that purpose, is never considered as warranting a cure.

"2. His contract, as implied in law is: *a,* he must possess a reasonable degree of learning, skill and experience, which is ordinarily possessed by others around him, in his profession; *b,* that he will use reasonable and ordinary care and diligence in the treatment of the case committed to him; *c,* that he will use his best judgment in all cases of doubt as to the best course of treatment.

"3. He is not responsible for want of success, unless it is proved to result from want of ordinary skill, or from want of ordinary care and attention.

"4. He is not presumed to engage for extraordinary skill, care and attention.

"5. He is not responsible for errors of judgment, or mere mistakes in matters of doubt and uncertainty."

It must not be inferred that the degree of care and skill necessary to be exercised in a particular case must be proportionate to the severity of the case. Such a doctrine has been urged, but has been very wisely rejected by the courts. If such a rule were adopted, the conclusion would naturally and logically follow that a physician and surgeon is legally required to exercise care and skill adequate to the severity of all cases that he undertakes. Such a test is manifestly absurd and beyond the possibility of human acquirement.

It is as culpable to compromise a suit for malpractice when in the right, as it is to resist when seldom in the wrong. Such compromises not only subject innocent men to grievous sacrifices, but encourage the bringing of similar suits against members of the profession.

It is the duty of the physician to give needful instructions for the care and attention of the patient during his absence or between visits. A failure to do so would give a right of action in the courts. Upon this point, Arthur N. Taylor, LL.B., who has lately presented a series of articles on "The Law in its Relations to Physicians[1]," suggests: "This obligation extends not only to giving instructions for the period during which the physician is attending the patient, but also for the period of convalescence immediately following. Therefore a physician should, upon dismissing his patients, carefully tell them what to avoid and advise them to exercise that care which, in his judgment, is best calculated to restore their natural health and strength."

By prescribing certain qualifications and attainments as conditions precedent to admission into the medical profession, and by defining the duties and obligations, the rights and privileges of its members, much good could be accomplished by the law-making power of the country. With this assistance we could the more easily establish and maintain honorable medicine, rebuke the ignorant pretender, repress empiricism and bring to justice the presumptuous charlatan, while resisting cruel and wanton attacks on meritorious members of the profession, and defeating vexatious and oppressive actions instituted by reckless and unscrupulous parties for purposes of speculation and persecution.

Let the profession as a unit stand by the innocent victim when unjustly attacked, as if it were a matter of personal concern to each, remembering that when one member suffers, the reflex action is felt by all. In harmony there is life; in union there is strength. Kentucky's motto should be our maxim: "United we stand, divided we fall." Our profession should be and is, a fraternity, illustrating a glorious brotherhood in all its relations, bearings and dependencies.

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[1] New York Medical Journal.

A wise physician, skilled our wounds to heal,
Is more than armies to the public weal.

The very name of medical science is suggestive of living thought, noble deeds, high morals, generous sacrifice and benevolent action; whose remaining charities, after feeding multitudes, fill to repletion the baskets of humanity and philanthropy; a profession possessing an incalculable force of restorative and recreative energy; whose Materia Medica comprehends earth, air, and sky; and whose Therapeutics levies contributions on the three kingdoms of physical science.

History announced an indubitable fact and Philosophy exclaimed: "The nation that shortens its sword enlarges its empire." Medical Science has reduced the sword to the dimensions of the scalpel, and moulded the bayonet into a tenaculum. Hence its empire comprehends the nations of the globe, and its soldiery rides the waves of every ocean, and walks the decks of the fleets of the world. This science has the earth for its theater and the people thereof are its *dramatic personæ* and the drama of its attendant revelations signalizes the splendor of its achievements.

Therefore, with a heart overflowing with fraternal felicitations, I congratulate you on being faithful, zealous members of this great and glorious profession, and joyously express at once the hope and belief that your presence and your deliberations, in this great city, will be productive of good to the cause in which we are so heartily enlisted.

Original Articles.

PRACTICAL USE OF RADIOGRAPH AND FLUOROSCOPE IN DISEASES OF THE LUNGS.

BY T. MELLOR TYSON, M.D.
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AND
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PHILADELPHIA.

The subject on which I would like to say a few words has been quite thoroughly dealt with by Dr. F. H. Williams, of Boston, and my object is not to go into the methods as much as to report a number of cases which were admitted to the Rush Hospital for the Treatment of Consumption in Philadelphia, and of which radiographs of the thorax were taken before any physical examination was made. You will see that in every instance the shadow, which is the only thing at present demonstrable, and which in the early stage is not due to the transparency of the diseased lung, but to the greater or less amount of blood in the part affected in the period of expansion and contraction, was present in every instance, and on examination the physical signs were present to corroborate it. In looking through the fluoroscope, which is always desirable before a picture is taken, a marked diminution of the excursion of the affected side is also seen. The advocates of this method of examination for [illegible] the physical signs and symptoms of the disease [illegible] fluoroscope revealed disease [illegible] other apex and after repeated examination the physical signs began to appear. It has been found by us that some cases will reveal disease when the fluoroscope is used, and when a radiograph is taken there will be no marked difference on either side. It is therefore always better to use the fluoroscope and abide by its decision rather than to rely on the radiograph.

CASE 1.—M. K., aged 21; single; American.

Family History: Mother is living and well; father died five months ago, of phthisis; five brothers died in infancy; one sister living, 19 years of age, is suffering from phthisis; three brothers and twelve sisters are living and in good health.

Previous History: The patient had measles in infancy, la grippe ten months ago.

Present Illness: Has been ailing for the last 3½ years; takes cold very easily; pain over chest; hemorrhage a year ago, about f℥ij; cough; expectoration profuse, greenish yellow in character; sweats; chills; stomach in fair condition; appetite good; bowels regular.

Radiograph 1 (shows only the left side; very little of the right; taken from the back) shows a large transparent area on the left side posteriorly at the level of the fifth rib, about 2½ inches long and 1½ inches wide.

Physical Examination: Inspection showed marked depression under the right clavicle; poor expansion over the whole chest. Palpation gave fremitus, increased at the left apex. Percussion gave dulness over the left side down to the second interspace. Auscultation showed expiration prolonged at both apices; râles on the left side, about the level of the second rib. At the left, posteriorly, the signs of a large cavity from the mid-scapula to the seventh rib; hyperresonant note over this area. At the angle of the scapula could be heard pectoriloquy and bronchial breathing.

CASE 2.—B. F., aged 18; single; American.

Family History: Father and mother living and in good health; three brothers and two sisters living and well; one died in infancy; one sister, 14 years of age, died of phthisis.

Previous History: The patient had scarlet fever and measles, otherwise good health.

Present Illness: Seventeen months ago she had a fright which she thought caused a hemorrhage; since then has had a bad cough, worse in the morning, with expectoration, yellow green in character; appetite good; no digestive disturbance; menses regular; palpitation; lost weight.

Radiograph 2 (taken from the back) shows generally darker at the left apex in comparison with the right, although at the right apex there is a slight shadow. On the right side, at the fourth rib can be seen a round transparent spot surrounded by a dark ring, and another spot extending from the fourth to the sixth rib. Over this area signs of a cavity can be heard.

Physical Examination: Inspection showed winged scapulæ and that the right shoulder drooped more than the left; chest well nourished; right side more retracted and less movement. Palpation gave increased fremitus at the right apex. Percussion revealed flatness at the right apex, and below this hyperresonance. Auscultation showed the breath sounds roughened and, at the level of the third rib, blowing breathing and gurgling râles; at the level of the fifth rib, amphoric breathing and pectoriloquy were heard. Posteriorly, at the right side, at the level of the upper part of the scapula and within was a patch of dulness. At the left apex there was impairment of resonance and harsh breathing, with a few râles.

CASE 3.—H. H., aged 25; single; American.

Family History: [illegible] well.

Previous History: The patient has had measles, diphtheria, [illegible]

Present Illness: [illegible] ionally blood tinged; pains over entire chest, more severe over [illegible] tion, vertigo, severe frontal headaches, no edema, nausea and vomiting quite frequent, appetite poor, bowels regular; flatulence, nocturnal urination (?).

Radiograph 3 (taken from the back) reveals a dark shadow over both apices, more so at the left. At this side, posteriorly, at the fourth rib there is a transparent spot, and also one on the right side between the third and fifth ribs.

Fig. 1.—M. K. Advanced case. 1, cavity; 2, area of intense light; 3, cavity; 4, heart shadow. Patient was unable to rest on her back, and only on the right side.

Physical Examination: Inspection showed the patient poorly nourished; marked retraction of whole chest, more marked at the right; winged scapulæ and bowed spinal column. Palpation gave increased fremitus and less expansion at the left. Percussion gave dulness above and below the clavicle at the left apex, and impaired resonance at the right. Auscultation revealed prolonged expiration at both apices, with râles at the left. At the fourth rib, left, and from the third to fifth on the right posteriorly there could be hard pectoriloquy, bronchial breathing and gurgling.

Fig. 2.—B. F. Physical signs: Right side is flatter than left, with somewhat more restriction of motion; apex is higher pitched than left, but anteriorly generally the chest is hyperresonant; at 5th rib right side tympanitic, at level 3d rib right side blowing breathing, gurgling râles; at the level of 5th rib amphoric breathing, pectoriloquy. Posterior on the right side at level of upper level of scapula is a patch of dulness, and left side breathing is harsh, few râles. Fluoroscope: Chest transmits light easily, especially the right side. 1, clavicle; 2, scapula; 3, 4, cavity; 5, heart.

Case 4.—Mrs. N., aged 25; married; American.

Family History: Father living; mother died of pneumonia; no phthisis in family.

Previous History: Negative.

Present Illness: She was confined eight months ago, and has since had cough and lost weight; cough is worse in the morning; pain in the chest and back; dyspnea; palpitation; spat some blood.

Radiograph 4 (taken from the back) shows the left generally darker than the right. On the right there is a spot of transparency extending from the first rib to the third.

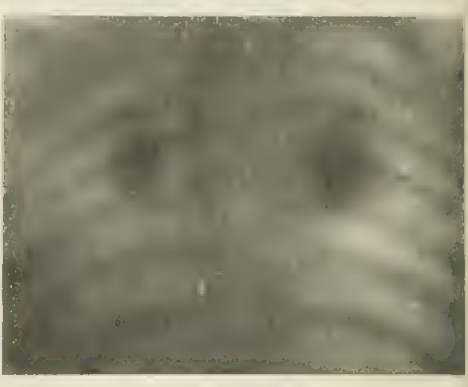


Fig. 3.—R. H. 1,1,1, shadow of spine and sternum; 2,3, dark at apex; 4, clavicle; 5, cavity; 8, cavity; 9, heart shadow.

Physical Examination: This showed dulness at the right apex and from the level of the fifth rib posteriorly to the midscapula; left side hyperresonant to the third interspace; cracked-pot sound at the second and third interspaces, nipple line to right side; crepitation; prolonged expiration; bronchial breathing over hyperresonant area on left side.

Case 5.—A. H., aged 35; married; American.

Family History: Father and mother dead; cause unknown; one sister died of phthisis.

Previous History: Negative.

Fig. 4.—Mrs. N. Physical examination: Dulness at right apex, and level of 5th rib posteriorly at mid scapula; left side hyperresonant to 3d interspace; later normal cracked-pot sound at 2d or 3d interspaces, nipple line, right side; crepitation, prolonged expiration, bronchial breathing over hyperresonant area on left side. Does not show apices. 1, spine and sternal shadow; 2, patch of dulness; 3, scapula; 4 and 5, normal lung between consolidated apex and cavity; 6, spot of dulness; 7, scapula; 8, heart.

Present Illness: For the last year has had cough; dyspnea; expectoration, greenish yellow; night sweats; loss of weight; digestive symptoms; palpitation; bowels regular; appetite poor.

Radiograph 5 (taken from the back) shows the entire left side darker than the right, with two lighter areas. The upper right apex is also shadowed. On the right side posteriorly is seen a transparent area extending from the fourth to the sixth rib.

Physical Examination: Inspection showed a poorly nourished patient; poor expansion over the whole chest. Palpation gave fremitus, increased over both apices. Percussion showed the right apex as dull to the second rib, and below this hyperresonant; the left apex, flat; posteriorly, the left base flat and the right base dull. Auscultation revealed prolonged expiration at both apices; over the whole of the left lung râles could be heard, and anteriorly, at the right side at the mid-scapula, blowing breathing and bronchophony.

CASE 6.—E. McK., aged 13; single; American.

Family History: Father and mother living and in good health; sister died of phthisis.

Previous History: He has been in good health up to the present time.

Present Illness: About two weeks before admission, he spat up something that looked like blood, which scared the family on account of his sister's "dying of consumption." On admission to the hospital, the boy had none of the symptoms of tuberculosis, except a slight rise of temperature in the evening. His appetite was good, and he looked like a boy in good health. He was examined by one of the physicians there and I was told that there were no physical signs of tuberculosis.

Radiograph 6 (taken from the front) reveals a darker shadow at the right apex.

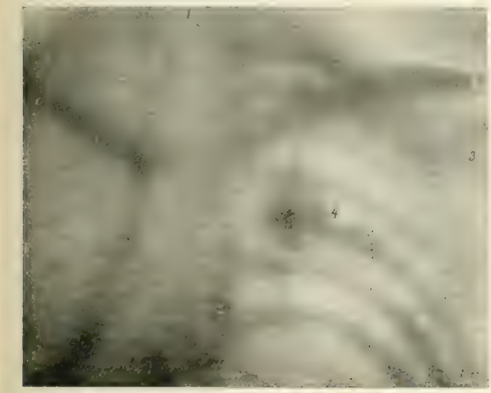


Fig. 5.—Advanced case of phthisis. A. H., female. Right apex was dull to second rib; hyperresonant below; left apex was flat; posterior left base flat and side generally; right base was dull. Left side, râles generally. Right side, mid scapula region, was blowing, breathing, bronchophony. 1, spine; 2, clavicle; 3, scapula; 4, cavity.

Physical Examination: Inspection was entirely negative. Palpation revealed slight increase in fremitus at the right apex. Percussion gave an impairment in resonance at the same side. Auscultation showed the breath sound could hardly be said to be altered.

The case was a suspicious one, but we could hardly make a positive diagnosis. On examining the radiograph it was found to correspond with the physical signs and explained why the boy had a rise of temperature, justifying the suspicion that there was a tubercular process going on that could not be positively diagnosed by the ordinary physical signs. This case, I think, shows the advantage to be derived from such an examination.

CASE 7.—R. S., aged 35; single; American.

Family History: Negative.

Previous History: Has had diphtheria; scarlet fever; was run over when a child and ribs hurt; rheumatism; last year, had an attack of typhoid fever and later an attack of pleurisy.

Present Illness: Since the attack of pleurisy, the patient has had a more or less constant cough, with pain in the chest, and now and then in the right shoulder blade. Cough is worse in the morning; dyspnea; spits a yellow phlegm with some tinging of blood; no sweats; no fever; chilly at times; appetite fair; no digestive disturbance; bowels regular; nocturnal urination; menses regular; has some loss of weight and complains of weakness.

Fluoroscopic Examination: Left apex somewhat darker than the right, and extended a little below the first rib; another shadow about the level of the second rib; another dark spot an inch below the scapula to the left of the heart shadow; anteriorly this last shadow can be seen about the nipple.

Physical Examination: Inspection showed the chest to be decidedly flatter on the left side and the left clavicle more prominent; some lagging in breathing was evident, but expansion seemed about the same; the left scapula was more winged than the right. Palpation gave increased fremitus greater at the left apex than the right; back and front. Percussion showed the left side dull anteriorly, while posteriorly, at the left base, resonance was impaired; the right apex was dull above and below the clavicle. Auscultation gave harsh breathing at the right; bronchial breathing at the left, with an occasional râle; harsh breathing at the left base.

CASE 8.—J. G., aged 45; married; American.

Family History: Father and mother living and well; two brothers and one sister living and in good health; one child living and well; one child died of pneumonia; wife in poor health.

Previous History: He has had influenza and rheumatism, and is also subject to severe headache.

Present Illness: This began eight years ago, when he strained himself lifting. There is pain over the epigastrium, which gets worse when he takes cold; pain is sharp in character, but not as severe as it was; cough; expectoration; no sweats at present, but has been troubled with dyspnea; palpitation; sleeps poorly; no digestive symptoms; appetite fair; bowels regular.

Fig. 6.—Incipient case of phthisis. E. E. Chest is generally clear but considerably darker at right apex. Right side darker at the apex. Left side light at apex. 1, spine and sterum, 2, heart.

Fluoroscopic Examination: The left side is generally darker than the right. On the right side, at the level of the second rib, is a darker shadow about 1½ inches in diameter.

Physical Examination: Inspection showed less expansion at the left apex and retraction of the same side, and the chest poorly nourished. Palpation gave increased fremitus at the left apex. Percussion revealed that the right apex was dull to the second rib, while the left apex was flat to the second rib. Auscultation showed over the left apex, sibilant and sonorous râles; posteriorly the same were discovered.

CASE 9.—C. McN., aged 45; married; American.

Family History: Negative.

Present Illness: This began six years ago, with an attack of pneumonia from which he suffered a relapse; since then has had dyspnea and much cough; the expectoration was mucoid and lumpy; no year has passed in which he has not had an acute exacerbation of the above symptoms, which confined him to bed for the time; during the intermission he has had a cough, but was able to work a little. He has had three typical hemorrhages, usually after severe attacks of coughing and during which he spat up varying amounts of bright red blood, the first occurred three years ago ℥iv, the second about one year ago ℥iv, and he has had one since entering the hospital, not severe ℥ii. At other times the expectoration is free from blood. He has lost fifteen pounds; appetite good; bowels regular; palpitation of heart with dyspnea, which is independent of exertion but usually follows a severe attack of coughing; occasional night sweats last summer, none at the present time.

Fluoroscopic Examination: The left apex is darker than the right, though the right is dark. This darkness on the right side is due to the liver, which extends from the mid-sternal line to the seventh or eighth rib. The crease in the pectoral muscles showed very distinctly.

Physical Examination: Inspection showed a long, narrow chest, fairly well nourished; flat at the right; expansion fair. Palpation gave increased vocal fremitus at the left. Percussion was dull above and below the clavicle at the left apex, and at the right, to the second rib. Auscultation showed prolonged expiration at both apices; about the mid-scapula posteriorly a hyperresonant note could be heard on both sides.

Case 10.—F. W., aged 26; married; Hungarian.

Family History: Negative.

Previous History: He had smallpox at 11 years of age; pleurisy.

Present Illness: This started three years ago, on exposure to cold, followed by pain in his side; he was blistered and relieved. Three months ago he began taking cold shower-baths and the old pain returned; this was severe, lasted three months, and was diagnosed as old pleurisy with emphysema; he now complains of a hard and dry cough, and spits a mucus of a blue color, sometimes yellow; appetite is good; bowels regular; no loss of weight.

Fluoroscopic Examination: Negative.

Physical Examination: There were no physical signs except an old pleuritic friction on the right side.

Case 11.—L. P., aged 61; a sailor; six children; native of France.

Family History: Negative.

Previous History: Negative.

Present Illness: This started two years ago, with a cold, and since then has had a cough and expectoration—white yellow; spat some blood; dyspnea; no sweats; no fever; appetite good; digestion fair; bowels constipated; palpitation.

Fluoroscopic Examination: The chest is generally very dark. There is an exceedingly dark patch to the left of the vertebra at the level of the mid-scapula. Both apices are dark, while the right side is darker at the top; the shadow extends lower down on the left by one rib.

Physical Examination: Inspection showed the patient well nourished; the apex of the heart in normal position, the whole chest flat, a little more so to the left; slightly winged scapulæ; spinal column curved a little to the right. Palpation revealed increased fremitus at the right apex, with less expansion. Percussion gave marked dulness above the clavicle; impaired resonance below the clavicle on the right. Auscultation revealed prolonged expiration at the right; no râles.

Case 12.—C. C., aged 21, single; American; gave negative family and previous history; with no symptoms except cough from nasal catarrh, also complaint of dyspnea. The fluoroscope examination was negative, as was the physical.

Judging from the cases reported, I am forced to conclude that this method would greatly help in the early recognition of tubercular disease of the lungs, and that a fluoroscopic examination should be made of any patient where there is the least doubt of the diagnosis. For example, in the case reported here, in which the physical signs were not marked enough to make the diagnosis positive, with the help of the X-ray the question was settled. Thus is recognized a stage in which proper treatment might be expected to produce a cure. In regard to the diagnosis of cavities, with this method an idea of the size of the cavity can be obtained, information which all other methods fail to positively give. Again, it is possible for physical signs of a cavity to be wanting, in which event the fluoroscope might reveal it.

CHALICOSIS PULMONUM OR CHRONIC INTERSTITIAL PNEUMONIA INDUCED BY STONE DUST.

BY WM. WINTHROP BETTS, M.D.

SALT LAKE CITY, UTAH.

The advent of the cyanid process of milling makes it possible to treat large bodies of low grade ore that previously could not be handled at a profit. This involved new methods of milling and taxed the ingenuity and inventive genius of the promoters. The transition has forced the expenditure of large sums of money and involved certain loss of human life by exaggerating old causes of danger. Many of these milling plants are springing up in the mining districts of the west, all involving more or less the same difficulties, but in order to make my investigations of a scientific value I must necessarily study the history of a single plant. I, therefore, desire to report the observations and experience of myself and friends among the workers of such a plant, also to call your attention to the greatly increased rate of mortality among the employees, induced by the constant inhalation of the fine dust produced by the crushing of these ores.

Whether we call the cases fibroid phthisis, chronic interstitial pneumonia, stone-cutters' phthisis, miners' consumption, or chalicosis, depends on the character and amount of foreign matter, or classify them under the generic name of pneumonokoniosis, makes but little difference. All convey to our minds a pathologic process with a clinical history the exact nature of which depends largely on the stage in which the case is found by the pathologist. Authors agree, however, in the dust causation, and in the cases under consideration the foreign matter is excessive. At the Delamar mill the ores, which are a gold-bearing quartzite, are crushed, dried and ground into a fine powder in what is known as the Griffin mill, conveyed to bins, and thence through chutes to cars which are wheeled to the tanks. In and about the mill the air is filled with an impalpable dust and in portions of the mill it is so dense that one can not be recognized a few feet away, and an electric light is in evidence by a spark.

The mill has been in operation since September, 1894, employing about 40 men, the capacity being increased from time to time until about 60 men are now being employed. It is stated that most of the men who worked in the mill from seven to nine months previous to January, 1898, are dead, and the others are sick. A review of the cases as compared by the employees to March 1, 1899, gives 166 deaths. Since then, to my personal knowledge, 3 have died in St. George. A later statement by a gentleman who has the disease himself, and is the editor of a Nevada paper, puts it at 200. Dr. Mayo, who was the company's physician from January, 1895, till a few months ago, and to whom I am indebted for much valuable information, states that only 38 have come to his knowledge. This I am sure is too low, and while 200 is an exaggeration, I believe an average of these figures nearer correct, as almost every town in Nevada and southern Utah has had its victim, for it is a fact that neither the company nor the men realized their danger until the deaths began to occur. My attention was directed to these facts while at St. George, as quite a number of the young men were employed in the Delamar mill, 11 of whom have died within the past year. A number of others are suffering from the disease. After interviewing the attending physicians and the unfortunate families, I have been able to gather much of interest concerning the cases.

I find, on further interviewing my professional friends, that a number have been treated here and died in the hospitals of this city. A great many of the men were from adjoining states and the far East. Many would return to their distant homes as soon as they were broken in health, and it is difficult to keep track of them, though many have died and others must, as the disease involves lesions which do not admit of recovery, and sooner or later prove fatal. I have examined a number of cases in various stages of the disease, and some of them might come under the chronic form as they are able to get around and occasionally do some light work, though they were obliged to leave the mill months ago.

A few years ago I examined a patient in this city, who was for twenty-seven months foreman of carpenters, and for weeks and months at a time was inhaling the dust. He worked, however, eighteen months before suffering any inconvenience, though the pathologic process had undoubtedly been established for some time. He first noticed shortness of breath, loss of appetite, fatigue on slight exertion, and emaciation. The cough and expectoration were slight for months. He has now been in the city for about a year. The pathologic process continues and his symptoms do not improve, though from present indications he will live some months. His clinical history and physical examination reveal a condition typical in fibroid phthisis, and in marked contrast to the poor fellows who after three months' exposure died within a year. Thus we have all grades, as will be shown later, depending on the general constitution and natural resisting power of the men, also largely on the amount of foreign matter inhaled. The mucous and alveolar cells are the normal scavengers of the lungs and are capable of protecting the organ in a measure, but when the dust is excessive the scavengers are overworked and break down, so to speak, leaving the lungs exposed to just what occurs in these cases.

Every man who works in the mills from two to three weeks is subject to attacks of acute bronchitis, which is due not only to the irritating effects of the dust, but to their apparent inability to resist slight exposure. The mucous membranes of the nose, throat and conjunctiva are all subject to acute inflammations. The bronchitis is followed by a soreness along the course of the trachea and bronchial tubes, usually more marked on the right. After coughing has continued for a time there will be soreness in the region of the stomach and loss of appetite. There is loss of weight and shortness of breath, the respirations running as high as 38 to 42 per minute on the slightest exertion. As the weeks pass the loss of weight continues. The respiration does not improve, the patient suffers a general malaise and soon finds it impossible to get about, and by the time he is confined to his room has lost from 30 to 60 pounds in weight. The features are drawn and eyes sunken. The pulse ranges from 90 to 120, and is weak and intermittent. Patients are restless, anxious and apprehensive of results; they do not sleep well and are subject to hideous dreams. As the disease becomes more marked and in its later stages, the temperature may rise to 102 or 104, though a high temperature is not always present. There is a characteristic odor of the breath at all times, probably due to the peculiar odor of the silicious dust modified by the cyanid odors about the mill, which permeate the clothing and surroundings of the patient. There is no arsenic, as has been stated.

I have spent much time and labor in getting at the facts and, so far as the cases are reported, the histories have been furnished by the families and physicians. About thirty cases of death I am unable to report from lack of history. I have sent out history blanks to all the men I can reach who have worked in the mill thirty days and over, to be filled out, whether sick or well, and returned; but it will be months before I can report the final statistics. From the starting of the mill till September, 1899, the average number of men employed was fifty. The change in the personnel of the employees working thirty days or over was about fifteen each month, though in some instances it would be many times this number—men who could only work a shift or a day or so. However, a change of fifteen per month per sixty months is approximately correct, which give us, by adding fifty for our first month and fifty for carpenters and others who have been obliged to come under the same influences, a thousand men for the five years. Of these, a large number have chronic interstitial pneumonia and many are already helpless, and, conservatively speaking, about a hundred have already died; six that I know of in the past two months, and the death-rate will necessarily be greatly increased among these sufferers as soon as cold weather sets in.

I have tabulated the report of the following thirty cases.

It will be seen by this report that all were comparatively young men, from 20 to 40 years old, with the exception of O. N. W., who was 43. All were fine specimens of physical vigor, with no unfavorable family histories, and none had acquired tuberculosis nor any other lung trouble. It will also be noted that the time of employment extended over a period of three months in the case of J. F., who survived seven months after leaving the mill, to twenty-five months in the case of A. W., who survived but three months. The average time of employment, however, was fourteen months, and the average time survived, ten months. The average time from entering the mill to the termination of the pathologic process was twenty-nine months.

The employment was not continuous in all cases. In some instances there would be a lay-off of several months, though I was unable to secure exact time. I have designated such as intermittent and given actual time worked. O. N. W. was not, properly speaking, a mill employee, but a carpenter, and originally worked on the construction of the mill, and does not figure in these statistics. He had been employed from time to time in and about the mill on repairs and improvements, thus coming in contact with the same influences as the regular operatives. He survived four years and nine months. In three cases the weights were taken a few days before death. D. A. A. dropped from 175 to 120 pounds, C. F. from 165 to 110, and H. M. from 140 to 80.

The capacity of the Delamar mill is the reduction of 300 tons of ore every twenty-four hours. The men employed in this process are divided into shifts of eight hours each. Among the thirty cases reported are the members of what I choose to call the Frome shift, as C. F. of Gunnison, who died Sept. 22, 1899, was the last survivor of one of the groups of eighteen who worked together long enough at one time between March, 1896, and September, 1898, to claim the personnel of a shift. I mention this as an interesting fact and to further impress the necessity of reforming the hygienic conditions in this line of work. I beg your indulgence while I record a few object-lessons made possible by the kind-

Name and address.	Age.	Height	Weight.	Commenced work.	Stopped work.	Time worked.	Time to death.	Whole time.
D. A. A., St George, Utah, married	38	5 7	175	March, 1897.	February, 1898.	12	10	22
G A L., St George Utah, married	33	5 10	165	May, 1897.	December, 1897.	8	3	11
O. L., St. George, Utah, married .	22	6	175	August, 1896.	February, 1898.	16	11	27
F. C., St. George, Utah, married .	35	6 1	180	May, 1896.	June, 1899.	‡‡	1	37
L. C., St. George, Utah, single	20	5 10	170	October, 1895.	September, 1897.	* 23 months, 18 actual time.	6	29
G. W. M., St. George, Utah, married .	38	5 9	150	March, 1896.	February, 1898.	19	2	21
H. M., St. George, Utah, married . . .	28	5 7	140	December, 1895. to March, 1897.	September, 1897.	* 4 5 9	19	28
J. F., St. George, Utah, married . . .	28	5 8	160	April, 1896.	June, 1896.	3	7	10
M. C., St. George, Utah, single	24	5 10	170	September, 1896.	December, 1896.	3	12	15
L. B., St. George, Utah, single .	27	5-10	165	January, 1896.	December, 1898.	23	2	25
R. L., Beaver, Utah, single . . .	24	5 7	160	October, 1897.	June, 1898.	9	4	13
T. L., Pangistch, Utah, married . .	28	5-11	155	June, 1896.	April, 1897.	15	3	18
J. H. L., Pangistch, Utah, married .	40	5 6	165	1898.	1898.	5	7	12
J. H., Delamar, Nev., single	40	5 9	140	October, 1895.	October, 1897.	24	1	25
Wm. C., Delamar, Nev., single. . . .	39	5-5	135	November, 1896.	December, 1897.	12	1	13
P. T., Baltimore, Md., single	23	5-4	165	November, 1897.	October, 1898.	11	3	14
A. W., Columbus, Ohio, single. . . .	24	5-8	140	July, 1896.	August, 1898.	* 25	3	28
J. H., Hillsboro, Ohio, single	27	6	210	May, 1895.	August. 1898.	* 10	12	39
A. S., Fillmore, Utah, single	22	5-9	155	April, 1897.	March, 1898.	12	1	13
J. C., Oregon, single	35	5 6	150	August, 1896.	September, 1897.	12	14	26
M. F., Unknown, single . .	35	5-7	150	January, 1896.	April, 1897.	14	18	34
J. McC., Unknown, single	27	5-7	157	January, 1896.	July, 1896.	7	5	12
Chs. F., Gunnsson, Utah, married. . .	36	5-7	165	March, 1896.	September, 1898.	18	12	30
R. H., Masonvally, Nev., married. .	38	5-7	155	1896.	1898.	22	11	33
O. N. W., St. George, Utah, married.	43	6 1	175	September, 1894.	June, 1897.	* 30	12	55
E. S., Richfield, Utah, married . . .	33	6 2	226	August, 1895.	November, 1898.	* 19	10	48
A. W. H., Annabelle, Utah, single. .	31	5 8	155	March, 1896.	July, 1896.	4	13	17
J. A. B., Paragonah, Utah, married.	27	6	165	August, 1895.	June, 1898.	* 12	15	48
R. P., Colorado, married	35	5-9	145	August, 1897.	January, 1898.	6	10	16
F. C., Arizona, married . .	38	5-6	150	June, 1897.	February, 1898.	8	6	14
General average .	30	5-8½	170			14	10	29

:: Thirteen months in mill; nine months night foreman, rest in mill.

* Intermittent.

ness of J. T. Affleck of St. George, and Dr. Neal of Richfield, which really form the basis of this paper.

REPORT OF AUTOPSIES.

F. C. of St. George.—After the usual preliminaries the sternum was disarticulated from the clavicle, and it, with the cartilaginous ends of the ribs, removed. The inferior surface was adherent to what was at first supposed to be the pleura. After a careful dissection a congested serous membrane was revealed, extending from the sternoclavicular articulation to the diaphragm and well under the ends of the ribs to the right. After further dissection the right lobe of the lung came into view. On the left the adhesions seemed firmer and extended well down some four inches. During this dissection a slight puncture was made in the surface, followed by the escape of gas accompanied by bubbles of fluid. This relieved the pressure, and it became apparent that we had an enlarged pericardium to deal with—or pneumopericardium. The adhesions could nowhere be separated with the hand—in fact they were so strong that it was only after a careful dissection from the diaphragm and spinal column and laterally and posteriorly from lung tissue that the sac could be removed. An effort was made to remove it intact, but most of the fluid escaped, and was of a serous nature, slightly tinged with blood; its size can be imagined from the measurements, nine inches long and seventeen in circumference.

On sitting up and inverting the pericardium the cardial surface was found to be greatly roughened, having much the appearance of tripe. While the membrane was thickened, the heart itself had much the same appearance, the surface being rougher at the base than at the apex. The whole organ was enlarged, flabby and dilated; the valves were in a fairly normal condition so far as their anatomic relations were concerned.

The anatomic relations of the arch of the aorta and large vessels to the mediastina as well as the trachea and bronchi were entirely obliterated and so matted together that dissection was not attempted. The vessels and bronchi were severed and the lungs removed with little further difficulty, though there were local areas of adhesions which could mostly be separated with the hands. The general appearance was that of congestion, the surface to the eye was fairly smooth, though to the touch nodular and hard, surface generally pigmented, which with the congestion gave a dark color, and the impression that the patient might have died from pneumonia. The edge of the superior, middle and inferior lobes of the right lung were very hard, though the whole lung seemed firm to the touch. In cutting into the lung there was considerable resistance, made more apparent as local areas of cirrhotic tissue were encountered. The cut surface was reddish brown and extensively pigmented. Between the densely cirrhotic areas the lung was infiltrated with a mucopurulent secretion, which on the slightest pressure, bathed the surface in a reddish-gray fluid. The appearance after a fresh incision was that of mottled hepatization of pneumonia, i. e., a mixture of the gray and red. The left lung was of the same general character except the lower half of the superior lobe, which was the only portion of the lung apparently being used at the time of death, and that was far from normal. A number of tracheal and bronchial glands from the size of a hazel-nut to that of a large olive were removed; these, on section, were slate-gray in color.

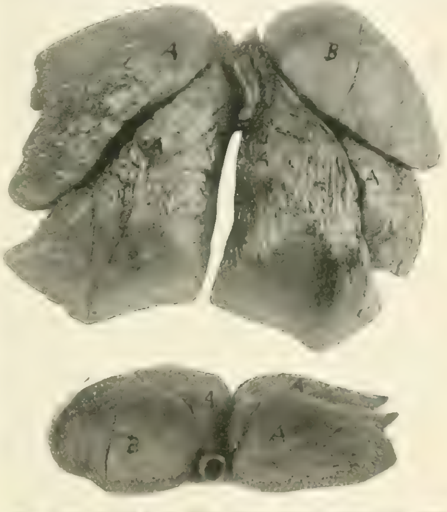
O. N. W. of St. George.—There was emaciation; ribs prominent. The sternum, with the cartilage ends of the ribs, was removed. The sternoclavicular articulation was ossified. Adhesions were firm to the pleura and pericardium, the latter adherent to diaphragm; also posteriorly, and slightly so to the left. Bands of adhesion also bound down the aorta and large vessels. The anterior mediastinum was obliterated. The pericardium was slightly thickened through its cardial surface, but smooth and normal in appearance. The heart generally was hypertrophied, otherwise normal. On passing the hand over the lung, slight resistance was met by bands of adhesions, laterally and posteriorly, which, however, were not general and could be easily separated. To the touch the left lung was firm and hard, more that of well-developed muscle covered with dense fascia. In grasping the lobe between the thumb and fingers, and using all the force possible, approximation was very slight, much the same resistance that would be met in grasping the muscles of the thigh in a similar manner. An incision through the inferior lobe met with considerable resistance and revealed dense fibrous tissue, to the touch a shot-like granular surface and deeply pigmented. The serous coat was dense and one-quarter of an inch thick, gradually becoming thinner toward the apex of the superior lobe. The lung, while cirrhotic throughout, was less dense at the apex, though it was evident it had not been used for some time. As we lifted the right one from the pleural cavity, its appearance was that of a single lobe. The adhesions between the inferior and middle lobe were complete, the surface perfectly smooth, only the suggestion of a line remaining. Between the middle and superior lobe there was a slight separation at the very tip, otherwise adherence. A careful examination was made and the fibrous process was found well developed and extensive, the lower border of the inferior and middle lobes being the most cirrhotic. The cut surface was reddish-brown, deeply pigmented and bathed in a mucopurulent secretion, and the same mottled hepatization as in the previous case. The upper half of the inferior lobe and one or two areas near the apex had apparently been sustaining the patient previous to the acute inflammation, which had been present for about a week. All portions of the right lung capable of action were undergoing active pneumonia, with the accompanying characteristics. As in the previous case the tracheal and bronchial glands were enlarged. In both cases a careful search was made for cavities, but none were found. The mucous membrane of the large bronchi and trachea were in a state of chronic inflammation. Owing to the great prejudice and that there had been no symptoms pointing to disease of other organs, the case was not examined further.

I have reports of four autopsies held at Delamar, Nev., when the deaths first began to occur. However, the cases just described are typical of the others—the same cirrhotic lung, infiltrated with a mucopurulent secretion, a mottled hepatization, the fibrous process developed throughout, though more marked in the lower portion of the lobe, and active areas of lung tissue near the apex of either lobe. Careful examination of these patients failed to reveal any cavities. The tracheal and bronchial glands were enlarged and heart hypertrophied.

An autopsy was reported at the Keogh-Hosmer Hospital, similar in many points to the autopsies just described: but in connection with the cirrhotic condition they found multiple abscesses and much broken-down tissue. The patient had apparently been suffering from sepsis from the retained secretions of the lungs.

The following case—E. S. of Richfield in the report—is of unusual interest even among these very interesting cases, as the man was a giant in size, strength and endurance. There was nothing that contributed to his death save the pathologic process under discussion. I wish to call attention to the fact that no active areas existed in the superior lobes, and there was very little lung of any use except in the lower border of the left lobe. I make no comments, but state it as a fact as reversing the experience of the other autopsies. In this case I was fortunate enough to secure the lung shown in the photograph.

In health this subject weighed 226 pounds, but there had been a probable loss of 75, and the emaciation had left the articular landmarks of his massive frame prominent, while his legs and ankles were considerably swollen. After the usual preliminaries nothing unusual anteriorly, in the way of adhesions, presented as in the other autopsies. The mediastinum was well marked. pericardium not adherent anteriorly, but a careful dissection was necessary to separate it from the lungs laterally, and posteriorly from the spine and aorta, also from the diaphragm. The aorta, the trachea and large vessels, together with a large number of bronchial and tracheal glands, made a mass also difficult to separate. The pericardium was not greatly thickened and its cardial surface was smooth and contained the normal amount of fluid. The heart was only slightly enlarged and hypertrophied, while its valves were normal. On passing the hand over the lung considerable resistance was met laterally and posteriorly. The adhesions were pretty general, and force was necessary to separate the pleural surface. The trachea was severed about three inches above the bifurcation and both lungs were removed intact. What at first impressed us as unusual was the density and great weight, later found to be 134 ounces, while the average normal weight of the lungs of a male adult is only 42 ounces. On close inspection the surface was found generally pigmented, and adhesions were rather general between all the lobes, right and left, which in part could be separated with the hand; others it was necessary to dissect. The superior lobe of the right lung was very dense, with little to suggest lung tissue, and had more the appearance and consistency of a fibroid tumor. (See B in illustration.) The middle and superior lobes were of the same general character, though less marked, and it is safe to say that there were no areas of active tissue in the right lung. In the left there were active areas more marked in the lower borders of the lobe; but in the superior and middle parts of the lobe there were dense fibrous areas. (A. A.) There was no active pneumonitis nor congestion as found in the other cases. On section of the dense fibrous areas there was very little oozing, while an incision through the active and less fibrous portions left the surface bathed in a mucopurulent secretion, which on slight pressure



The photographs here shown were taken October 10, twelve days after autopsy, and after the lungs had been through the usual washings and subjected to the action of alcohol, the shrinkage and loss of fluids being 44 ounces, giving us 90 ounces at the time of photographing. The shrinkage has brought more prominently to our notice the densely cirrhotic areas.A. A. A. A. Particularly is this true of the superior lobe B. in which the whole lobe is shown to be smooth and hard, very little shrinkage having taken place.

was reddish-gray in appearance. There were a large number of tracheal and bronchial glands which, on section, were slight gray in appearance. The stomach was also removed, as many of the patients suffer more or less from digestive disturbances, but nothing was found save a slight congested appearance and post-mortem changes. The liver was of normal size and consistency, the spleen not enlarged, the kidneys not affected.

For the chemical analyses I am indebted to F. A. Bishop, assayer and chemist, Salt Lake City, and from these I have prepared the following table:

Weight in grams.	Moist.	Dry.	Silica.	Per cent. deposit.	Dry.	Moisture.
A Bronchial glands	5.52	1.77	14	2.561	8.9	
B Dry lung		2.4	1.6		6.8	
C Superior lobe, R. L.	10		16	1.6		
D Inferior and middle lobe, R. L.	14.95		20	1.334		
E Superior lobe, L. L.	10.97		23	2		
F Inferior lobe, L. L.	19.22		.32	1.65		
G Average from either lung	26.85	5.73	.26	1.56	6.28	71.5
Average of C, D, E, F, G				1.588		

The weight of the lung when the specimens were taken, Oct. 10, 1899, was 90 ounces.; average per cent. silica, 1.588—1.43 ounces., or about 3.375 cubic inches of Delamar dust in the entire lung. A fractional per cent. of iron is also found in the silicious residue.

In the acute stages of the disease the diagnosis becomes important as the condition has been mistaken for typhoid fever, typhoid pneumonia, acute miliary tuberculosis and bilious remittent fever and tuberculosis. While pneumonokoniosis is the generic name given to the various affections of the lungs produced by the inhalation of dust-like particles, chalicosis pulmonum is given to the pulmonary changes induced by the inhalation of stone dust. Niemeyer, Flint, Osler and others agree that the irritation from dust lights up a bronchitis and is conveyed through the lymph spaces and lymph vessels into the interlobular and perilobular connective tissue; and some of the particles reach the bronchial glands. The chemical[1] examination of the lung shows the presence of silica, 2.8 per cent., in the lung tissue and 3.8 per cent. in the glands. There is a great disposition to the formation of nodules and diffused masses of fibrous tissue. The cases are, therefore, more properly regarded as chronic interstitial pneumonia, which consists in the gradual substitution, to a greater or less extent, of connective tissue for normal lung, by the gradual process of organization of the fibrous plugs in the air-cells, while the alveolar wall becomes greatly thickened by the new growth, and the whole lung may undergo a fibrous transformation. The different conditions under which these changes occur are so varied that a proper classification is difficult, but the interstitial changes play a very important rôle in all chronic lung troubles. There is no sharp line of demarcation between fibrous phthisis and other forms of chronic pulmonary phthisis, and there are instances of fibrous phthisis which can not be distinguished from cirrhosis of the lung from other causes. But in the light of the clinical history of these cases, the revelation by autopsy, microscope and chemical analysis, I have no hesitancy in speaking of them as chalicosis pulmonum, or chronic interstitial pneumonia.

In regard to treatment, nothing therapeutically is of any avail, though much can be done to prolong life by improving the hygienic conditions and stimulating the general nutrition.

Among the cases coming under our observation there are none where "an ounce of prevention is worth a pound of cure" more emphatically applies than in the diseases induced by the inhalation of irritating dust. No one can study the industrial hygiene and carefully note the relations of occupation to life and health without fully recognizing that from the gentleman of leisure to the mechanical operative, the soldier and mill-hand, all have their dangers incident to the various occupations; but it should not follow that no effort should be made to minimize them. I believe it is our duty as scientific physicians not only to point out the danger from contagion, and to render innocuous the germs lurking in our food and water-supply, but also to call attention to the causes of disease induced by the industrial occupations, suggest proper sanitary and hygienic measures, and force, by our teachings, a wholesome regard for the comfort, health and life of the employees, thus reducing the dangers to a minimum. I do not believe any organization, however, influential, should presume to dictate to the medical profession or embarrass the physician in his work; much less endanger the health and life of men who are lured by the wages offered—$2 to $5 a day—into what may prove a death-trap, and feel they have discharged their obligations to the men, their families and the public by producing revenues for a "soulless" corporation, regardless of the sacrifice of human life. Notwithstanding the obstruction and criticism I have encountered in the preparation of this paper, no man, nor association of men, is on trial. This is one of the cases in which truth is stranger than fiction, and I have simply stated facts. If I have succeeded in attracting the attention of the profession, and through it the public, to the necessity of reform in the field of so-called preventive medicine, I will feel repaid for my time and labor.

In a subsequent paper now being prepared for a mining and scientific journal, I will speak of the hygiene of mines, mills and smelters, but suffice it here to state that there are no mechanical difficulties to prevent the scientific ventilation of mills and free them from dust by a proper distribution of hoods, fans and dust-collectors, thus improving the hygienic conditions and making them comparatively safe.

Some weeks ago I visited the mill at Delamar, Nev., and in justice to the company let me say that the present superintendent is sparing no expense to improve the hygienic conditions, which in a measure will remove the cause of trouble.

NOTES ON CATELECTROLYSIS (ELECTROLYSIS) IN THE TREATMENT OF SKIN DISEASES.

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DERMATOLOGIST TO THE GERMAN POLIKLINIK.
NEW YORK CITY.

There is such a radical difference between an operation performed with intruments connected with the positive pole of a galvanic battery and one performed with instruments connected with the negative pole, that both should not be designated by the one common name "electrolysis." I would like to suggest that we call the operation performed with instruments connected with the negative pole—cathode, catelectrode—"catelectrolysis," and that with the positive pole—anode—"anelectrolysis." The development of oxygen at the positive pole, when the current is closed, makes it impossible to use a steel needle, or jeweler's broach, in anelectrolysis, nor can there be made such a fine, strong and springy instrument out of gold, platinum, iridium or silver. This is a mechanical disadvantage only, but anelectrolysis has little intrinsic value—in fact, it acts like a simple cauterization by heat. It is entirely different with catelectrolysis. What we can accomplish here is this: We can charge, as it were, a steel needle with caustic alkali, after having inserted it into the tissues, let it act in position, stop its action at will, and finally withdraw it in as inert a condition as it was before. This is not cauterization, to be sure; it is rather a most delicate and accurate injection of a caustic into the tissues. At the same time, this injection—if I may call it such—allows of an accurate dosage, both by measuring the strength of the current and the time of exposure.

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[1] St. George's cases, dry specimens, though not enough for a fair test.

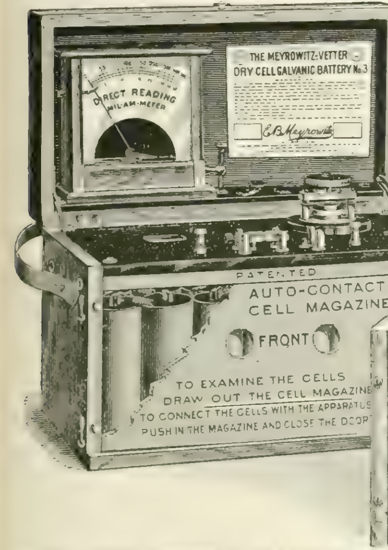

THE MEYROWITZ-VETTER DRY CELL GALVANIC BATTERY No. 3
DIRECT READING MIL-AM-METER
E.B. Meyrowitz
PATENTED
AUTO-CONTACT CELL MAGAZINE
FRONT
TO EXAMINE THE CELLS DRAW OUT THE CELL MAGAZINE
TO CONNECT THE CELLS WITH THE APPARATUS PUSH IN THE MAGAZINE AND CLOSE THE DOOR

Fig. 1.—Battery containing 32 dry Leclanche cells, carbon current controller, pole changer and direct reading milliamperemeter. Electromotive force, 45 volts.

Another advantage, to which I have called attention in my previous contributions on this subject, is that a certain degree of local anesthesia can be produced by properly managing it. Thus the operation becomes an almost painless one. That, in spite of these points in its favor, catelectrolysis has not become more popular than it actually is at present is largely due to the fact that there exists in the minds of many physicians a somewhat pardonable prejudice concerning the complexity and unstability of medico-electric apparatus in general. The modern tendency to draw electricity from one common source for a variety of medical purposes—faradization, galvanization, cauterization, electrolysis and illumination—is much to blame for this condition. The first step, therefore, to popularize electrolysis was to simplify the apparatus. This has now been accomplished. The battery, the rheostat and the milliamperemeter are all contained in one comparatively small portable box. The portability is a great advantage, because electrolytic operations require a good light, and it is frequently necessary to shift the position of the patient in relation to the window, etc. It is also desirable that a good light strikes the dial of the milliamperemeter, which must be watched constantly by the operator. The deflection of the needle not only indicates the strength of the current, but the moment of its closure and the beginning and the end of the electrolytic action.

For connection with the positive pole I devised a special sponge electrode a number of years ago, and have continually used it since with great benefit. It is a hard-rubber cylinder with a metal-lined cavity, fitted with a sponge which can be easily removed, moistened and replaced. The electrode is placed in the patient's hand, sponge upward. By closing the hand, i. e., moving the fingers toward the center of the palm, while the thumb remains quiet in flexed position, contact is effected and the current closed. The strength of the current may then be gradually increased by pressing the sponge farther down into the cavity of the electrode. The instrument is operated by the patient without looking and moving the head, which is very important, because a great many electrolytic operations affect the face.

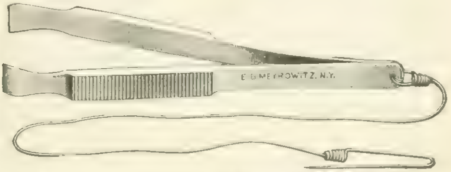

E.B. MEYROWITZ, N.Y.

Fig. 3. Forceps with square jaws and new attachment for cord by which it can be suspended on the coat of the operator.

Fig. 4.—Spraying tube of Kelene (chlorid of ethyl) for local anesthesia. The cap adjusts itself automatically.

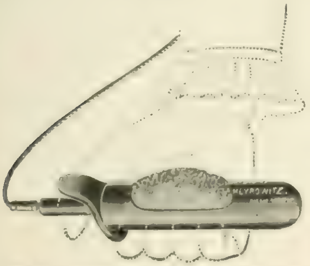


Fig. 2.—Author's sponge electrode to be connected with the positive pole.

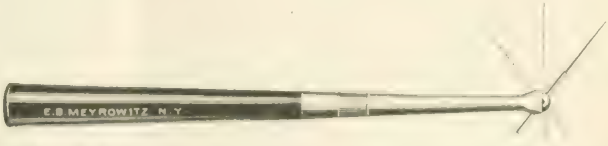

E.B. MEYROWITZ N.Y.

Fig. [illegible].—Author's needle holders with ball and socket joint, the former perforated in three directions. Needle is firmly secured in place, or loosened by rotating the rubber part of handle.

The needle-holder for connection with the negative pole should be so constructed as to hold the needle at an angle of about 45 degrees. The operator, standing or sitting at the patient's side, should carry the instrument in his hand like a pen. Almost all catelectrolytic operations can be performed with a so-called jeweler's broach. In exceptional cases a sewing needle of very fine caliber may be substituted. The broach or needle is made to pierce into the tissue, or is introduced into a follicle, and then the patient is directed to close the hand, and start the current by gradually touching the wet sponge of the electrode. A current strength of from two to five milliamperes, with an average exposure of twenty to thirty seconds, is sufficient for all cases. A weak current with longer exposure is naturally less painful than a stronger with short exposure. The local anesthesia, which I mentioned above, is best produced by a weak current with an exposure of half a minute. Later on the strength of the current may be increased and the time of exposure shortened. About two minutes pass before anesthesia appears at the site of the puncture. By the coalescence of a number of punctures a considerably large focus of anesthesia may be produced. If the field of operation be previously frozen by aid of the ethyl-chlorid spray, catelectrolysis will be entirely painless.

The list of diseases of the skin in the treatment of which catelectrolysis is recommended is quite extensive and still continually increasing. It includes: hirsuties superfluous hair, nevi pigmentosi, papillomatosi and verrucosi, verrucæ molles and duræ, xanthoma planum and tuberosum, keloid, angioma simplex, cavernosum, plexiforme and seripiginosum, acne rosacea, trichophytosis barbæ, lupus vulgaris and erythematosus, adenoma sebaceum, angiokeratoma, milium, elephantiasis and sclerodermia circumscripta.

It is easy to formulate the indications for catelectrolysis from a general point of view. The operation is indicated wherever the avoidance of the formation of scars is of importance. In this regard it is superior to the galvano-cautery, the Paquelin, the micro burner, and all the chemical caustics; furthermore, wherever a strictly limited local action is desired. Particularly well adapted for treatment with catelectrolysis are small, solid and soft cutaneous tumors which protrude above the level of the normal skin or are pedunculated. No other operation equals catelectrolysis for the destruction of hair follicles and sebaceous glands. It is not of great value, on the other hand, in the treatment of either malignant new growths, or of those benign tumors, which have a tendency to spread very rapidly.

140 Madison Avenue.

CASE HISTORY AND PHOTOGRAPH.*

BY B. MERRILL RICKETTS, Ph.B., M.D.

CINCINNATI, OHIO.

Walter S., white, 31 years old, gave a negative tubercular and syphilitic history. He had a small, congenital dark mole two inches below the right nipple, which began to increase in size about December, 1896. During October, 1898, it had increased to 3x4 inches in size. Dr. G. S. Hancock, of Campbellsburg, Ind., then had the new growth excised.

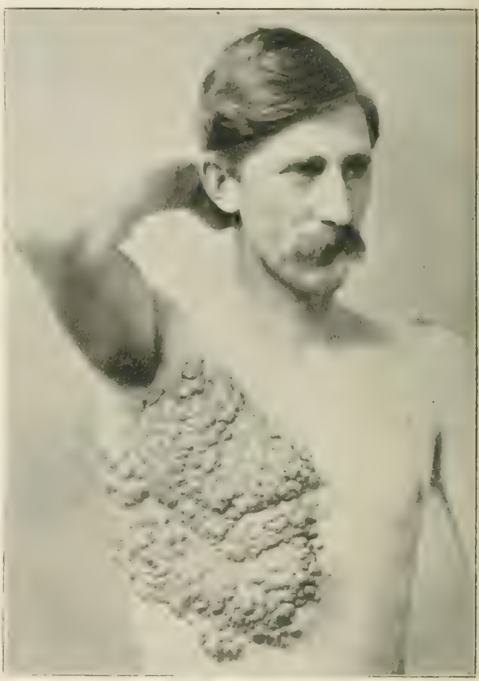
There was no recurrence until about Jan. 1, 1899, when a nodule appeared in the line of incision. Since this time the growth has rapidly encroached on the adjacent tissues until it is now about 14x18 inches, extending from the axillary space to within three inches of the umbilicus.

The growth resembles a large bunch of red grapes, the mass of nodules being elevated and red, some more so than others; a few could be taken between the fingers, thus showing how separate and distinct they were, and yet conglomerated. The entire mass was movable and did not seem to be adherent to the periosteum.

The axillary space was occupied by the new growth, but its glands and those of the cervical region did not appear enlarged.

The white line in the mass is the line of the old incision.

There are numerous minute red elevations scattered here and there over the body, while none appear on the extremities. There is one on the left shoulder, half the size of a guinea egg, perfectly round, scarlet on its center, and gradually becoming the color of normal skin at its base. Another one is to be seen about midway between the left nipple and the nodule just described. All of these nodules are confined to the integument alone. The patient will not consent to having a nodule excised for microscopic examination.



Dr. J. T. Knox invited me to see the case with him on April 12, 1899, at which time the accompanying photograph was taken. I expressed the opinion that the growth was some form of sarcoma, and that a surgical operation would be of no avail; the injection of erysipelas toxin was advised, but not accepted.

The patient insisted on being exposed to the X-ray, which was done for seven days with two daily exposures of thirty minutes each. The pain, which had required the use of various narcotics for its subjection, disappeared after the third application. There was slightly increased redness of the nodules after the fourth exposure. The top surfaces of a few of the larger and smaller nodules became atrophic and darker, while not a few had small hemorrhages into their body. On May 4, 1899, the exposures were renewed and increased in frequency and length of time for seven days more. At the end of this time the dermatitis was very much aggravated and extended about two inches beyond the margin of the new growth. The growth seemed to be checked, there being hardly any appreciable progress since my last observation. Many of the nodules had become necrotic and dry, while those of the left shoulder and chest had developed but little, if any. May 23, 1899, I found the patient ready for another exposure, which has kept up the usual irritation. The growth has made but little progress since my first observation, April 12, 1899. The patient has lost about fifteen pounds of flesh since October, 1898, and is becoming more feeble, with loss of appetite. It has not been necessary to use any narcotics, so free from pain has he been.

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*Presented to the Section on Cutaneous Medicine and Surgery, at the Fiftieth Annual Meeting of the American Medical Association, held at Columbus, Ohio, June 6-9, 1899.

Dec. 9, 1899: This patient died during September, 1899, from exhaustion. The growth continued.

DISCUSSION.

Dr. B. M. Ricketts, continuing—This paper was completed about a week ago. I have since seen the patient. His physical condition is becoming very much impaired. I predict that the next three or four months, perhaps, will terminate his career. I am sorry, indeed, not to be able to present him here, and would like very much to have the matter discussed.

Dr. I. N. Love, St. Louis, Mo.—Has a microscopic examination been made?

Dr. Ricketts—I do not know, and he would not allow me to take a nodule for examination. The man who made the examination in October has not replied to my letter.

Dr. A. W. Brayton, Indianapolis, Ind.—This patient was at my office a few weeks ago. There was a history given of a pigmented mole which had been burned out by a "cancer doctor" in an adjoining town. Afterward, when new growths began, the whole series of nodules was very thoroughly removed by Dr. W. C. Dugan, of Louisville, Ky. When the patient came to my office some months later, new nodules were appearing on the back and over the shoulders. He wanted to visit friends in Kansas, and I told his brother that if he would start right off he would have time to make a pleasant visit, but that he could not live long. This had all the clinical features of a rapidly progressing pigmented sarcoma.

Dr. Campbell, Chicago—What was the result of the operation by Dr. Dugan?

Dr. B. M. Ricketts—Increase in the rapidity of formation, as is usual in that form of cancerous growth dissemination. I would like to hear from the Chairman, Dr. Ravogli, who has also seen the case. I will merely refer here to the application of the X-rays. He had seen in the daily papers about the foreigners using the X-rays, and to satisfy him, I took him for a few days. The application relieved the pain. He had not had narcotics during that time, and if it has done nothing more, even if he dies soon, the application of the X-ray is quite a revelation to me; and if it will check the pain during these circumstances I think it is a valuable aid in therapeutics.

Dr. A. Ravogli, Cincinnati, Ohio—I find that in the case referred to, it is very difficult to establish the diagnosis, without making a microscopic examination. There is no doubt that the exposure of the tumors to the action of the X-rays has produced a great change, causing a necrosis of the centers of many of them. I believe in the action of electricity on the organic tissues. We know that the X-rays, produced at the negative pole of the current, are able to cause molecular disorganization of the living superficial tissues. The burns resulting from the exposure of the skin to the X-rays can be cited as an example. These peculiar burns take a long time for the necrotic tissues to slough off, on account of the skin being disorganized in its intimate stroma. The negative pole of the current has a peculiar disorganizing action also on the epidermic cells.

CONTAGIOSA BULLOSA.

(PEMPHIGUS CONTAGIOSUS TROPICUS, PEMPHIGUS CONTAGIOSUS, EPIDEMIC PEMPHIGUS.)*

BY JOHN S. WINDISCH M.D.
LATE CAPTAIN IN MEDICAL DEPARTMENT U. S. VOLUNTEERS.
CLEVELAND, OHIO.

During the summer months of 1898, I had ample opportunity to study this interesting disease in detail. It exists endemically in many tropical countries, especially China, where it is supposed to have originated. It is also found in our Southern States, under certain conditions which seem to favor the spread of the disease. People from northern climates are more prone to this affection than the natives, as is seen among the English people who go to dwell in southern China and India, the English families born and bred in India being less liable to it. This was also clearly demonstrated during the Spanish-American War, while the troops were encamped in our Southern States. Few cases were found among the southern troops, but when it did occur it was usually mild and in some cases the contagion could be traced to some northern regiment, while, on the other hand, few of our northern regiments escaped.

As seen by army surgeons at this time, the disease was of unusual interest, inasmuch as it had spread quite extensively before its true nature was recognized. The first case which came to my notice was that of a soldier who was a perfect picture of health, and who had served in the Queen's army in India. He had consulted many surgeons, also some of the local physicians at Tampa, Fla., in an attempt to find out what was the nature of his disease. Like many soldiers in the English army in India, he had at one time a venereal sore, and was very much alarmed lest his condition be syphilis. I recognized the affection as impetigo, and after a thorough examination and investigation, found his messmate, who used the same towel, afflicted with a similar trouble. I compared the diseases, found them identical, and made a diagnosis of impetigo contagiosa bullosa. I confirmed this diagnosis by rupturing one of the vesicles and applying the secretion to an unaffected part of the patient's body, and the initial lesion presented itself in from eight to twenty-four hours. During the summer I saw several hundred cases, and at times was told by the soldiers that they noticed the rash break out wherever the discharge came in contact.

Symptomatology.—The eruption occurs in the form of isolated vesicles, vesico-pustules, pustules or bullæ, usually about the face, axillæ, groins, also on the neck, buttocks, hands and feet. The disease begins with one or more small reddish spots, which vary from the size of a pinhead to a split pea. In the more severe cases these lesions were surrounded by a distinct areola. The initial lesion developed in from twelve to thirty-six hours, and was soon followed by other similar lesions. In another twelve or twenty-four hours the epidermis became slightly raised, and in some the areola more distinct. A clear serous fluid now presented itself. These vesicles which had formed extended at the periphery, until they attained a size varying from that of a split pea to that of a silver quarter, in some cases being even larger. The epidermic covering of the vesicles was very thin and easily ruptured, so that many were ruptured by the clothing or by the use of a handkerchief on the face. When these were not ruptured, the clear contents became opaline in from forty-eight to seventy-two hours. The lower part of the vesicle was first affected, and gradually the yellow color extended upward. This process extended over a period of twelve or twenty-four hours, but seldom did the entire contents become purulent. The vesicles occasionally coalesced. In only a very few cases did I see the eruption extend into the hair of the scalp, while the beard was frequently the seat of the disease.

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*Presented to the Section on Cutaneous Medicine and Surgery, at the Fiftieth Annual Meeting of the American Medical Association, held at Columbus, Ohio, June 6-9, 1899.

The bleb arose from the sound skin in most cases and, as stated above, only the severer forms were surrounded by an areola. The vesicles were at first fully distended, but when they reached the purulent stage they were flaccid, and when the patient was in an upright position the blebs hung dependent, like a partially filled bladder from its pedicle. When the blebs were ruptured they immediately collapsed, leaving little tents containing a serous or seropurulent fluid. When the epidermis was removed, the under surface appeared moist, reddish and glazed, which later became covered with a crust or scab varying in thickness from a thin friable tissue-paper-like scale to a thick yellowish impetiginous crust. In some cases slight pigmentation followed the falling off of the scab, which finally disappeared. No scars followed unless considerable irritation resulted from some unusual cause. There was little itching and in some cases it was entirely absent. There was no fever which could be attributed to this disease; it attacked old or young, the robust as well as the feeble, running its course in two to four weeks. In only two cases did I see any involvement of the mucous membrane, in both cases the mucous lining of the mouth being affected, the disease having spread from the angle of the mouth. There was no involvement of the lymphatic glands. Debilitated subjects were more prone to the disease than the healthy; although the robust were not exempt. Excessive perspiration favored its development and spread, and the parts which perspired most were more often affected, as the face, neck, axillæ and groins.

The disease spread more rapidly after the rainy season had set in, not that I think the wet weather was the cause of this, but because the soldiers could not bathe as freely as before, and their clothes were always wet and dirty from lying in the sand and trenches. While they bathed freely, they were obliged, from the want of clothing, to wear the same soiled, sour-smelling underwear, which helped the spread of the disease. In many cases soldiers used towels belonging to others, and in that way I was able to trace the contagion many times. The disease was also spread in blankets, as these articles were frequently accidentally exchanged. That this affection was inoculable and autoinoculable was very clearly demonstrated in many cases. It was beautifully demonstrated by one soldier who reinoculated himself repeatedly; also when one in a mess was afflicted, there usually appeared a second, sometimes a third or fourth in the same mess.

Regarding the etiology and pathology I can say but little, as the facilities and opportunities of field service are not such as to afford the surgeon the opportunity of going into extensive detail in many of his cases. The microscope and other bacteriologic appliances were sadly missed. That the disease is caused by some local agency can hardly be doubted, but neither microscope nor cultural tests have succeeded in proving any specific organism.

I have seen many cases in connection with vaccination, and as all soldiers were vaccinated, I am unable to say whether vaccination has anything to do with it. Some of my worst cases were cases in which the vaccin virus was without effect, on the other hand, soldiers who suffered most from the effects of vaccination were free from the disease or only affected to a very mild degree. That it follows vaccination, I will not attempt to argue, as all my cases appeared after all the soldiers had been vaccinated. The eruption was very often seen during the convalescence from a more or less actively contagious disease. I have come to the conclusion that this disease is an acute specific contagious exanthem.

The diagnosis in most of my cases was comparatively easy, while some of the milder cases were indeed difficult. You are confronted with such diseases as impetigo simplex, pustular eczema, varicella, in the early stages by variola, pemphigus and herpes.

The treatment is chiefly local. Mercury acts like a specific, either in the form of an ointment or a mild, soothing antiseptic wash. Boric acid, carbolic acid and ichthyol are also quite beneficial. My patients were relieved from duty and kept in large airy tents, which, even during the extreme heat of the day, were quite cool and prevented excessive perspiration. Each soldier was ordered to bathe once or twice a day, all blebs were opened, the exudate expressed and washed with a solution of bichlorid 1/1000; after that the unguentum hydrargyri ammoniati was freely applied, and a decided change was noted in twenty-four hours. Unfortunately our supply of white precipitate ointment became exhausted, and, being unable to get more at the time, I resorted to the citrin ointment, ʒi to ℥i. The simple unguentum hydrargyri was also used in case of emergency, but the best results were obtained from the white precipitate and citrin ointments. General tonics are indicated when the patient is in a state of debility, and plenty of fresh air and bathing are essential.

627½ Lorain Street.

FORMALDEHYDE DISINFECTION.*

BY W. K. JAQUES, M.D.

CHICAGO.

In formaldehyde we have a most valuable agent with which to control and destroy infectious germs, but the properties of this gas and its effects on living cells must be understood to apply it within its limitations. It is a well-known fact that, even in small quantities, it has a peculiar effect on fibrin, hardening and otherwise changing its physical properties. A small amount added to egg albumin or blood serum so changes them that they will not coagulate on heating. To the power of this gas to penetrate the cell wall of bacteria and alter its properties are we indebted for its germicidal qualities.

The destructive power of many pathogenic germs depends on their ability to multiply rapidly and overwhelm their host before resisting forces can be brought to bear. But it is a universal law of Nature that things of rapid growth are also of delicate structure, and therefore the cell wall of the rapidly multiplying bacteria is thin and easily penetrated by formaldehyde gas. The use of this gas at once suggests itself to retard the growth or destroy invading germs when they attack the respiratory tract. This can be done to advantage in those cases where the germ remains on the surface and is accessible to the gas. In bronchitis and slowly developing pneumonia, especially in children, the growth of germs may be retarded and the remainder of the respiratory tract made unsuitable for invasion. Such a condition means speedy recovery of the patient. It is not possible for the safety of the patient to use the gas strong enough to penerate diphtheria membrane and destroy the bacilli. It might be of value in limiting the disease if we did not possess a specific in diphtheria antitoxin. We can expect nothing in phthisis pulmonalis, because of the conditions to be overcome. In the tubercle bacillus we find a germ possessing strong resisting powers. It is a slow growth and has a horny outer capsule, containing spores protected by spore membrane. In addition to this the germ soon surrounds itself with an area of coagulative necrosis or inflammatory products. Any agent which would penetrate the inflamed area, then the coagulative necrosis and the resisting outer capsule would destroy the tissues in which the bacilli are found.

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*Presented to the Section on State Medicine, at the Fiftieth Annual Meeting of the American Medical Association, held at Columbus, Ohio, June 6-9, 1899.

As soon as the valuable disinfecting properties of formaldehyde gas were known the Chicago Health Department became interested in it. The principle of its production was simply the burning of wood alcohol in contact with platinum, and many were the lamps of various sizes and prices which were tested. The cost of the platinum which was used in the construction of the chimneys made the lamps expensive, and the amount of formaldehyde gas given off was uncertain. After testing almost every apparatus that was put on the market for two years, the department found that the most satisfactory source from which to obtain the gas was from the 40 per cent. solution that is on the market. While looking for the cheapest source from which to obtain this, one of the largest chemical works in the country volunteered the information that there were only three places in the world where it was manufactured, and this was because of the large outlay required to produce it economically.

When this 40 per cent. solution of formaldehyde gas is quickly evaporated there is left in the retort a white waxy substance called paraform. This slowly unites with the air and again produces formaldehyde gas. For disinfecting purposes it is important to quickly cause the gas to leave the solution and impregnate the air of the room. To do this the globules of the solution should be as finely divided as possible, so that all parts will come in contact with the air. This is accomplished by throwing a fine spray of the solution on a suspended sheet. Care should be taken to do this so the edges of the drops do not touch each other, for if the sheet is wet the solution evaporates slowly and produces paraform instead of passing directly into the air as formaldehyde gas.

Cleanliness is the first and best half of disinfection. Malignancy in contagious diseases may be largely increased by the environment of the patients. The cholera germ only takes on virulence in the presence of decomposing filth. The tubercle bacillus is but the parasitic form of a pleomorphic mould, and can only exist where vital resistance is low and there is a suitable soil for its growth. Diphtheria is a poor man's disease, and its most malignant form is seen in an atmosphere of poverty. But clean poverty is a blessing compared to dirty comfort. The workingman's home in large cities is often filled with cheap rugs, plush furniture, curtains, and other department store trash that, during an illness of a contagious nature, become loaded with disease germs. Such a home is a menace to any neighborhood, and one of the important duties of a health department is to remove these plague spots.

The ideal disinfectant must be one that can be used by an average disinfector without causing complaint and injury to property. In formalin we have a disinfectant that will do the work in the shortest possible time, and it does not subject tenants to much inconvenience. The quarters of the poor in the cities are often so crowded that the giving up of a room for a day or even a few hours in cold weather may be a hardship. The destruction of the contagious element as near its source of production as possible should be our object. Receiving the discharges on cloths moistened with a weak formalin solution, and the disinfection of all infected articles as soon as the patient has been removed, is the best safeguard we have at present.

For use in the sick room the simplest and most effective way is to put two tablespoonfuls of the formalin into an earthen dish and pour into this a pint of boiling water. This dish may then be placed over a lamp or chafing-dish and kept below the boiling point. Near this point the gas is driven off in the greatest abundance. Above this evaporation takes place, with the production of paraform. By modifying the heat the amount of gas in the room can be controlled. It should be kept just below the point of irritation. As the patient becomes accustomed to its presence it becomes less irritating. It does not interfere with other remedies and can be used when the patient is asleep.

The advantages of formaldehyde disinfection over all other methods are numerous. Although a destroyer of odors, it has scarcely any odor. It does not attack and injure metals, as does sulphur, and there is no danger from fire. It attacks the weakest point of our pathogenic enemies' armor. It is not, however, a destroyer of lice, bedbugs, and other vermin. Neither will it injure the parasites that infest plant life. It can only be depended on to destroy pathogenic germs whose structure permits sufficient penetration to alter their protoplasm, and for this purpose it has no equal as a disinfectant.

DEMONSTRATION.

I have had a small model of a room made to illustrate the method of disinfection used by the Chicago Health Department. This room contains twenty-seven cubic feet. Our rule is to use five minims to the cubic foot of space, so that 135 minims ought to disinfect this. This model room is for the purpose of making the following experiment in your presence:

At the top and bottom of this small room will be placed a box and tube of culture-medium inoculated with typhoid bacilli, streptococcus pyogenes and Klebs-Loeffler bacilli. A small sheet will be suspended across the room, sprayed with 135 minims of formalin, and the room closed for twelve hours. We will then test the fumigation by placing these cultures in an incubator for twenty-four hours. The inoculated culture-boxes will show surface disinfection, while the test-tubes will show the power of penetration.

I also call attention to my method of impregnating a room with formaldehyde gas. I have taken an ordinary fifteen-cent night lamp—kerosene—and had a stiff wire bent so as to support a dish over the chimney. To the formalin placed in this dish is added boiling water, and the whole kept just below the boiling point by regulating the flame. In the absence of such a lamp a chafing-dish may be used, or, if there is a stove in the room, a dish may be placed on the back of it where the solution will not boil. It is only necessary to keep in mind the principle that formalin must be kept at the proper temperature in order to secure the best effects from the evaporation of formaldehyde.

1316 Greenwood Avenue.

DISCUSSION.

Dr. Beem—This is the room that has been constructed by Dr. [illegible] for the purpose of demonstrating the method of disinfection, as performed by the Chicago Health Department [illegible]. The rubber material over the outside is [illegible] to the gas and part of it escapes during the time of the disinfection, but cultures have been placed in the room to determine the force of the disinfection. They are placed at various points. The disinfection simply consists in stretching a clothes-line across the room at any suitable place, usually as near the center of the room as possible; then on that clothes-line suspending a sheet by its edge. For every 1000 cubic feet, we will say one bed sheet, and on that sheet we sprinkle 150 c.c. of the formaldehyde solution, or five ounces, by means of a proper sprinkler. I show you the sprinkler we are using at the present time. It simply consists of an atomizer, and the tube is arranged so that not too much formaldehyde gets out at a time. Then all the clothes in the room are hung out on the clothes-line, beds are opened up, and books opened and stood on their edges, so that the formaldehyde comes in contact with every part of the material. Then the rooms are allowed to remain closed for five hours. At the end of that time we find that all the germs in the room have been practically killed. This has been demonstrated several times to the entire satisfaction of the bacteriologist of the department, as well as myself. (Dr. Beem here showed tubes of cultures of diphtheria and typhoid.)

In the six hours which we generally take for practical house disinfection, the growth is very materially delayed. Even after seventy-two hours of incubation there is very slight growth. We have also tried the germ of scarlet fever, which has recently been discovered, and we find that it has been destroyed in about the same length of time. The test-tubes which have been exposed show the penetrating power of the gas. It is claimed by a great many that the gas does not penetrate into small crevices. (He then indicated on diphtheria tubes, how far the gas had penetrated, under different conditions. He found that diphtheria is very easily killed.)

The tubes shown were from actual disinfections of houses, so the work was not done for any experimental purposes especially, but the disinfectors were given the culture-tubes to expose in the rooms of houses they disinfected. The cryptococcus was found harder to destroy than any of the other germs referred to, and the penetration was not as far as in the other tubes. (He then illustrated, by the tubes, the comparative difference of the killing power of the formaldehyde gas in staphylococcus and cryptococcus, the latter showing the greater resisting power.) These were exposed seven hours. Continuing, he said that there is no method at the present time which he considers equal to this one in formaldehyde disinfection, as practiced by the Chicago Health Department. The simplicity of the method presents itself at once.

A Member—What about the bedding, the bed-clothes, and the mattress?

Dr. Beem—The bed-clothes are suspended over doors; just take them and hang them over the backs of chairs, in order to expose them as freely as possible.

A Member—And it destroys all growths?

Dr. Beem—It destroys all growths.

A Member—What about the mattress?

Dr. Beem—The mattress we leave on the bed, just on the springs, just as it is. We suspend the sheet over the mattress as near as possible. At the present time there are a great many generators on the market for the formation of formaldehyde, which is a gas absorbed by water. The water will hold about 39.67 of the gas, or, in other words, make a 40 per cent. solution. That should be the purity of the commercial article. In the generators the water boils off very quickly, leaving a concentrated solution. This concentrated solution forms a white substance in the bottom of the generator, called paraform. That paraform forms trioxid methyoln, which is then passed into the room in that form, a substance having very little disinfecting qualities but a great deal of stink, as they say. To obviate this the operators at the present time use methyl alcohol; they also add neutral salts; common table salt, or calcium chlorid is more often used.

POLIOMYELITIS ANTERIOR ACUTA ADULTORUM.*

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Poliomyelitis anterior acuta adultorum is a disease which, although it has been described many years ago, at first by M. Meyers, and later by Gumboldt in 1873, and by Shultz in 1878, is of extreme rarity, and on account of the difficulty of differential diagnosis is of sufficient interest to place two well-marked cases on record.

Rand was able to collect only thirty-six cases in the adult, and in a period of ten years since I have been interested in nervous diseases, I have had an opportunity of observing but two. On account of the newer views of the pathology of poliomyelitis, and especially on account of the difficult differential diagnosis and the unusual prominence and the sharp definition of newer diseases, such as peripheral neuritis, many cases of which were formerly grouped under poliomyelitis, it is of especial interest to place on record two cases which are beyond dispute.

In 1897, when Bruns and Windschild wrote an article on this form of poliomyelitis, for the "Twentieth Century Practice," they said: "We must admit, however, that there exists in the adult a disease which is wholly analogous to infantile spinal paralysis. This poliomyelitis adultorum is, however, in itself, and especially in comparison with infantile paralysis, a very rare disease."

Case 1.—Edward B., aged 28, unmarried, has previously been perfectly well. His mother died of tuberculosis, and he has one sister who is deformed as a result of caries of the spinal column; a step-brother, child of the second wife, shows marked imbecility closely resembling cretinism. The patient himself denies having ever had any venereal diseases, especially syphilis.

On April 1, 1895, while rapidly walking from his residence to the railway station, a distance of probably a thousand feet, the patient noticed, as he stepped on the platform of the station, that his left leg was growing weak, and the moment he stepped on the rear platform of the car he fell to the floor and had to be assisted to a chair. He had no pain nor any other abnormal sensation. Arriving at the city station he found that he could not use his left leg, except with great difficulty. Calling a cab he rode about town, attending to his business, but when he returned home at night he had to be carried from the train on account of the involvement of his right leg. On the next day he was without fever, but was unable to leave his bed.

Dr. F. W. Langdon, who was with him the day after the onset of the paralysis, states that both arms were affected, but the patient was still able to make some movement with his hands and fingers; both legs were completely paralyzed. He reports that the sensation of both arms and legs and all its qualities were perfectly normal.

I saw the patient the next day, i. e., forty-eight hours after the onset of the paralysis, when there was present a complete motor paralysis of all four extremities, together with the muscles of the neck, so the patient was unable to raise his head from the pillow or move it from side to side without the assistance of the nurse.

Examination.—Intelligence seemed normal; the pupils equal in size, and they reacted both to light and accommodation. The papillæ were normal, and there was no defect in the movements of all external of the muscles of the eyeballs. The muscles of the face were normal. The tongue protruded in the median line; the soft palate was normal. Sensation of the scalp and face was normal on both sides. There was no loss of the sense of smell or taste, but complete absence of all voluntary movements of the muscles of the neck; the patient was unable to turn his head from side to side or raise it from the pillow. The muscular movements of both the right and left arm were reduced to a slight movement of the fingers; he was unable to raise the arm from the bed or to flex the arm on the forearm; and could not use the pectoral muscles nor shrug the shoulders nor lift them.

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*Presented to the Section on Neurology and Medical Jurisprudence, at the Fiftieth Annual Meeting of the American Medical Association, held at Columbus, Ohio, June 6-9, 1899.

There was no tenderness of the nerve trunks; no hyperesthesia thereof, nor any diminution or loss of sensation in any of its qualities. The lower extremities were absolutely immovable and there was the same complete absence of tenderness on pressure over the nerve trunks or of any disturbance of sensation. The appetite was good and there was no disturbance of the action of any of the sphincters, nor loss of sexual desire or the power of erection.

The electric examination, one week later, showed a complete loss of all faradic irritability, both direct and indirect. The galvanic reaction through the nerve trunks was absent in all of them, with the sole exception of the right ulnar nerve. The direct response of the muscles was weak and slow. In a word, there was a complete reaction of degeneration in all the muscles of the body, including the neck.

The return of muscular power began to take place after the first week. The patient was soon able to move his legs, arms and head, but the movements were characterized by great weakness, and it was only in the third week that he was able to use the muscles of his right thigh at all. After this there was a steady progress, the patient gradually gaining control of most of his muscles. After three months he was able to walk, with the assistance of a nurse. There was great wasting of the muscles, and the patient's weight was reduced to 106 pounds.

Treatment.—Ergotin was used for the first three days, two weeks after that small doses of iodid and bichlorid of mercury for three weeks; after the third week massage and general faradization. Massage and electric treatment were kept up for two years. After this period there still remained some general weakness, especially marked in the quadriceps femoris.

Examination, June 1, 1899.—Four years after the attack there is present a normal electric reaction of all the muscles of the body as well as their nerve trunks, with the exception of the left ulnar nerve, which does not respond normally to the galvanic current, although the muscles supplied by the ulnar nerve are prompt in their reaction. The volume of muscular strength has never returned to its normal condition. All of the muscles both of the upper and lower extremities are weaker than they were before the attack, but the patient walks without an effort, on the level, but has some difficulty in climbing steps. The muscles have not returned to their normal size. This is especially true of the legs. The patient thinks, however, that he has fully recovered.

CASE 2.—John R., aged 48 years, a native of Ireland, and keeper of a lunch stand, was admitted Jan. 8, 1899, to the neurologic service of the city hospital. He was discharged May 2, 1899, improved. The family history showed that his father and mother, also two brothers were dead, the causes unknown. One sister was living and well. He had the ordinary diseases of childhood, malaria, piles for the past eighteen years, but no drug habits, and no syphilis. He had been perfectly well up to within one month, when he was attacked with diarrhea which weakened him very much, and during the course of this he lost seven pounds in weight. One week before admitted to the hospital, he noticed a weakness in the left leg, on rising in the morning, and this increased during the day. The right leg became involved on the following day and on the third he was confined to his bed, unable to walk; at the same time his arms became paralyzed, and at the end of a week, on admission to the hospital, he was perfectly helpless. He said that he had a chill and a high fever, but that disappeared on the third day. He had no pain at any time, no hyperesthesia or abnormal sensation of any kind, no headache, no dizziness, and the sphincters were normal.

Examination.—His mental condition was normal, memory good, and the pupils reacted to both light and accommodation. All regions supplied by the cranial nerve were normal. There was a slight nasal intonation of the voice, but no difficulty in swallowing and no paralysis of the soft palate. He was unable to move the head from side to side or raise it from the pillow. There was no voluntary action of any of the muscles of the neck, but absolute loss of all muscular power of the muscles of the upper and lower extremities. He was unable to move either arm or either leg, and there remained only a slight movement of the fingers. There was no hyperesthesia of the skin, no tenderness over the nerve trunks, no loss of sensation, no abnormal subjective sensation. There was an absence of all reflexes excepting those of the skin, pectoral muscles and all of the back, which were also paralyzed. The patient was able to flex the fingers and flex and extend the toes. Sexual functions were normal, and there was no involvement of the sphincters of the bladder or rectum. No evidence of syphilis could be found in any part of the body. Sensation in all its qualities, heat, cold, pain, and touch remained normal.

The electric examination showed an almost complete reaction of degeneration in all muscles of the body. (For details, see chart.) The urine showed a small quantity of albumin.

Treatment.—This consisted of 1-3 gr. of bichlorid of mercury every second day, and 1-60 gr. of sulphate of strychnin every four hours, together with a hot bath every afternoon at 4 o'clock. The patient began to improve almost at once. In twenty-four hours he was able to move the arms, flex the forearm on the arm, and after forty-eight hours could raise the arm from the bed, and move the legs. The improvement continued, and at the end of the first week he was able to raise the head from the pillow, and on the tenth day could walk with the assistance of the nurse. In three weeks he was able to walk alone, with ease, and could use all the muscles of the body, but the movements were characterized by great weakness. The electric irritability began to return after six or eight weeks.

Examination, May 1, 1899.—The results with the faradic current, under Dr. Hoppe, showed both pectorals negative; the median nerve reaction was present but very small: the musculospiral absent on both. The median nerve responded better on the left than the right. Muscular response was also better on the left. The faradic response returned to all the muscles of the

HEAD AND UPPER LIMB		Right F	Right G	Left F	Left G
Facial	[illegible]		+		+
	[illegible]		+		+
Spinal Accessory ..	[illegible]				
	[illegible]				
Do with II & III Cerv	[illegible]		–	–	
	[illegible]	0	--	0	–
Hypoglossal	[illegible]		+		+
Do with II & III Cerv	[illegible]	+	-	+	
	Sterno-hyoid	-	–	+	
II Cerv. .	Complexus				
	Splenius				
III Cerv .	Levator anguli scapulæ	+		+	
V Cerv	Rhomboid	0		0	
Post Thoracic	Serratus magnus	0		0	
Supra scapular .	Supraspinatus	0		0	
	Infraspinatus	0		0	
Ext. ant. thoracic .	Pectoralis Major { Clav. part	0	–	0	
	Pectoralis Major { Stern. part	0	--	0	
Int. ant. thoracic ..	Minor				
Musculo cutaneous	Coraco-brachialis	0	–	0	
	Biceps	0	–	0	
	Brachialis anticus	0	–	0	
Subscapular	Subscapularis		–		
	Teres Major		–		
	Latiss. Dorsi	0	–	0	
Circumflex	Deltoid	0	–	0	
	Teres Minor	0	–	0	
Musculo spiral	Triceps	0	–	0	
	Ext. Carp. Rad. Long	–	–	0	
	Supinator Long	0		0	
Post interosseous	Supinator Brevis	0	+	0	
	Ext. Carp. Rad. Brev.	0	+	0	
	Ext. Carp. Uln.	0	+	0	
	Ext. Commun. Digit	–	+	–	
	Ext. oss. metac. poll	0	–	0	
	Ext. primi. intern ..	–	+	–	
	Ext. secund.	–	+	–	
	Ext. indicis	0	+	0	
	Ext. minimi digiti	–	+	–	
Median	Pronator radii teres ..	0	–	0	
	Palmaris longus . ..	–	–	–	
	Opponens pollicis .	0	–	–	
	Abductor pollicis	–	–	–	
Median & Ulnar .. (jointly)	Flexor longus pollicis	0	–	0	
	Flexor carpi radialis	–	–	–	
	Flexor sublimis digit	–	–	–	
	Flexor brevis pollicis	–	–	–	
Ulnar .	Flexor carpi ulnaris	–	–	–	
	Adductor pollicis	–	–	–	
	Muscles of little finger	–	–	–	
	Interossei ..	–	–	–	

TRUNK and LOWER LIMB		Right F	Right G	Left F	Left G
Intercostals	Intercostales		–		
	Rectus Abdominis	0	–	0	
	External oblique	0	–	0	
Branches of Lumbar Nerves	Erector Spinæ	-	+	–	
	Quadratus Lumborum		+		
Genito-crural	Cremaster	·	+		
Anterior Crural ..	Sartorius	0	–	0	
	Pectineus		–		
	Rectus femoris ..	–	+		
	Vastus externus	0	+	0	
	Vastus internus	0	+	0	
	Crureus	0	+		
Obturator	Gracilis		+		
	Adductor longus	0	+	+	
	Adductor brevis .	0	+	0	
	Adductor magnus with sciatic .	0	+	0	
Small Sciatic	Gluteus Maximus .	–	+	0	
Sup. gluteal	Gluteus Medius .	-	+	0	
	Tens. vag femoris ...		-		
Great Sciatic	Biceps femoris .	0		–	
	Semitendinosus ...	0		0	
	Semimembranosus	0		0	
	Adductor magnus with obturator	0		0	
Int. popliteal	Gastrocnemius	0	–	0	
	Soleus	0	–	0	
	Tibialis posticus .	0	–	0	
	Flex. comm. digit	0	–	0	
	Flex. long hallucis ...	0	–	0	
Plantars ..	Flex. brev. hallucis .	0	–		
	Flex. brev. digit	0	–		
	Abductor hallucis		–		
	Adductor hallucis .		–		
	Ext. brevis digit ..		–		
	Interossei		–		
Ext. popliteal ..	Tibialis anticus .	0	–	0	
	Ext. prop. hallucis ..		–		
	Ext. digit. longus .		–		
	Peroneus longus		+		
	Peroneus brevis ..		–		

upper extremities. The anterior nerve reaction was absent on the left. The anterior crural muscles were very slightly active. The anterior crural nerve reaction on the right was absent, but the anterior crural muscular response present, though diminished. Reaction of the left tibial was present, also the right, but absent in the left and right post-tibial; the muscular response also. The reaction was absent from the muscles of the calves. Atrophy of the muscles was still present, very few having returned to normal, the sternocleidomastoid being an exception. The response was more marked on the ulnar surface on the right than on the left, also in the small muscles of the right hand. There was well marked atrophy of the anterior surfaces of both thighs, especially in the quadriceps femoris.

In calling the attention of this Section to these cases of acute poliomyelitis anterior adultorum, I am convinced of the fact that I am not presenting anything new. I feel, however, that two such sharply-defined and well-marked cases as the above should be placed on record, especially as it is more than probable that some of the earlier cases were confounded with peripheral neuritis or disseminated acute myelitis.

These cases are also interesting on account of the extent of the paralysis, all four extremities together with the muscles of the neck being involved. In the tables of cases collected by Duchenne and Seelegmiller, in children, one extremity alone was affected in more than 50 per cent. of cases, whereas the four extremities were affected in only 2 per cent.

Pathological Anatomy.—A change has taken place in our ideas of the pathologic anatomy of acute anterior poliomyelitis. Our first knowledge was based on the researches of Cornil and Lockhart Clark. In 1870 Charcot and Joffroy were the first to make known more generally to the medical world the relation between the disappearance of the ganglionic cells of the anterior horns and the flaccid atrophic muscular paralysis, and they formulate the law that the disease consists of a primary acute inflammation of these ganglionic cells and not of an acute inflammatory softening of the interstitial tissue or of a hemorrhage, and that all other changes were secondary to the destruction of the ganglionic cells. It was very easy to take the next step and attribute all the diseases of the motor system, characterized by a flaccid atrophy of the muscles, into three groups and attribute them to an acute, subacute and chronic inflammation of these ganglionic cells.

We know how this erroneous doctrine jumbled together acute anterior poliomyelitis, peripheral neuritis —which was looked on as subacute anterior poliomyelitis —and chronic progressive spinal muscular atrophy, and taught us to look on them as of a common pathologic origin, the clinical difference being due to a difference in the degree of inflammation. This opinion was accepted universally, and still holds sway among the rank and file of the medical profession, although it has been overthrown as long ago as 1883, by the researches of Archambault and Damaschino, who showed that it was not a primary disease of the ganglionic cells but an interstitial myelitis of the anterior horns, vascular in its origin. This has been confirmed by the more recent researches of Schultze, P. Marie, Goldscheider, Siemerling and Redlick.

We to-day know that acute anterior poliomyelitis exists as a disease *sui generis;* that it is a distinct disease, the result of an infection, which has for its pathologic seat of predilection the gray matter of the anterior horns, and that the infectious material is carried to the horns by way of the central spinal artery. It is primarily a disease or an inflammation whose seat is the gray matter of the spinal cord.

An exudation of serum and leucocytes takes place around the small vessels, arteries, and capillaries. The ganglionic cells are affected secondarily, by the chemical action of the pathologic serum or by pressure resulting from the exudation of the inflammatory material. This inflammatory exudation is not limited to the gray matter of the anterior horns, but there is very frequently an inflammation with an exudation of the pia mater and the white matter of the anterior column at the point of entrance of the vessels which are the carriers of all the infectious agent.

If this view is correct, then all the apparent cases of acute anterior poliomyelitis following a previous acute infectious disease, such as measles, scarlet fever, typhoid fever and gonorrhea are not acute anterior poliomyelitis in the strict sense of the word, but a focal or disseminated myelitis. The distinction which I make will be readily understood. The seat of the inflammation is the same, whereas the disease in its etiology is radically different. Just why the central spinal artery should be the seat of predilection for the disease can no more be explained than the same phenomena in other acute infectious diseases.

These views are radically different, at least in the adult, from that expressed by Bruns and Windschild, who state that poliomyelitis adultorum is almost always seen as a complication of a sequel to acute infectious diseases. The two cases above recorded show that it may occur as a primary affection. The agent at work in producing the disease is not known. All the other causes, like over-exertion, heavy colds, exposure and traumatism are, in my estimation, only predisposing causes. This fact is further borne out in Rank's statistics—in twenty-five out of thirty-six cases, no other cause could be attributed than exposure to cold.

Symptomatology.—There is no need to dwell on the clinical symptoms of acute anterior poliomyelitis. They are the same in the adult as in children. The unusual feature about both of these cases was that the entire body, from the angle of the jaw down—i. e., in the neck, upper and lower extremities—was completely paralyzed; the other feature was the absence of pain, and all other sensory disturbances.

Authors have called attention to the fact that pains may be present in the nature of shooting pains, or of tenderness over the nerve trunks. I believe that such are not pure cases of anterior poliomyelitis, but rather, either focal myelitis or multiple neuritis. Another feature that bears out the newer pathology views is that the ganglionic cells are affected secondarily, which in the primary diseases is borne out by the history of the first case, in which improvement in the muscular tone and power continued four years after the first onset of the disease. This ought to have an important bearing on our methods and manner of treatment; therefore no matter how small the improvement and how slowly it takes place, we are not to despair, but should continue to treat the case for two or three years.

Differential Diagnosis.—The question may arise, on account of the wide distribution of the paralysis, the involvement of the muscles of the neck as well as all four extremities, as to whether or not these two cases have been properly classified. There is no difficulty in ruling out multiple neuritis, on account of the absence of all sensory disturbances and of tenderness of the nerve trunks. Cervical myelitis can be ruled out by the absence of sensory symptoms and absence of involvement of the bladder and rectum. The progressive involvement from the lower extremities to the muscles of the neck would also render this untenable. The same reasons would hold for hematomyelia cervicalis. Landouzy and Dejerine have described what they termed "acute curable atrophic paralysis," in which,. without much general disturbance, there is an equally distributed paralysis of all four extremities, rapid in its onset, wasting of muscles and reaction of degeneration. The cranial nerves are intact, there is no sensory disturbance and the sphincters are normal in their action. Recovery is perfect. It is generally held, a view which is clearly proven by the above symptomatology, that the above is only a modification of anterior poliomyelitis, and although both of our cases resemble the above very much, there is no need of quibbling about terms. The greatest difficulty encountered in both cases was the ruling out of Landry's paralysis, and it was not possible to do this with certainty for the first week or ten days. In this latter, of which I have seen but one case which ended fatally, the paralysis begins in the feet and extends upward, so as to involve the four extremities, muscles of the neck and, in fatal cases the medulla oblongata, and causes death by paralysis of the respiratory or cardiac centers; while the motor system is mainly involved, there may be sensory disturbances. The paralysis is of the flaccid variety, the sphincters are intact, even the involvement of the medulla with difficulty of breathing and deglutition does not afford positive evidence in favor of Landry's paralysis, for in acute anterior poliomyelitis the centers in the medulla may likewise be involved—Oppenheim, Goldscheider, etc. If the case does not end fatally within the first ten days or two weeks, the differential diagnosis, according to the original article of Landry's, is easy, for in his paralysis there is neither atrophy of the muscles, nor any reaction of degeneration. The observations of Landry were confirmed by Kussmaul, by Pelgrino, Levi, who reported the case of Cuvier, by Bernhardt and Westphal. The latter laid down the law that three factors are essential for the diagnosis of Landry's par-

[illegible]: 1. The ascending course of the paralysis, ending fatally. 2. Normal electric reaction of the paralyzed muscles. 3. Absence of all pathologic changes at the post-mortem examination. If we held strictly to these conditions, there would be no difficulty about the differential diagnosis, but the views have changed very much since then. Cases have been described in which the course of the paralysis has been a descending instead of an ascending one. Changes have been found in the electric reaction from a slight diminution in the quantity to a complete reaction of degeneration, although it is true that cases have been observed which existed for a month without showing any atrophy of the muscles, or changes in the electric reaction. Goldscheider vigorously opposes those who hold that cases which show these degeneration changes should not be classed with Landry's disease, but even goes farther and, basing his opinion on published cases and some of his own, states that we can have all degrees of change from a slight diminution to a complete loss of sensation, and in addition we may have atrophy of muscles and loss of function of the sphincters. With this state of affairs, we have a feeling of relief, when Goldscheider states that very many of the numerous cases reported must be looked on as doubtful.

Many pathologic changes have been found in recent cases since researches are made with better methods and with greater care; so that pathologically, Goldscheider, Oppenheim and others divide the cases into two groups: those in which there is a central inflammatory or hemorrhagic disturbance throughout the entire gray matter of the spinal cord and medulla, and cases which should properly be classed as acute peripheral neuritis. From all this we must conclude that, while Landry's disease may and does exist as a clinical entity, i. e., as an acute ascending paralysis; it has no distinct or individual pathologic basis. In anterior poliomyelitis in which there is an involvement of only one or even two extremities, there will be no difficulty in differentiating the condition from Landry's disease, but in cases like the two recorded in this paper, it seems to me that we have but one point to go by, the absence of sensory disturbances, either subjective or objective, in acute anterior poliomyelitis, and its presence in Landry's paralysis. In all other respects the two diseases may be identical.

DISCUSSION.

Dr. F. W. Langdon, Cincinnati, Ohio.—It was my privilege to see the first of the two cases reported by Dr. Hoppe. There are one or two points in connection with that first case which have impressed me in thinking over the matter, since a short talk with Dr. Hoppe a few days ago. One is in respect to the young man; I was called to see him when I was just on the eve of a trip abroad, and recognized the condition as an unusually typical one of poliomyelitis. The history impressed me as of considerable interest. The evening before, as I recall it, he had gone to a restaurant, and eaten a large beefsteak, immediately after which he went to a gymnasium and took a cold shower-bath. He then spent the evening with some friends in the city. The onset, twelve hours later, of weakness in the leg, followed rapidly by paralysis of the whole [illegible] suggestive to me of a possible connection between arrest of digestion by the cold bath and a consequent ptomain poisoning. The next I had was an infant less than 2 years old, who had been given a large piece of bologna sausage by a butcher, and in two days also had a typical poliomyelitis anterior, so that the question of development of a special poison from dietetic products naturally suggested itself to my mind. As regards the distinction between poliomyelitis and Landry's paralysis if we are only going to say that one does and the other does not get well, that is not a very clear pathology. We can readily understand the fact that an overdose of poison in one case might cause death while the patient might survive a less quantity. As regards Landry's paralysis, always beginning in the lower extremities and ascending, in about as typical a case as I ever saw the arms were first affected.

Dr. W. A. Jones, Minneapolis, Minn.—I think I saw a case of poliomyelitis in an adult two or three years ago—a young man of 24, who had been previously well. He was taken during the night with some acute disturbance, the nature of which we were unable to determine. The following day he had a paralysis of one leg, which gradually developed, and a paralysis of the opposite succeeded, but was only affected in a very mild degree. He had absolutely no sensory involvement, and none of the bladder or rectum, but he had what a great many children have, a rapid wasting of the muscles. The condition went on for a year or two before I saw him, and by that time he had the usual contractures and had passed beyond the flaccid stages of poliomyelitis. It was the first case I had ever seen, and interesting on that account.

A. E. Sterne, Indianapolis, Ind.—I think I can add two cases to this, one is a colleague of ours, who is present at the meeting of this Association and whom I intended to have here this afternoon. I saw him, as Dr. Jones mentioned he did in his case, a short time after the acuteness of the illness had passed away. It seems, however, that in these two we have a distinction to make which Dr. Hoppe mentioned, i. e., in almost all of the cases reported—and they are few—an infectious disease had previously been experienced. He makes the distinction in his cases that these, therefore, are not to be classed truly as conditions of acute poliomyelitis anterior. That distinction is not, on the spur of the moment, easy to subscribe to, as I have always considered these typical cases of poliomyelitis. At the time I saw the first case of mine, I had not heard of a single one of adult poliomyelitis, and had supposed it to be unique, and so referred it to the medical society. The legs were not involved, but both arms were totally paralyzed. There was absolutely no evidence of a neuritic character; no pain, no pressure points, none of the significant marks which we usually associate with such disturbances. The man's father had had acute articular rheumatism, and his mother at the same time, about three months before he became ill. He had attended both. A short time before he became paralyzed in the upper extremities, he began to have pains in various joints, but the joints did not develop the typical pains which we are wont to see in acute arthritis. I have always regarded that case as a case of post-arthritic poliomyelitis, and the marks of the condition were typical enough; decrease of electric reaction without absolute reaction for degeneration; faradic irritability was lost, but the reaction for degeneration to the galvanic current had not set in at the time I saw him, nor had it ever made its appearance, because he was immediately put on treatment and has completely recovered. He was treated steadily for four months, twice a day with the galvanic current until the faradic irritability was restored, and after that with massage. He now uses his arm perfectly. At the time I saw him the supra- and infra-scapular, the deltoid and the extensor muscles were completely paralyzed. He now does his operating himself, and while he still has considerable atrophy, notably in the smaller extensor muscles of the hand, he can get along perfectly well. He is 25 or 26 years of age.

The second case occurred almost immediately after the first. It was also in a young man, who looked in about as near a moribund condition as a walking person could. He was brought to me for consultation, by his family physician, and had a severe typical malarial intoxication, giving the typical febrile reaction that we find in Indiana to-day. Both of these developed suddenly, just as we find in children. Both of them, moreover, thought they had simply an acute gastritis. The paralysis was sudden and more wide-spread right at the start, although, as I say, the legs were not involved beyond weakness. The second patient did not respond to treatment. The atrophy remained. I concluded, however, that the ill-success with him was due to the fact that he was still suffering from intense malarial intoxication that had in all probability started the spinal disease. He dropped out of my sight, and was taken to the hospital, and within a reasonable time, I think possibly four months after I first saw him, he died, and the post-mortem, so much as could be made, revealed a typical case of anterior poliomyelitis. It is the only typical case with a post-mortem that has been reported at all in the adult; the complete report of the case still remains in abeyance.

DR. AUGUSTUS A. ESHNER, Philadelphia—An alteration in any portion of the peripheral sensory neuron, or of the peripheral motor neuron, might readily give rise to the symptoms present in these two cases and similar ones. Nor need we conceive that alterations of this sort are necessarily dependent on any one single toxic influence. There are a variety of agencies, some of bacterial origin, as the infectious diseases, some of toxic, as from poison introduced from without, or generated within, the body, as alcohol, mercury, lead, gout, diabetes, uremia, that are capable of affecting the peripheral motor or sensory neurons, and at times it is exceedingly difficult to make the differentiation.

DR. F. SAVARY PEARCE, Philadelphia—Dr. Sterne, in saying that malarial intoxication was a probable cause of the paralysis, reminds me of a case of locomotor ataxia which I reported last year, in which, so far as I could trace the etiology, the tabes was due to acute malarial intoxication. The case I reported was a precocious one, occurring in a young man in whom there was absolutely no syphilitic history. Overwork alone as the probable cause, was also ruled out when it was learned that the symptoms rather suddenly supervened on acute severe malarial fever.

DR. H. H. HOPPE, Cincinnati, Ohio—Many of the cases of anterior poliomyelitis in children are not poliomyelitis in the strict sense of the word, but focal myelitis. We know that epidemics of poliomyelitis have been reported, one in Stockholm, where thirty cases occurred in a single physician's practice. While the anterior horn or the gray matter of the anterior horn is not a very large area, small areas are perfectly capable of setting up in children or adults a focal myelitis that would simulate poliomyelitis, but I did not regard them as true cases of poliomyelitis. I have placed these two on record because of the extensive involvement of both sides from the lumbar to the cervical region.

CASE OF SPINAL ANTERIOR SUBACUTE GENERAL PARALYSIS.

BY C. EUGENE RIGGS, A.M., M.D.

ST. PAUL, MINN.

On Nov. 24, 1897, Miss A. B., aged 27, a student, and single, consulted me. She had always been perfectly well, with the exception of an attack of measles six years before. There was no history of syphilis or tubercular disease in the family, and no neurotic tendency. Six months before I saw her, she first noticed difficulty in walking. For a year previous to that time she had suffered from cramps in the calves of both legs, which, later, involved the thigh, abdominal muscles and both forearms. At the time she first noticed the trouble in walking there was no pain, but the gait gradually became more and more involved until when I saw her it was of a hobbling character. There was marked weakness of the tibial and peroneal groups of muscles in both legs. The limbs were cold and white. The thigh muscles, posterior aspect, were paretic, especially on the left side. The psoas iliacus and abdominal muscles were also paretic. The patient could not lift herself into the upright position when lying flat on her back. Flexion and extension of the muscles of both legs were much impaired. The flexion of the left foot on the ankle was very slight, and there was some diminution of the same motion in the right foot. The muscles of the legs were greatly atrophied. The organic reflexes were unimpaired. There was static ataxia. Sensibility was normal. There were no subjective sensations. The knee-jerk was normal, there was no ankle-clonus, and the superficial reflexes were normal. The motility of the arm was impaired and the deltoids perceptibly weakened. The dynamometer showed the right hand twenty; left hand, fifteen. Flexion and extension of the arms were impaired. Sensibility of arms was normal, and there were no subjective sensations in them. The wrists and triceps reflexes were normal. The pupils reacted normally to light and accommodation, the ocular muscles were normal, there was no vasomotor disturbance, the mental condition was unimpaired, and no disease of the kidneys was present.

The development of the disease in both extremities simultaneously, together with the extensive loss of power and the fact that the knee-jerk was preserved when there was such extensive involvement of the muscles of the lower extremities, created in my mind a doubt as to whether the trouble might not be peripheral rather than central. It seemed possible the case might be one of those described by Gowers as a purely motor neuritis, and therefore painless. The course of the disease, however, dissolved this doubt. The patient went into the hospital for four months; shortly after she left, atrophy of the left thenar and hypothenar eminences began. The lumbricales and the interossei also became involved. There was also weakness of muscles of the forearm and arm, the muscles showing a quantitative electric change while the muscle and nerve formula on the opposite arm was normal. (There was also atrophy of the muscles of the scapulo-humeral group.) All muscles showed quantitative electric change.

Along with the atrophy of the muscles of the hand there developed muscular twitchings which extended all over the body, with the exception of the anterior aspect of the chest, and were most severe in the atrophied muscles. This tremor seemed to comprehend in its range both fibrillary tremors as well as movements of the whole muscular mass. I have never seen the same kind of tremor save in one indisputable case of progressive muscular atrophy of the subacute type. I was quite apprehensive lest these tremors might mark the beginning of progressive muscular atrophy with a subacute onset. Charcot says that progressive muscular atrophy may follow infantile spinal paralysis, and by analogy one can see no reason why it might not follow spinal paralysis in the adult.

The disease increased steadily until October, 1898, when its progress seemed to undergo an arrest.

Of course a case of this sort barely serves to suggest the difficulties of diagnosis that may arise between poliomyelitis and polyneuritis. The closest students of the subject still hold widely varying opinions as to the relations of the two diseases. Erb considers all cases of amyotrophic paralysis as depending on an alteration of the ganglionic cells of the anterior horns of the cord; the multiple neuritis observed in some cases he [illegible] muscular atrophy. Sometimes the primordial lesion of the gray substance is dynamic only, and then histologic examination does not show any modification of structure save in the nerves themselves.

For Strumpel, polyneuritis is a distinct morbid entity with an individuality all its own, which one may set over against poliomyelitis as one contrasts diseases which differ by their nature, cause, and the seat of the lesion, having nothing in common save a great analogy of symptoms.

Gowers inclines to Strumpel's point of view and be-

[illegible] that "many subacute and chronic cases which have been described as atrophic spinal paralyses are peripheral, not central in their nature, and are cases of multiple neuritis. . . . The history of the subacute spinal disease has been largely written from cases of multiple neuritis." On the other hand, he thinks that cases of central disease have not infrequently been considered peripheral.

Marie gives it as his conviction that in the majority of cases "the pretended peripheral neuritises are simply the consequence of central alterations and that among these central alterations those of the gray medullary substance play the principal part."

Raymond is inclined to believe that amyotrophic paralyses associated with multple neuritis and amyotrophic paralyses of manifestly spinal origin are "similar morbid conditions developing under the influence of the same causes, which appear to affect indifferently any portion of the apparatus represented by these three organs, viz., the ganglionic cells of the anterior horn, the motor fibers and the muscular fibers." That is to say, the morbific influence may attack any part of the neuro-muscular apparatus; either the muscle, the axis-cylinder, or the ganglionic cell itself, or all three of these simultaneously. He is, however, also of the opinion that in the pathogeny of amyotrophies, the dominant element is the dynamic or structural alteration of the trophic spinal centers.

The most suggestive recent contribution to this complicated subject has been made by Marinesco[1]. There are certain constant lesions in a nerve-cell which follow the section of a nerve-trunk. These have been verified by repeated experiments by various investigators. Precisely the same lesions have been observed and described in histologic examinations of the nerve-centers following neuritis. As these secondary lesions of the nerve-cell differ pronouncedly from primary lesions of the same substance, it seems safe to assume that they follow the neuritis rather than precede it. Marinesco distinguishes two stages in the development of these lesions. In the first phase the chromatic elements of the cell undergo more or less dissolution; in the second phase the trophoplasm itself undergoes modification. "From this time on the neuritic lesion is irreparable. and what may be termed the poliomyelitic phase of polyneuritis has begun." If Marinesco's deductions are correct, the differentiation between a simple polyneuritis and a polyneuritis in which the "poliomyelitic" phase has begun, is absolutely impossible.

Note.—Since preparing this article some three months ago, I have noted beginning involvement of the intrinsic muscles of the right hand. It is now just one year since the disease began to invade the like muscles of the left hand.

Pneumotoxin.—After denying for years the existence of a pneumotoxin, [illegible] has at last succeeded in producing it himself, with extremely virulent cultures. He also announces that a mixture of diphtheria toxin and antitoxin fatal for rabbits can be borne by guinea-pigs without injury; also that animals can be saved by the intravenous injection of an amount of antitoxin which, injected hypodermically would be ineffective. He is convinced that the action of therapeutic sera is not a chemical neutralization of toxins but a biologic reaction induced in the organism. Maragliano also asserts that the injection of tuberculosis antitoxin leads to the production of more antitoxin in the organism.—*Report of Ital. Cong. of Int. Med.*

Special Article.

DECISION ON OSTEOPATHY.

Harry Nelson, Plaintiff, vs. State Board of Health, Defendant,
in Jefferson Circuit Court, Law and Equity Division.

Opinion by Sterling B. Toney, Judge.

SYLLABUS OF POINTS DECIDED.

1. The statutes of Kentucky against empiricism are *constitutional*.
2. Whether a school of medicine from which a party holds a diploma is a reputable medical college, is a question alone and exclusively for the State Board of Health to decide.
3. Mandamus will not lie to compel the said Board to decide a particular way. Their act is quasi judicial and is not subject to mandamus.
4. **On the merits, held that the American School of Osteopathy** at Kirksville, Mo., from which the plaintiff holds a diploma, is not a *reputable medical* college; and that the State Board of Health is right in refusing to allow the plaintiff to practice osteopathy in **this state. The evidence analyzed and the law reviewed.**
5. **Historic review of kindred quack schools of mysterious healing.**

This is a suit in equity by the plaintiff, Harry Nelson, against the State Board of Health of Kentucky, to enjoin it from instituting or causing to be instituted against him a criminal prosecution for treating or attempting to treat in this state sick or afflicted persons by the system or method of healing known and called "Osteopathy," and for practicing or attempting to practice medicine or surgery in this state according to said system.

The plaintiff in his petition avers "that the defendant, the State Board of Health, unless enjoined from so doing, will have him arrested, prosecuted and fined for practicing or attempting to practice in this state medicine and osteopathy, under the provisions of an act of the General Assembly of Kentucky approved March 18, 1898, entitled "an act to amend an act, entitled 'An Act to protect Citizens of this Commonwealth from empiricism' approved March 10th, 1893."

He further alleges "that he is advised and so states the fact to be that the said act of the Legislature of Kentucky under which the defendant is about to have him prosecuted criminally, is in violation of the bill of rights and is unconstitutional and void, and by reason thereof, is of no force or virtue in law."

He further avers in his petition "that he is a graduate of and holds a diploma from the American School of Osteopathy at Kirksville, in the State of Missouri, at which said institution he graduated Dec. 15, 1897," and he alleges "that the said American School of Osteopathy is a reputable and legally chartered medical college, with a large and learned body of professors, and a large patronage of pupils;" and in support of this allegation, as to the character of said school or college, he files with his petition a catalogue of the same, marked "Exhibit B," and states that the said American School of Osteopathy as Kirksville, Mo., is entitled to be indorse and recognized by the State Board of Health of Kentucky, the defendant therein, and that the said plaintiff, as one of its graduates, is entitled to carry on his business as a practitioner in osteopathy in this state without hindrance, examination or molestation by the defendant, the said State Board of Health He alleges "that the defendant is discriminating against the peculiar school or system of healing, known as osteopathy, to which the plaintiff belongs, and has failed and refused, and still fails and refuses, to indorse the said college as a 'reputable and legally chartered medical college of another State,' to-wit of the State of Missouri, or to grant to him, the said plaintiff, a certificate of that fact, so as to authorize him to practice his said profession of osteopathy in this state without subjecting him to the penalties of the law." The plaintiff has framed his petition in a double aspect, and prays for alternative relief, to the effect that if he be not granted the injunction prayed for, to prevent the State Board of Health from having him prosecuted, then for a writ of mandamus to compel the defendant to recognize and indorse the said American School of Osteopathy at Kirksville, Mo., to the end that his diploma therefrom may entitle him to a certificate from the said defendant, to practice his calling in this state.

The defendant, on Oct. 8, 1898, filed its answer in two paragraphs, to the foregoing petition.

In the first paragraph the defendant traverses the material allegations of the petition; and denies that the American School of Osteopathy at Kirksville, Mo., is a reputable and legally chartered medical college; denies that it has a large and learned body of professors; denies that the pupils are instructed or taught in any branch or branches of learning or science, proper and necessary for the education of physicians or surgeons, or proper or necessary for the training or preparation of students for the practice of medicine or surgery; denies that its professors, or any of them, are capable of teaching any branch of science, or the principles of any branch of science or learning proper and necessary to be taught to students studying medicine or surgery; denies that the said school is entitled to the indorsement or recognition of the said State Board of Health, defendant herein.

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[1] Revue Neurol., 1898, No. 5.

In the second paragraph of its answer, the defendant alleges that the plaintiff, Harry Nelson, has not the education nor training legally requisite in this state for the practice of medicine or surgery or any healing art or system of healing known to the medical or scientific world; and states that the plaintiff is neither competent, fitted nor qualified by education or training to practice medicine or surgery or any known system of healing in this or any other state; that in the month of June, 1898, the defendant duly notified the plaintiff to appear before it and be examined as to his competency, fitness and qualification to practice medicine or surgery or any healing art, in order, if it were ascertained that he was so qualified, that it, the said Board of Health, might issue to him a license so to do, but that the plaintiff refused and still refuses to appear before the said Board to be examined by it as to his qualification, fitness and competency to practice medicine or surgery, or any healing art, or to treat any sick or afflicted person or persons by any system or method of healing whatsoever.

OSTEOPATHY A SYSTEM OF CHARLATANISM

The defendant further alleges that the said American School of Osteopathy at Kirksville, Mo., and the system or method of healing which it proposes or attempts to teach or does teach, is not scientific nor based on scientific principles of medicine or surgery, or any other plan or method of healing the sick or those suffering from any of the ills that flesh is heir to, but that on the contrary, the said doctrines, methods and principles for treating sick and afflicted persons inculcated, taught and practiced at the said "American School of Osteopathy" are a complete system of charlatanism, empiricism and quackery calculated and designed to impose on the credulous, superstitious and ignorant, and fraught with danger to the health, limbs and lives of the citizens.

PROFESSORS NOT COMPETENT TO TEACH

The defendant further states that the said so-called professors constituting the faculty of the said school are not competent to teach, and do not teach, any of the sciences or studies essential to the education of physicians or surgeons, and that the said school itself is wholly unfitted and unprepared in the necessary equipment and facilities for instruction, for the preparation and education of persons for the practice of medicine or surgery or any healing art, and that the said studies taught, and the practices followed in said school are wholly insufficient for the preparation of persons other than as quacks, empirics, and charlatans, for the suppression and prevention of which the very statute referred to in the plaintiff's petition, and charged by him to be unconstitutional, was made and provided. The defendant states that the seven members constituting the said Board of Health under the statutes of this state are sworn officers of the law, and as such their only desire and purpose have been and are to fulfil the duties imposed on them as members of the said State Board of Health by the Commonwealth of Kentucky, for the protection of the health, limbs and lives and welfare of the citizens of this state; and that all that it, the said Board of Health, has done, is doing or contemplates doing, is with the sole desire and for the sole purpose of carrying into effect the letter, spirit and intent of the statutes made and provided by the legislature of this commonwealth, for the protection of its citizens against empiricism, charlatanry and quackery; and the defendant further avers that to permit the plaintiff, unprepared, incompetent and unqualified as he is, or any of his associates in the said so-called school of osteopathy similiarly unqualified, incompetent and unfitted, to practice or to attempt to practice medicine or surgery or any of the arts of healing in this state, would be to endanger and to sacrifice the health, limbs and lives of the citizens of this commonwealth. The foregoing is the answer of the defendant to the plaintiff's petition.

On Nov. 12, 1898, the plaintiff filed his reply to the defendant's answer, traversing all of the affirmative allegations therein contained, except the averment that he had received notice from the defendant to appear before it and submit to an examination. This averment in the answer, the plaintiff admits in his reply to be true, and alleges that there is no law requiring him to submit himself for examination before the said State Board of Health, which said Board of Health, the plaintiff, in his reply, characterizes as "A Self-Constituted Board or Court of Inquisition."

The foregoing petition, answer and reply, the substantial averments of which are above set forth, are all the pleadings in this case and present the only issues of the law and of fact for adjudication by this court.

The defendant, the State Board of Health, is established by Section 2047, Chapter 63, page 750, of the Kentucky Statutes. At present it is composed of seven members: Drs. Joseph M. Mathews, William Bailey, Arch Dixon, J. H. Samuel, George T. Fuller, J. H. Letcher, and J. N. McCormack, physicians and surgeons of learning, eminence and distinction in the sciences of medicine and surgery. The six of these were appointed by the governor, by and with the advice and consent of the Senate, and the seventh member, whom the statute provides shall be secretary of the board, Dr. J. N. McCormack of Bowling Green, was elected by the other six members.

By Section 2049 of the same chapter of the Kentucky Statutes, it is provided:

> That the said State Board of Health shall have general supervision of the health of the citizens of this State.

By Section 2617, it is provided:

> It shall be the duty of the state and local boards of health to bring to the attention of the Courts any violations of the provisions of this law within their respective jurisdictions.

In Sections 2049, 2050 and 2057, the powers and duties of the Board are defined.

By Section 2613, it is provided as follows:

> Authority to practice medicine under this law shall be a certificate from the State Board of Health, and said Board shall upon application issue a certificate to any reputable physician who is practicing, or who desires to begin the practice of medicine in this State, who possesses any of the following qualifications:
>
> 1. A diploma from a reputable medical college legally chartered under the laws of this State.
>
> 2. A diploma from a reputable and legally chartered medical college of some other state or country, indorsed as such by the State Board of Health.
>
> 3. Satisfactory evidence from the person claiming the same that such person was reputably and honorably engaged in the practice of medicine in this State prior to Feb. 23, 1864.
>
> 4. Satisfactory evidence from any person who was reputably and honorably engaged in the practice of medicine in this State prior to Feb. 23, 1884, who has passed a satisfactory practical examination before said Board."

By Section 2612, it is provided as follows:

> It shall be unlawful for any person to practice medicine in any of its branches within the limits of this State, who has not exhibited and registered in the County Clerk's Office of the county in which he resides his authority for so practicing medicine as herein prescribed, together with his age, address, place of birth, and the school or system of medicine to which he professes to belong; and the person so registering shall subscribe and verify by oath before such clerk, an affidavit containing such facts, which if willfully false, shall subject the affiant to conviction and punishment for perjury.

By Section 2616, it is provided as follows:

> Nothing in this shall be so construed as to discriminate against any institution, school or system of medicine.

By the act of the General Assembly, approved March 18, 1898, it is provided as follows:

> Any person living in this State, or any person coming into this State, who shall practice medicine or attempt to practice medicine in any of its branches, or who shall treat or attempt to treat any sick or afflicted person by any system or method whatsoever, for reward or recompensation, without first complying with the provisions of this law, shall upon conviction thereof, be fined fifty dollars, and upon each and every subsequent conviction shall be fined one hundred dollars and imprisoned thirty days, or either or both, in the discretion of the Court or jury trying the case; and in no case where any provision of this law has been violated shall the person so violating be entitled to receive any compensation for the services rendered. To open an office for such purpose or to announce to the public in any way a readiness to treat the sick or afflicted shall be deemed to engage in the practice of medicine within the meaning of this act.

This last quoted act is the statute which the plaintiff denounces in his petition as being in violation of the bill of rights and unconstitutional and void.

It is a coincidence smacking of legislative irony, and not perhaps without significance, that following this, Article 1 of Chapter 85, of the Kentucky Statutes on medicine and surgery and empiricism, is Article 4, on "unclaimed dead bodies."

The first question to be determined by the Court is one of law, to-wit, whether the act of the legislature, approved March 18, 1898, above quoted, under which the defendant, the State Board of Health, was proceeding to have the plaintiff arrested and prosecuted is unconstitutional.

In the case of Dr. Joesph M. Mathews vs. the City of Louisville and the Commissioners of the Sinking Fund of the City of Louisville, No. 10,180 in the Law and Equity Division of the Jefferson Circuit Court, in an opinion by this Court handed down Jan. 2, 1897, it is said:

> [illegible]

This police power in the State is as unquestionable as is its general authority to adopt measures tending to suppress the sources of disease, to avert the spreading of contagion, to prevent the adulteration of provisions, and to legislate [illegible] directions for the promotion of public morals, the suppression of vice, and for the preservation of the public health. For this purpose, and to protect the public from the imposture and fraud of quacks and charlatans, the General Statutes of this state wisely require certain evidences of fitness and competency from those offering to practice medicine and surgery, in the shape of diplomas from reputable medical colleges and a certificate from the State Board of Health appointed by law. (See Sections 2611, 2612, 2613, pages 919 and 920, General Statutes of Kentucky.)

Such requirements of the statute can not be considered a discrimination against one class of citizens, or an unequal or unjust impediment or burden imposed on those offering to follow the profession of medicine and surgery in this state.

They are simply reasonable restrictions and regulations which the state has the undoubted right to adopt for the protection of the health, lives, limbs and safety of the citizens of this commonwealth. The State of Kentucky, as an incident of its sovereignty, has the indisputable right, in the exercise of its police power, to place such restrictions and conditions upon those offering to practice medicine and surgery within the commonwealth, and has equally the constitutional right of delegating to a municipality the same power.

In the case of Dent vs. State of West Virginia, decided by the Supreme Court of the United States, Jan. 14, 1898, Mr. Justice Field, speaking for the unanimous court said:

> Few professions require more careful preparation by one who seeks to enter it than that of medicine. It has to deal with all those subtle and mysterious influences upon which health and life depend, and requires not only a knowledge of the properties of vegetable and mineral substances, but of the human body in all of its complicated parts and their relations to each other, as well as their influence upon the mind. The physicians must be able to detect readily the presence of disease and prescribe medicine for its removal. Every one may have occasion to consult him, but comparatively few can judge of the qualifications of learning and skill which he possesses.
>
> Reliance must be placed upon the assurance given by his license that he possesses the requisite qualifications. Due consideration, therefore, for the protection of society may well induce the state to exclude from practice those who have not such a license or who are found upon examination not to be fully qualified. The same reasons which control, in imposing conditions, upon compliance with which the physician is allowed to practice in the first instance, may call for further conditions as new modes of treating diseases are discovered, or a more thorough acquaintance obtained with the remedial properties of vegetable and mineral substances, or a more accurate knowledge is acquired of the human system and of the agencies by which it is affected. No one has the right to practice medicine without having the necessary qualifications of learning and skill; and the statute only requires that whoever assumes, by offering to the community his services as a physician, that he possesses such learning and skill, shall present evidence of it by a certificate or license by a body designated by the state as competent to judge of his qualifications.

Not only has the Supreme Court of the United States expressly upheld such state statutes as the one under consideration for the protection of the health, limbs and lives of the citizens, but in almost every state in the Union the constitutionality of such legislative acts has been upheld by the state courts of last resort, save and except in the case of the State vs. Rennoyer, reported in the 18 Atlantic Reporter, 873, in which the Supreme Court of New Hampshire held that an act of the legislature requiring similar conditions in order to obtain a license to practice medicine in that state was unconstitutional.

In Driscoll vs. Commonwealth, 93 Kentucky, 394, and in Hargan vs. Purdy, 93 Kentucky, 424, it was held that the legislature of Kentucky has the constitutional authority to enact a law requiring those who undertake to practice medicine or surgery to give evidence of their fitness by procuring a license from those who, in the legislative judgment, are competent to determine whether the applicant possesses the necessary qualifications.

In view of the overwhelming weight of authority in both the state and federal courts in support of the constitutionality of such state statutes it is hardly conceivable that their constitutionality will ever again be questioned in the courts of this state.

The constitutional validity of the act complained of being indisputable, what are the other issues to be tried in this case? It is not alleged that the plaintiff had or has a diploma from a medical college duly chartered under the laws of this sister state; nor is it alleged or claimed that the plaintiff was engaged in the practice of his profession in this state prior to Feb. 23, 1864, or prior to Feb. 23, 1884; hence it must be admitted that he does not possess the first, third or fourth qualification named in Section 2613 of the Kentucky Statutes, above named.

It is an admitted fact that the plaintiff had and has a diploma from the American School of Osteopathy at Kirksville, Mo., and that the said school or college is legally chartered under the laws of that state.

The only question, therefore, for decision, is whether or not the plaintiff possesses the second qualification named in Section 2613 *supra*, to-wit, whether he "possesses a diploma from a *reputable* and legally chartered *medical* college of some other state?" Admitting that he has a diploma from the "American School of Osteopathy" at Kirksville, Mo., and that said school is a college legally chartered under the laws of that state, within the meaning of the statute, the question is whether the said school is a *reputable medical* college? If it is a reputable medical college, as the plaintiff holds a diploma from it, it was the duty of the defendant, the State Board of Health, under the statute, Section 2613, SubSection 2, of the Kentucky Statutes quoted *supra*, to indorse it as such, and thereby authorize the plaintiff to practice his profession in this state: But if the said school is not a reputable medical college, then the defendant, the State Board of Health, was right in refusing to indorse it as such, and in refusing to recognize the plaintiff's diploma therefrom, and is simply performing its duty under Section 2617 of the Kentucky Statutes in having the plaintiff arrested and prosecuted under the act of March 18, 1898, quoted *supra*. The first question for decision therefore is, whether the said American School of Osteopathy at Kirksville, Mo., is a reputable medical college? The word "reputable," as used in the statute when applied to a college, has a different meaning from what it has when applied to an individual. When applied to an individual the adjective "reputable" has reference to his moral character and to his character or reputation as an honorable or dishonorable man, i. e., whether he is a person of integrity and good character; but when applied to a college it has reference to the extent of its courses and study, that is to the period of study required for graduation, and to the thoroughness of the education required at such college, and to the thoroughness of the course or courses of science prescribed and taught in said college, and to the capacity and qualifications of the teachers as educators therein, and to the standard of scholarship and proficiency in said sciences required of the students, as condition precedent to the issuing of diplomas to them as graduates thereof.

In the case of William Barmore vs. The State Board of Medical Examiners, decision by the Supreme Court of Oregon, Chief Justice Strahan, in interpreting the words "good standing," occurring in a statute of Oregon which required of physicians applying to practice medicine in that state, a diploma from "medical institutions of good standing," used the following language:

> As a part of the current history of the times and as an aid in arriving at the legislative opinion when there were different kinds of colleges authorized by the laws of the states in which they were located, in which there were pretended annually to be delivered full courses of lectures and instruction upon the arts and sciences professed to be taught that were not reputable, because they graduated students for money frequently without regard for scholarship, a diploma from such an institution afforded no evidence of scholarship or attainments in its holder. It was a fraud and deserved no respect from anybody, and it was against such diplomas the law was intended to protect the public, and therefore required the colleges to be *reputable*. Whether a college be reputable or not, is not a legal question, but a matter of fact. So also are the requirements in regard to the annual delivery of full courses of lectures and instruction. These questions of fact are by the Act submitted to the decision of the Board, not in so many words, but by the plainest and most necessary implication. Their action is to be predicated upon the existence of the requisite facts, and no other tribunal is authorized to investigate that, and if necessary, therefore, they must do so.

The word *reputable* in the statute of Kentucky as applied to a college as synonymous with the phrase "of good standing" in the statutes of other states. The foregoing meaning of the words, "of good standing," as synonymous with "reputable," was based by Chief Justice Strahan upon the case of "The People vs. State Board of Medical Examiners, 110 Illinois, 180, where the word "reputable" appears in the statute of Illinois instead of the words "good standing," as in the statute of Oregon. When applied to colleges or institutions professing to teach any of the sciences, they mean the same thing. Such is in harmony with the manifest purpose of the statute.

To the same effect is the decision of the Supreme Court of Iowa, rendered in May, 1893, in the case known as "The Eclectic College Case." Said Given, J., in that case, in interpreting the meaning of the statutory phrase "of good standing" as applied to a college in that state:

> The standing of the college as contemplated by this statute is rather what the college is in respect to the thoroughness of its courses than what it is reported to be. . . . The standing of [illegible] the jurisdiction of the defendant [illegible] Medical [illegible] determine, and on Nov. 21, 1890, after a full and fair examination, it determined that said college (referring to the Eclectic Medical College) was not in good standing, because its teachings were not up to the minimum requirements.

He further said:

> It is clear that the defendant Board of Medical Examiners did have the power by proper investigation to determine the identity of [illegible] and the genuineness of these diplomas and whether said diplomas were issued by a medical school legally organized and in good standing.

In the case of the People ex. rel. Isaac N. Sheppard vs. The State Board of Dental Examiners, decided by the Supreme Court of Illinois in May, 1884, it was said:

> Whether a dental college is "reputable" or not, within the ordinary meaning of that word, is not a legal question but a question of fact. This question is by the act submitted to the decision of the State Board of Dental Examiners. Their action is to be predicated upon the requisite facts, and no other tribunal is authorized to investigate them. The act of ascertaining and determining what are the facts is in its nature judicial, involving investigation, judgment and discretion.

Continuing, the Court said:

> The office of a writ of mandamus is to enjoin and to compel the performance of mere ministerial acts prescribed by law. It lies, however, also to subordinate judicial tribunals to compel them to act where it is their duty to act, but never to require them to decide in a particular manner. It is not like a writ of error or appeal, a remedy for erroneous decisions. A subordinate body can be directed by the writ to act, but not how to act in a matter as to which it has the right to exercise its judgment. The character of the duty, and not that of the body of the officers, determines how far the performance may be enforced by mandamus. So upon the refusal of the Illinois State Board of Dental Examiners to grant a license to a person whose application was based upon a diploma issued by a dental college, mandamus will not lie to compel the Board to grant the license, because to entitle the applicant to a license the diploma must have been issued by a reputable dental college, and whether the college is a "reputable" one, is, under the statute, within the judgment and discretion of the Board to determine. The petition for a writ of mandamus to compel the Board to issue a certificate to the petitioner is therefore denied.

So also the case of People, for the use of the State Board of Health, vs. "Blue Mountain Joe," decided by the Supreme Court of Illinois in June, 1899, opinion by Mr. Justice Swope.

What tribunal did the Legislature of Kentucky intend should determine whether or not the medical college in another state, from which an applicant coming into this state to practice medicine or surgery with a diploma therefrom, is or is not a reputable college? It is perfectly obvious that the legislature intended that this question should be determined by the State Board of Health, and that the fitness and educational qualification of such applicant, whether evidenced by such a diploma or by an examination of the applicant, should be determined by the members of the said Board of Health, and by no other tribunal. It is absurd to suppose that the legislature intended that this question should be determined by a judge or jury on appeal from the decision of the said Board. In the legislative judgment of Kentucky as declared in the statutes above quoted, the State Board of Health is alone authorized and empowered to decide this question, if not expressly by necessary legal implication. Such is in consonance with the philosophy, the policy, the spirit and the letter of the statute.

KIRKSVILLE SCHOOL INVESTIGATED.

The proof clearly demonstrated that the defendant, the State Board of Health, fairly and fully investigated the American School of Osteopathy at Kirksville, Mo. It sent a committee of three reputable physicians in the state to that institution, Drs. J. M. Bodine, George W. Griffith and H. A. Cottrell, to examine into its equipment, apparatus and facilities for teaching, and to see the professors and ascertain whether they were ignorant pretenders or self-conceived visionaries or competent educators.

Dr. McCormack, the secretary of the Board, a physician and surgeon of high character and distinction in this state, also visited Kirksville, Mo., and examined the American School of Osteopathy, and his testimony is in the record.

The proof shows that the said investigation and examination by the said Board through its said committee and by Dr. McCormack, to determine whether the said American School of Osteopathy was a reputable medical college within the statutory meaning of the term as above set forth, were conducted openly and fairly and not arbitrarily and capriciously; that the said Board, after a full and complete and exhaustive investigation, determined that the American School of Osteopathy at Kirksville, Mo., from which the plaintiff holds a diploma, was *not* a *reputable medical* college, and that decision was based on a full and thorough inquiry into the facts and did not emanate from, nor was it influenced by, any prejudice or hostility on the part of the said State Board of Health to osteopathy or its teachers. It is vain to say that such a decision by the Board was a discrimination against the American School of Osteopathy as a peculiar school or system of medicine within the meaning and in violation of the provisions of Section 2616 of the Kentucky Statutes, quoted *supra*. It is my opinion that the action of the State Board of Health in determining that the American School of Osteopathy was not a reputable medical college, and that the diploma from it held by the plaintiff was entitled to no respect, is final and conclusive; and in the absence of an allegation and proof of fraud or gross violation of the duty equivalent to fraud, or abuse of discretion, and none such is or can be pretended or claimed, is not appealable to nor revisable by the courts.

However, waiving this point, which would end the case here, and looking into the voluminous testimony contained in the record for proof to sustain the plaintiff's allegation, that the decision of the defendant in refusing to recognize the American School of Osteopathy as a reputable medical college and refusing to indorse the plaintiff's diploma was contrary to the facts, what do we find?

A "STILL" SCHOOL.

The plaintiff files with his petition a catalogue of the American School of Osteopathy, and those expert witnesses for plaintiff, and professors in said school who have testified in this case refer to said catalogue and make it a part of their testimony as illustrative and explicative of the character of said college, and the "science of osteopathy" as taught therein. From this catalogue it appears that the Board of Trustees of the said school consists of the following five persons, to-wit: A. T. Still, who "discovered Osteopathy" in 1892; C. E. Still, H. T. Still and H. M. Still, his three sons, and Miss Blanche, his daughter. They are the incorporators of the said corporation, under the corporate name, "The American School of Osteopathy." The officers of the Board of Trustees are the following: A. T. Still, president; C. E. Still, vice-president; H. M. Still, vice-president, and A. G. Hildreth, secretary.

The catalogue contains the charter of the said school, granted by the legislature of the State of Missouri, which reads as follows:

> *Article 1.*—The name and style of this corporation shall be THE AMERICAN SCHOOL OF OSTEOPATHY, and shall be located in the city of Kirksville, in the county of Adair, and State of Missouri.
>
> *Article 2.*—The officers of this corporation shall be a president and such other officers as the trustees shall from time to time deem necessary, and appoint.
>
> *Article 3.*—The object of this corporation is to establish a college of osteopathy, the design of which is to improve our present system of surgery, obstetrics and treatment of diseases generally, and place the same on a more rational and scientific basis, and to impart information to the medical profession, and to grant and confer such honors and degrees as are usually granted and conferred by reputable medical colleges; to issue diplomas in testimony of the same to all students graduating from said school, under the seal of the corporation, with the signature of each member of the faculty and of the president of the college.
>
> *Article 4.*—That the corporate powers of said college shall be vested in a board of trustees, to consist of a number not less than five nor more than thirteen, and that the president of the board shall be ex-officio president of the college; which board shall have perpetual succession, with powers from time to time to fill all vacancies in their body, and that A. T. Still, Harry M. Still, Charles E. Still, Blanche Still and Herman T. Still, shall be the first members of said board, and shall have power to increase their number as hereinbefore specified.
>
> *Article 5.*—That said board of trustees and their successors, for a period of fifty years, shall have full power and authority to appoint a faculty to teach such sciences and arts as are usually taught in medical colleges, and in addition thereto, the science of osteopathy; to fill vacancies in the faculty, to remove the same, to declare the tenures and duties of all officers and teachers, and fix their compensation therefor; to provide a suitable building and furnish the same, and to fix the amount of tuition to be charged students, the number and length of terms students shall attend such college before graduating, the qualifications necessary to admit students into such college; to grant diplomas to all graduates who shall have passed an examination satisfactory to the board of trustees and faculty, in each and every branch required to be taught and studied in the curriculum of said college; and to make all by-laws necessary for carrying into effect the objects of this corporation not inconsistent with the laws of the State of Missouri and the Constitution thereof.

The school is made a corporation, and the officers of the corporation by its charter are only such as the said board of trustees—composed exclusively of the Still family—shall from time to time deem necessary and appoint. The corporate powers of the institution under Article 4, are vested in this board of trustees—composed exclusively of the Still family—which is endowed with perpetual succession and with the power to fill vacancies that shall occur in that body, and it is expressly stated in the said charter that A. T. Still, Harry M. Still, Charles E. Still, Blanche Still and Herman T. Still, shall constitute said board, and shall have the power to increase their numbers as hereinbefore specified. This board, thus composed of the Still family, and such successors as the Stills shall nominate by Article 5 of the said charter, shall for a period of fifty years have full power and authority to appoint a faculty to teach such sciences and arts as are usually taught in medical colleges, and in addition thereto, the science of osteopathy, and to remove members of said faculty and to fill vacancies in the faculty thus occasioned, and to declare the duties of all the officers and teachers and fix their compensation; thus establishing an absolute despotism by the Stills over all the officers and members of the faculty of the said institution.

Referring to this charter as a production of said Dr. A. T. Still, the president, at page 6 of said catalogue, the following language appears:

> In this way has the keen insight of Dr. A. T. Still into the future possibilities of osteopathy, and his entire and unreserved devotion to the interest of this child of his brain been exemplified in tangible form, and provision made for the development and promulgation of the science on a basis at once broad, liberal and permanent.

Thus it will be seen that the charter establishes a corporate Still syndicate, a *Still* trust in osteopathy, at Kirksville, Mo.

On page 7 of said catalogue appears what is called an *explanation* of osteopathy in the following language:

> In the minds of many to whose notice this catalogue may come, [illegible] questions concerning the nature of osteopathy. Hence it [illegible] to here make some explanation of the science.
>
> It should be first understood that osteopathy differs radically and entirely from all schools of medicine. Its point of view in regarding disease and its method of treating the disease have nothing in common with the methods employed in medicine. For instance: A man calls upon a physician and states that he is suffering from bowel trouble; the doctor diagnoses it as a case of diarrhea in which the disordered nervous mechanism of the bowel causes a too profuse outpouring of fluid secretions; he prescribes a remedy containing some astringent as, for instance, sulphuric acid; this causes a constriction of the vessels and of the canal, and a [illegible] of the symptoms.
>
> On the other hand, the osteopath, who has also diagnosed the disease primarily as above, gives no astringent, but goes to the nerves supplying the intestinal canal, the pneumogastric, the splanchnics, and the lower spinal sympathetics, by osteopathic manipulation he removes any irritation to these nerves which may be causing them to act unnaturally; he thus quiets the nervous mechanism which rules the function of the bowel, the unnatural secretion ceases and the patient loses his symptoms.
>
> The doctor, true to the theorems of Hippocrates, has combatted the symptoms, has killed for the time being, the irritated and complaining nerve by the use of a poison, sulphuric acid; has thus caused the symptom to disappear, at least temporarily, and has rendered the probability of its return contingent upon the ability of the patient's system to recover from the original cause of the disease before the poisoned nerve awakes from its dangerous sleep. If the system accomplishes this feat the diarrhea has been "cured." The doctor gracefully acknowledges that he has not performed the cure. Oh, no, he has merely aided Nature. Poor Nature, how beautiful to contemplate this negative aid thus afforded. Mother Nature, how long will you be able to stand up with such aid, and how long can your poor aching member, the troubled nerve, withstand the effects of the poisonous draught. After sufficiently vigorous and prolonged poisoning, will not the faithful nerve complaining, and thus giving warning to the system that cause of irritation exists somewhere, be smitten down at the post of duty by the ruthless destroyer who has come in the guise of friendship and philanthropy?
>
> Had the physician not succeeded in abating the symptom by use of the remedy indicated he would have tried something else.
>
> The above statements and questions are equivalent to saying that the medical practitioner doctors symptoms, not first causes; that Nature, not the doctor, cures; that the aid afforded by medicine to the diseased system is but negative, that medicines are poison, destructive first of the part most directly afflicted and later to the system as a whole; finally, that the methods employed by the ordinary medical practitioner are but experimental, as the frequent change of prescriptions in individual cases, the quick changing popularity of different remedies, the multitude of patent medicines, and the many hopeless chronic cases but too plainly indicate. Of these things, more presently. To revert to the original case, what has the osteopath done? He has gone to the original cause, has removed that which was hindering the nerve from performing its proper function, and causing it to act abnormally. "But," says the doctor, "the original cause was an indiscretion in diet, and has passed away." The osteopath answers that the indiscretion was bad, but was really the occasion, and not the original cause, that while, in this case, such may have been the immediate cause, the original cause lay deeper in the nerves or centers controlling the bowel. We shall see later what the osteopath regards as causes affecting the nerves and centers, and why in treating diarrhea and many other cases, he goes to the origin of the nerve-supply, working along the spine principally, and upon nerve-centers and plexuses generally, to effect his cures.
>
> Let us note in passing that the osteopath regarded the symptom merely as such, and allowed it to lead him to the original causes, that while he merely aided Nature, he did so in a positive, not negative manner by directly treating the cause of irritation, as for example, when in such a case he treats by putting back into place a slipped, or twisted vertebra in the spinal column, that he has introduced into the system of the sufferer no foreign element, poisonous to its constitution, and destructive of its parts, that his method was not experimental, since he simply went to the affected part and by manipulation restored it to its proper position and condition; that his method was exact, and his procedure based upon an intimate knowledge of anatomy and physiology, and was therefore scientific; that his method restored parts to normal, and thus left no predisposition to the recurrence of the disease.
>
> Sufficient has been said to show that osteopathy differs radically and entirely from schools of medicine, both in its point of view and in its method of treatment.
>
> [illegible] has been remarkably successful in the [illegible] and kindred complaints [illegible] to the thoughtful reader that [illegible] in its method and that there [illegible] how does it [illegible] diseases are left by medicine for the osteopath to cure? The failures of medicine have made osteopathy necessary. Dr. A. T. Still [illegible] after spinal meningitis had [illegible]
>
> [illegible] and its success in filling it, are sufficiently attested by the multitudes who seek its treatment. Failures of medicine make osteopathy a necessity. Yet the doctors [illegible] of this new science who dare to cross their paths; not at first, no, not until the newly arrived osteopath has demonstrated his power to save life and has [illegible]. Then human life becomes a bagatelle, osteopathy is a humbug, and must down.

Such is the lucid explanation of osteopathy presented in this catalogue issued by the American School of Osteopathy, at Kirksville, Mo.

The catalogue shows that there are fifteen professors in the faculty, of whom four are members of the Still family. All of the faculty have the letters D.O. after their names, which is presumed to mean "Doctor of Osteopathy," but only three of them have M.D. after their names, to wit: William Smith, M.D., D.O., professor of anatomy, symptomatology, obstetrics and venereal diseases; C. P. McConnell, M.D., D.O., theory and practice of osteopathy and osteopathic diagnosis; J. B. Littlejohn, M.A., M.D., professor of histology and minor surgery.

The proof shows that the visiting committee from the State Board of Health found that the institution was destitute of the essential equipment, apparatus, appliances and facilities of a college for teaching medicine and surgery or any healing art. For instance, in the room of said institution for teaching anatomy the proof shows that plates were used with a mummyized cadaver which was kept constantly on hand, and which had been rendered so hard by the process of embalming that nothing but a cold-chisel could make an impression on it. A painted wooden Indian used for a cigar store sign would answer the purpose for demonstrating anatomy just as well.

ABOUT PROFESSOR WILLIAM SMITH, M.D., D.O.

Dr. William Smith, the professor of anatomy, the proof shows is the pride and flower of the faculty. He was born in Jamaica, and educated in Scotland. He visited many medical and surgical institutions in foreign countries, and after graduating abroad came to this country and entered upon the profession of a drummer. He testified that in his travels as a drummer he met Dr. A. T. Still, which resulted in his conversion from a drummer into a doctor of osteopathy. This Dr. Smith, the proof shows, is under several indictments in the City of Chicago for felonies; that he has also been indicted in Adair County, Missouri, in which county the American School of Osteopathy is located, for felony. The indictments are still pending against him. The proof shows that $500 reward was offered for him by the governor of Illinois, and he testifies that he procured the indictments against him in Missouri to prevent his being extradited and carried back to Chicago as a fugitive from justice.

On cross-examination the following questions were put to Dr. Smith:

Q.—You say you began the study of medicine in 1880 in the University of Edinburgh, Scotland, and attended college until in 1884; have you a diploma from that school?

A.—I have not for the reason that after having a difference of opinion with one of the professors I concluded to leave, was not requested or ordered, but did so of my own free will.

Q.—You say you went to Manchester and attended Victoria University (Owens College) until 1887; have you a diploma from this school?

INFECTED WITH SYPHILIS.

A.—My sole reason for going to Manchester was that in the latter part of 1884 I was infected with syphilis while working in the venereal wards of the Royal Infirmary. I only attended Owens College not to *waste* time, had no idea of graduating from the school, never even matriculated there, simply attended classes and read, and when my syphilis was over, returned to Edinburgh and began work on the subjects for final examination in the other school of medicine in that town.

Q.—What colleges did you attend subsequently and did you procure a diploma therefrom?

A.—I attended the Royal College of Physicians and Surgeons, at Edinburgh, and after examination by the examining boards of those colleges and the faculty of Physicians and Surgeons at Glasgow, was granted a diploma by the three boards, in January, 1888. I was living at home and did not care to remain home during the infective period of my syphilis and so lived in the other town (Manchester) for fear of inadvertently conveying the disease to any of my family.

Q.—Where is the diploma that you secured from the Royal College of Physicians and Surgeons and the other college spoken of?

A.—That diploma is in the possession of Messrs. Carroll, Turner and Kirwan, New Houseman Building, Grand Rapids, Mich., as one of the productions in a libel suit which I have instituted against Messrs. Parke Davis & Company, and William M. Warren, proprietors and publishers of a paper called the *Medical Age*, which stated that I was an unqualified man and a fraudulent character. The diploma was procured by me in order to secure permission to practice in this state, and my state certificate has been duly recorded in this town as required by the law of 1883.

Q.—You say, Doctor, that you became, while in Edinburgh, licentiate in midwifery; by whom was this degree conferred on you and when?

A.—By the same examining boards on the same date, the certificate being signed by the president and secretary of each of the colleges named; that certificate also is in Grand Rapids, Mich.

Q.—After receiving your certificate from the Royal College of Physicians and Surgeons, what course did you pursue toward entering into active practice of your profession?

A.—I went to Midcalder, twelve miles from Edinburgh, and *bought* practice of Dr. Walter Watson, paying him $2000. I practiced there for two years and nine months, worked so hard in building up the practice that I broke down my health; the practice had grown to such an extent that I sold it for $4000 and came to this country. I secured a position with Messrs. A. S. Aloe & Co., as traveling salesman, and while acting in this capacity, six weeks after entering into their employment, met Dr. Still in Kirksville, and at his request, after investigating his claims for his new work, decided to learn more of it, and so joined him in July, 1892.

Q.—Give the names of the faculty of the American School of Osteopathy in 1896, at the time or before Dr. Harry Nelson graduated.

A.—Dr. A. H. Sippy, Dr. Alice Patterson, C. E. Still, C. P McConnell, A. T. Still, myself and Dr. S. S. Still; that was the faculty to the best of my knowledge and belief.

Q.—Doctor, I will ask you whether in January, 1898, in Cook

County, Illinois, you were not indicted for obtaining dead bodies contrary to the laws of Illinois, the offense said to have been committed on Oct. 24, 1897?

A.—I have no knowledge of said indictment, never having been served with same, but I have every reason to believe that your information is correct.

Q.—State whether or not at the 1897 term of the criminal term of the Cook County, Illinois, grand jury, in conjunction with Henry Ulrich and John Ludes, said to have been committed on Dec. 1, 1897, contrary to the laws of Illinois, you were indicted for burglary.

A.—Same answer as to the preceding question.

Q.—State whether or not you were indicted in December, 1897, criminal court of Cook County, Illinois, with Henry Ulrich and John Ludes for burglary, said to have been committed on Dec. 1, 1897?

A.—Same answer as question No. 30.

Q.—State whether or not you were indicted in the criminal court of Cook County, Illinois, January, 1898, with James Carter and Thomas Furey, for unlawfully and feloniously securing from one Joseph Raufcisen, certain personal property and money and conducting and running a confidence game, said to have been committed on Jan. 1, 1898.

A.—With regard to the first few charges as to the Chicago bodies, I have reason to believe that I was so indicted and will explain the circumstances connected with the same. This last charge is somewhat of a surprise, as I knew none of the gentlemen mentioned. For the guidance of the examining attorney, and to save his time, I may state that I have nothing to do with the assassination of President Lincoln, the blowing up of the *Maine*, a rape on the person of the president of the State Board of Health, or any other crime of which he or anybody else may have either heard or dreamed. With regard to Questions 30, 31 and 32, I file Exhibit 3 and beg to add that these indictments were simply an attempt at persecution by the president of the County Board of Cook County, whose irregularities had been exposed, and that the governor of this state, on presentation to him of the true facts in the case, stated to me personally that he not only would not honor the requisition, but would see that I was protected from any attempt to get me into Illinois to make me a scapegoat for the offenses of another man. The result of the matter has been that the president of the County Board lost his position, did not receive the nomination for sheriff for which he was working, and I have received offers of absolute protection if I will go to Illinois and expose in full the plot against me. I require bodies for dissection and procure them exactly as does every other demonstrator of anatomy.

Q.—Doctor, is it not a fact that these indictments are all pending in Cook County, Illinois, and have never been dismissed?

A.—I do not know, and I do not care.

Q.—Were you not indicted in Adair, that is your own county, Adair County, Missouri, for perjury, and is it not a fact that this indictment is still pending?

A.—Certainly not.

Q.—Is there any indictment pending in this county, if so for what crime, and when is it said to have been committed?

Objected to.

A.—Certainly not.

Q.—Did you not tell Dr. McCormack and myself, as we were leaving the building this morning, that you had an indictment preferred against you through the assistance and collusion of a student of this college?

A.—I did. That indictment was preferred against me at the time when the second requisition was presented to Governor Stephens. I was afraid the governor might weaken and allow me to be taken. I wished to hold myself in Missouri until I could present to him further evidence, if it were necessary to do so. Governor Stephens' standing to his guns made any following up of the matter unnecessary, and of course there was no prosecution. I am perfectly willing that any reputable citizen in this town be asked for his opinion of my personal character and reputation during the two years and a half during which I have been constantly under public observation.

Q.—What other schools of osteopathy are located in this town other than the American School of Osteopathy?

A.—A man named R. M. Brashear possessed some farm land on the outskirts of town; he desired to sell building lots, and so induced an osteopath to join with him in founding the great "Columbian School of Osteopathy," medicine and surgery. Its students are mainly derived from those who can not pass the entrance examination of this school, as they are taken in there without any qualification. Also those who are devoid of funds, as in order to get students they have been taking them without money and without price. The institution has been in existence rather less than twelve months, and my opinion is it will be for sale in less than three more.

Q.—Who is this osteopath that is assisting this farmer in disposing of his land in building lots?

A.—M. L. Ward. A man who has buncoed Dr. A. T. Still into believing him a man of good reputation, and who, I am informed, was kicked out of this institution for [illegible] irregularity. He held the position of vice-president under the first board of the school for eight months.

Q.—Is it not a matter of fact that the American School of Osteopathy and the Columbian school have runners out on the street at the depots and in the hotels with the names of the institutions tied acros their hats, ready to guide patients to their respective infirmaries?

A.—I direct attention to the page immediately preceding the frontispiece of Exhibit 2 to the [illegible]. W. S.

Q.—I will ask you the full name of the author of the book known as "Osteopathy Complete," which upon direct examination you stated was not considered a standard text-book, and whose name I believe you stated was Barber.

A.—His full name is Elmer D. Barber. The book is not recognized, for the reason that osteopathy can not be acquired from a book. It is possible that much in that book may be correct, but I know nothing about it.

Q.—Is it not a fact that Elmer D. Barber is a graduate of the American School of Osteopathy, graduating therefrom in 1896?

A.—I believe that that is correct.

Q.—On direct examination you stated that you attempted to suppress the school conducted by E. D. Barber at Kansas City, Mo., by representing yourself to him under an assumed name?

A.—I introduced myself as a Dr. Stuart, told him fairy tales, told him straight out that I wanted to buy a diploma and secured it.

Dr. Smith testifies further that osteopathy and osteopathic treatment "depend essentially upon manipulation directed toward improving the circulation and the correction of structural abnormalities; that the main feature of osteopathic treatment "is the direct stimulation or inhibition of nervous impulse," . . . that he "has seen hundreds of cases stated by physicians of the regular schools to be incurable cured by osteopathic treatment," and emphasizes one particular case, of a student, who, according to his testimony was then in the American School of Osteopathy, whose case was sworn to by six of the best surgeons in Memphis, Tenn., as being incurable, they swearing, he says, that the said patient would never be able to walk again. "That man," he testifies, "now walks where he likes without crutches and with no abnormality in gait." It may be remarked in passing that the name of this patient is not given nor is his testimony taken in this case.

TEACHERS ALL PROFOUNDLY LEARNED.

Dr. Smith also testifies that all of the professors in the American School of Osteopathy are men of profound learning, skill and honor; that the term of study at college is twenty months, that the tuition is $500 each, and that there are over five hundred and fifty students at said institution. . . . that the *A. T. Still Infirmary* is a separate, private corporation, closely connected with but separate from the American School of Osteopathy at Kirksville, where patients are treated by the students of the American School of Osteopathy under the operators of the *A. T. Still Infirmary*, and that in said infirmary there are from three to five hundred patients; that A. T. Still has very little to do with the management of the school, but that the financial affairs of the said institution are left in the hands of the trustees of the said American School of Osteopathy, composed, as we have seen, of A. T. Still and his sons and daughter, and that they meet monthly. Dr. Smith further testifies that the plaintiff in this case, Dr. Nelson, graduated at the American School of Osteopathy at a time when there were only about fifty students at said institution, and when surgery was not taught when chemistry was limited to uranalysis; and that histology was then taught by the stereopticon, and at that time there was no microscopic department in said institution, nor was public health, psychology or medical jurisprudence taught therein. Yet he testifies as follows: "A man could get, with the limited means at our disposal as good an osteopathic education at *that time* as he can *now*."

Prof. J. M. Littlejohn testifies that he is dean of the faculty of the American School of Osteopathy; that he has charge of the department of physiology and psychology, and that he is not a graduate of any school of medicine. He further testifies that he knows of no cure from personal experience of any case that has been pronounced incurable which was subsequently cured by osteopathy. This does not harmonize with Dr. Smith's testimony as to the five hundred remarkable cures.

Prof. C. P. McConnell testifies that osteopathy is based upon manipulation, and that manipulation is the main osteopathic treatment given to the afflicted and sick.

These different professors in the American School of Osteopathy each and every one of them reciprocally testify to the learning, skill, enterprise and honor of each other, and they make no exception of Professor Smith. They all testify that they are believers in the science of osteopathy.

Professor McConnnell further testifies that the methods practiced by Dr. Nelson, the plaintiff in this action, represent the true fundamental principles of osteopathy. He testifies that he knows the etiology and pathology of measles, scarlet fever, diphtheria, and all the catalogue of diseases mentioned, and that the osteopathic treatment of all of said diseases is manipulation, but he positively refuses to tell how the manipulation is applied in any case. He says that Dr. Barber, the president of a school of osteopathy at Kansas City, Mo., graduated at the American School of Osteopathy and holds a diploma from that institution, "that Dr. Barber's osteopathic character is that of an outcast."

It appears in proof that the chair of medical jurisprudence was established in 1898 in the American School of Osteopathy, and that this chair is filled by Judge Andrew Ellison, who had for many years been judge of that circuit in Missouri. In answer to Question 27, on direct examination the judge testifies that he could not from a scientific standpoint tell what is meant by the science of osteopathy, as it is taught by Prof. A. T. Still, nor what its fundamental principles are. The judge strongly disagrees with Professor Smith, Professor McConnell and others of the faculty who have testified in this case for the plaintiff, when he says in answer to direct Question 28, whether osteopathy as practiced by Dr. Still was not a mem-employed to heal the sick by manipulation I would say most assuredly and emphatically not." He also disagrees with Professor Hildreth upon this subject and with Dr. Nelson, the plaintiff. In answer to Question 79 the judge says that at first seeing the cures in the institution he thought it was a *special gift of Dr. Still*, but seeing convinced him that it was not only curative but thoroughly scientific. Yet the judge says he knows nothing about its principles nor what osteopathy is from a scientific standpoint. *Quo magis nesciunt eo magis admirantur.*

The judge says he is a friend of the American School of Osteopathy, and of the citizens of Kirksville, who have been so much benefited by the location of that school in their town. He further testifies that he had delivered an address to the graduates of the school, and that he went down to the capital of the state, along with other good citizens and helped to get a bill through the legislature chartering the institution, and in January, 1899, he became the attorney for the institution.

Dr. Arthur G. Hildreth, a witness for the plaintiff, testifies that he is an osteopath and a graduate of the American School of Osteopathy at Kirksville, Mo., and that he knows Dr. Nelson . . . that the basis of osteopathy is manipulation. . . . that diphtheria is treated by manipulation from an osteopathic standpoint . . . that he knows nothing of antitoxin or the treatment of diphtheria with antitoxin . . . that he treats cerebrospinal meningitis by manipulation and that he treats acute inflammatory rheumatism of the knee-joint, peritonitis and appendicitis by manipulation.

OSTEOPATHY CURES EVERYTHING BUT CANCER, SYPHILIS AND CONSUMPTION.

The plaintiff, Dr. Nelson, testifies that osteopathy cures all diseases except cancer, syphilis and consumption; that he treats Bright's disease and diabetes by manipulation, stimulating the "renic splanchnic;" that he treats diphtheria by manipulation, stimulating the vasomoter center in the back of the neck, and by putting the finger down the throat of a patient and manipulating the soft palate or fauces; that the treatment of scarlet fever, lockjaw, milk leg, varicose veins, dropsy, retention of the urine, piles, fistula in the rectum, anal fissure, acute rheumatism, hip-joint disease, simple, benignant and malignant tumors, chronic syphilis, eczema, shingles, carbuncles, bones, felons, bruises, puerperal convulsions, flooding after child-birth, laceration of the cornea of the eye, *all* by manipulation, but he refuses to state how or in what manner this manipulation is applied.

The other expert osteopaths, witnesses for the plaintiff, explain the method of manipulation by excitation of the vasomotor center in many diseases, but for the most part, in reference to all the maladies in the catalogue of diseases propounded to them in the interrogatories, they say they treat by manipulation, but they refuse to tell how they exert or apply said treatment.

All the expert witnesses for plaintiff, including the professors of the American School of Osteopathy who have been examined, testify that *manipulation* and not medicine or surgery constitutes the science of osteopathy. And here it is worthy of note that none of the Still family, the discoverer of osteopathy, and his sons and daughter, who constitute the board of trustees of the American School of Osteopathy, have testified in this case.

The evidence of all the witnesses for plaintiff conclusively establishes the fact that osteopathy is simply treatment of diseases by manipulation, and that doctors of osteopathy are simply masseurs, that is manipulators. Nor can it be disputed that in many nervous diseases massage treatment is beneficial.

Plaintiff has introduced several witnesses, not experts, who have received this massage treatment called osteopathy, among them the Hon. Frank Parsons, who was treated by him for waxen kernels in the throat. He testifies that the plaintiff manipulated the kernels in his throat with his thumbs and fingers around and about his face and neck and did him much good. So Mrs. Samantha Field was treated by the plaintiff for neuralgia, and she thinks Dr. Nelson has cured her. Mrs. Fannie McKay Perry was treated by plaintiff by manipulation for liver and stomach trouble, and for tonsillitis, and she says he cured her. Mrs. Perry further testifies that the plaintiff cured her little daughter of malarial fever and her aged mother of rheumatism, by manipulation. She says there was no medicine given and no surgery practiced by him. Mr. Price and Mr. Longest, witnesses for plaintiff, both of whom were suffering from nervous troubles, testify that they were treated by Dr. Nelson by manipulation and were greatly benefited. Mr. Price testifies that he had tried "Christian Science" and faith cure, and that the massage treatment of plaintiff did him more good than either of the other treatments.

It appears in evidence that when the plaintiff, Dr. Nelson, took his osteopathic course and graduated at the American School of Osteopathy, the only graduate of medicine in the faculty was Professor Smith, whose testimony has been referred to *supra*. At that time physiology and pathology were taught in said school only with charts and manikins. Neither clinics nor surgery were taught at that time in said institution.

The foregoing are all the witnesses who have testified in this case for the plaintiff.

WHAT OSTEOPATHY REALLY IS.

The first witness for the defendant is Dr. Arthur T. McCormack, inspector for the State Board of Health, an educated physician. He testified that he has visited and examined all of the principal medical colleges and hospitals in the United States, and that he visited the American School of Osteopathy at Kirksville, Mo., for the purpose of ascertaining the true character of that institution as a school of medicine and surgery. He testifies that when he visited that institution Dr. Smith was professor of anatomy, and demonstrator of surgery, and that he taught and demonstrated those sciences by throwing pictures of the parts of the human body, by means of an acetylene gas lantern, on a screen, and that they had only one cadaver, which was by the embalming process rendered so hard that it was useless for anatomic analysis, and that the only way of making an impression upon it was with a cold-chisel. He testifies that the tables and plates and apparatus and appliances of every kind in the histologic department showed that histology was not taught in said institution, but that it was only a false pretense—the claim that they taught it, that the facilities and equipment of said institution were wholly inadequate for the purpose of teaching medicine and surgery, and were a mere makeshift.

PRESIDENT MATHEWS UNDERSTANDS OSTEOPATHY.

Dr. J. M. Mathews, a practicing surgeon in this city for seventeen years, professor of surgery in the Kentucky School of Medicine, and president of the **American Medical Association**, and president of the State Board of Health, testified that he understands the theory and practice of osteopathy, and that osteopathy is not a system for curing diseases, and is to be feared for dangerous results which would naturally be caused thereby. He heard the plaintiff, Dr. Nelson, testify in this case as to the proper mode of treating diseases osteopathically; that the osteopathic treatment of diphtheria as testified to by the plaintiff, Dr. Nelson, could not possibly do any good, and would kill a majority of the patients receiving it. He testifies that it is impossible to detect albumin in the urine by the sense of smell, as Dr. Nelson states in his testimony is the way he discovers it. Dr. Mathews further states that manipulation of the body, intead of being a cure for Bright's disease and diabetes, and of scarlet fever, appendicitis, retention of urine, and the other diseases which Dr. Nelson testifies could be cured by manipulation, would do the patient no good, but, on the contrary, positive harm. He says the osteopathic treatment testified to by Dr. Nelson as a system is very foolish, and would likely kill patients rather than benefit them.

Dr. J. M. Bodine, a practicing physician of forty years in this state, and the professor of anatomy in the Kentucky School of Medicine for four years and for thirty-six years in the medical department of the University of Louisville, president of the American Medical College Association, president of the Southern Medical College Association, and president of the Association of American Medical Colleges, testifies that he has investigated osteopathy, and understands in the main the views and methods of its disciples. He testifies that he was one of the investigating committee sent by the State Board of Health of Kentucky to the American School of Osteopathy at Kirksville, and made an examination of said institution and of its teaching. Dr. Bodine testifies that it would be dangerous to the people of Kentucky to license osteopaths from said institution to practice medicine in this state. He says that "osteopathy is the *ne plus ultra* of absurdity;" that the doctrines and practices of osteopathy are utterly preposterous and would be dangerous and positively hurtful in most diseases to invalids who should receive such treatment. He says that in most of the diseases which the school of osteopathy claims to cure, manipulation would do no good on earth, but on the contrary would do harm, and in many cases likely kill its victims.

Dr. J. M. McCormack, of Bowling Green, a physician of distinction in this state, and a practicing physician for twenty-eight years, and secretary of the defendant, the State Board of Health, and who is a graduate of two medical colleges in this country, and a post-graduate in European colleges, testifies that he, in 1896, visited the American School of Osteopathy at Kirksville, Mo., and while there went over the entire school or college; was shown all of its appliances, apparatus and facilities for teaching medicine and surgery, and that he made a complete examination of the equipment and teaching facilities of said institution with a view of determining whether or not said school was capable of preparing students for the practice of medicine and surgery. He testifies that they had no apparatus whatever, except a few skeletons and some anatomic plates, such as are used in our high schools; that the professor of anatomy of the American School of Osteopathy told him while there that they had never had a cadaver in the school, and only taught anatomy from skeletons and plates; that Dr. A. T. Still, the discoverer of osteopathy, and founder of the institution, and its present president, told him that he was a graduate of one of the old Kansas City schools, and that he graduated in the '40's, but that Dr. Still could not give the name of his alma mater, nor the year in which he graduated. Dr. McCormack further testifies that there were no medical schools in Kansas City in the '40's. He further testifies that he saw two osteopathic doctors treat a patient in Franklin, in this state, and that their treatment was a crude and rough form of massage, and would be positively dangerous as applied to many diseases which osteopathy professes to treat and cure. Dr. McCormack testifies that he has read the catalogues and magazines of the school of osteopathy, and that all osteopathic literature is nebulous and vague, and that the professors and students of the American School of Osteopathy neither teach nor study medicine; that the osteopathic treatment of diseases is positively and highly dangerous in most of the list of diseases which they profess to cure. Dr. McCormack further testifies that he heard Dr. Nelson's testimony in this case on the subject of his qualification and competence to practice, and also heard him state his mode of treating diseases, and that in his (Dr. McCormack's) judgment, to license Dr. Nelson would be dangerous to the health, limbs and lives of those citizens who might be treated by him in most instances.

Dr. A. Morgan Vance, an eminent surgeon of this city, who has practiced surgery here for twenty-five years, and is a specialist on joints and deformities, testifies that the practice of osteopathy is not only dangerous to the limbs and lives of the public, but in many instances is inhuman and barbarous.

Dr. William Cheatham, a distinguished specialist upon the eye, ear, throat and nose, testifies that osteopathy is very dangerous and injurious to the eye; and that the treatment of diphtheria by osteopathy would invariably kill the patient.

Dr. Chester Mayer, a learned homeopathic physician of this city, testifies that he has read up on osteopathy and its treatment of diseases, and that the whole osteopathic theory is contrary to accepted medical and surgical science, and it is dangerous in its application.

Dr. William Bailey, a forty-one years' practicing physician and a member of the State Board of Health, who is also professor of materia medica, therapeutics and public hygiene in the medical department of the University of Louisville, and for twelve years connected with the Hospital College, testifies that he understands osteopathy, that he has read what is called its literature, and that osteopathy, as taught and practiced by graduates of the American School of Osteopathy, unless administered under the supervision and direction of a person learned and skilled in medicine, would be of no benefit to a patient, but, on the contrary, would do great harm.

The foregoing is the testimony of experts for the defendant:

"The undersigned [illegible] pursuant to a request made by the Secretary of the Board of Health of Kentucky visited Kirksville, Mo., on Nov. 5 and 6, 1897, for the purpose of examining into the scope and teaching facilities of the American School of Osteopathy there located.

We found a building and appointments adapted to the teaching of [illegible] and chemistry. We found bones and drawings, but no dissecting-room, or physiologic laboratory, and were [illegible] that the [illegible] the purpose of dissecting the human body with the [illegible].

[illegible]

[illegible] medicines, and therapeutics, which is their application to the cure of disease [illegible] that in the treatment of disease the physician has no use for [illegible] lishing therapeutic measures, and operative surgical procedures.

Without a dissecting-room, without the privileges of seeing and handling the muscles, vessels, nerves, glands, and viscera of the human body, the undersigned can not understand how the graduates of this school can have a practical knowledge of anatomy.

The faculty consists of fourteen teachers, one of whom only [illegible] Doctor of Medicine after his name.

[illegible] assuming to teach the science and art of medicine by means of a faculty, who, with one exception, are not graduates of any medical school.

Respectfully submitted,
J. M. BODINE, M.D.,
Prof. of Anatomy, Med. Dept. Univ. of Louisville.
H. A. COTTELL, M.D.,
Prof. of Physiology, Histology, and Diseases of Nervous System,
Med. Dept. Univ. of Louisville.
G. W. GRIFFITHS, M.D., Surg. Gen. K. S. T."

From all the testimony in this case by witnesses for the plaintiff and defendant, it appears that the whole arcana of osteopathy, in a nut-shell, is manipulation—massage. It has never been disputed, but on the contrary, [illegible] by the proof that many nervous troubles of hysterical women, and indeed many peculiar nervous diseases of men may be greatly relieved by the soothing effect of manipulation or massage, causing rest and sleep to the patient. The fact is established upon the scientific authority of the witnesses for the defendant in this case, and is also attested by eminent American, English, German and French doctors. The testimony of the learned physicians and surgeons for the defendant in this case shows that massage is often a part of the medical treatment of the sick; that massage is taught in every reputable medical college, and school, in the country, and that in all towns and cities of any size or importance in the United States there are practiced masseurs who administer massage treatment to those afflicted with nervous diseases, under the direction of reputable physicians.

It is a fact that by certain physical manipulation of certain muscles, causing nervous reflex action, abnormal cataleptic conditions of the body and muscles may be temporarily produced, with corresponding abnormal states of the mind. This is the basis of hypnotism; but experience and science both attest the fact that hypnotism, however interesting and mysterious its phenomena, is utterly inefficient as a means of permanently relieving pain or remedying disease.

ANCIENT AND MODERN QUACKS.

From the time of the Hierophant of the Egyptian temples, down to the present time, various sects of pretended curers of human disease, without the aid of medicines, have appeared under as many various names, all claiming to have the power of healing through some mysterious agency of their own. They operate outside of the jurisdiction of science, and in a large measure rest their claims for success upon the credulity, imagination or ignorance of their victims. Experience has shown, however, that in all such instances they are quack curers, frauds and impostors. It is interesting to note the diversity of these various quack schools for healing human disease without the aid of medicine or surgery, and outside of the pale of science, that have appeared and disappeared at different times. There are mind cures, faith cures, prayer cures, mental science cures or metaphysical healing, the "Christian Science" with its absent treatment, and hypnotists, enchanters, diviners, alchemists, mystics, astrologers, magicians, soothsayers, telepaths—all claiming to possess miraculous gifts in the way of healing disease—the secrets of occult science, a kind of mystical knowledge—

> Deep truths to others unrevealed,
> Mysteries from mankind concealed.

through and by which they accomplish marvelous cures and miraculous healing of all the maladies to which the human family is subject.

In many instances these professors are enthusiastic, self-deceived visionaries, while in a great majority of them they are downright frauds, practicing upon the credulity, imagination and ignorance of their patients, for revenue only.

MESMERISM.

Anton Mesmer, the celebrated mystic of the eighteenth century, claimed to possess an occult force derived from the stars, which he exerted upon his patients by stroking their bodies with magnets. Gassner was a wonder doctor, a kind of wild medicine man or priest in Switzerland in the eighteenth century. He effected his cures alone and exclusively by manipulation. He was the first and original osteopath; and were he living could sue Dr. A. E. Still for infringing his patent, and pirating his trademark. After consulting with Gassner, Dr. Mesmer discarded his theory of siderial magnetism, and in Paris practiced upon his patients manipulation, aided by dim-lighted rooms and soft music. It is a historic fact that [illegible] whom he treated by what he termed animal magnetism, which [illegible] by a committee of physicians, members of the Academy of Science, appointed by the French government for the purpose of investigating [illegible] and jugglery, and Mesmer himself to be an empiric and impostor, and he was driven from France.

[illegible]

Therapeutics.

Treatment of Measles

[illegible]

Caution.—To be given with watchfulness to very young children or the morphin reduced in amount.

Dr. Louis Starr advises, to quote his own words: "Early in the attack, while the temperature is elevated and the cough hoarse, citrate of potassium is useful as a febrifuge and relaxing expectorant. To a child 6 years old from one to two fluidrams of liquor potassii citratis should be given every two hours, and to this may be added 20 drops of paregoric and 5 or 10 drops of syrup of ipecacuanha if the cough becomes very troublesome and croupy—a tendency often exhibited during the first two or three nights of the attack. Later, as the cough grows loose, a stimulating expectorant should be substituted. The best of this class of drugs is chlorid of ammonium, which must be given in solution and in doses of 1 to 2 grains every second hour. As convalescence approaches 1 grain of quinin may be given three times daily, either in solution or in chocolate tablets; sometimes, too, there is sufficient debility to warrant the administration of moderate doses of whisky. Finally, a course of iron or of cod-liver oil—in tuberculous cases—is often necessary."

Not infrequently great benefit can be derived when the cough is not severe, by demulcent drinks, such as infusion of slippery-elm bark, flaxseed tea, or solution of gum arabic, to which lemon juice may be added to render it more palatable.

Dr. J. Lewis Smith says, in "Hare's System of Practical Therapeutics": "Since one of the most common and dangerous complications of measles is inflammation of the respiratory organs, local treatment directed to the chest is important if the bronchitis have more than the ordinary severity and the cough be frequent and painful. The chest, under such circumstances, should be covered by cotton wadding or thick flannel, over which, in cold weather, it may be best to apply oiled silk. Such applications increase the amount of eruption underneath, and a copious eruption tends to prevent the occurrence of capillary bronchitis and pneumonia. If the eruption be tardy in its appearance or indistinct, it is well to produce moderate counterirritation over the chest by some gentle irritant upon the surface such as camphorated oil, to which in the older children, one-fifth or one sixth part of turpentin may be added, or the oleum caryophylli, ʒi, to oleum camphorati, ℥ii, may be employed."

Dr. Smith advocates the prompt application to the chest, anteriorly, laterally and posteriorly, of a light and thin poultice of equal parts of pulverized ginger and flaxseed, or of 1 part of mustard to 16 of flaxseed, between two pieces of muslin, made so moist that it wets the hands in holding, and covered by oiled silk or muslin, in cases where there is extension of the inflammation from the bronchial tubes into the alveoli.

Hot mustard foot-baths are extremely efficient in these cases, particularly when the eruption is delayed, appears irregularly, or retrocedes. Liquor ammonii acetatis, in doses of 1 or 2 teaspoonfuls every two hours, in sweetened water, is also of use.

Not infrequently at the height of the eruption the fever will demand attention, particularly where it is persistently high. Phenacetin may be given in doses of from 1 to 5 grains according to the age of the child, carefully watching the condition of the heart. Should the temperature not yield promptly to the antipyretic the remedy may be again administered within an hour or two.

Carpenter suggests the following for fever accompanied by headache and restlessness:

℞. Phenacetin .... gr. ii
Caffeine citratis .... gr. ¼
Salol .... gr. ss
Sacchari albæ, q. s.
M. Sig. For one dose, and repeat as necessary.

If the patient is troubled with insomnia and great restlessness the following combination will be found useful:

℞. Extracti conii fluidi .... m. i to ii
Sulphonal .... gr. i to ii
M. Disp. in cap. No. 1.
Sig. Take a dose this size every two hours for three doses, preferably 6, 8 and 10 p.m.

Or

℞. Tinct. opii camph .... m. x
Chloralamid .... gr. v
Sodii bromidi .... gr. vii
Syrupi tolu .... m. xv
Aquæ anisi, q. s., ad .... ʒi

M. Sig. Take one dose. The amount of the medicaments may be increased or diminished according to the age and condition of the patient.

By many physicians baths are preferred to antipyretics for the reduction of temperature. As to the method employed where the bath is resorted to, Dr. Starr says: "The child should be undressed as quickly as possible and then immersed in a bath of 90 F.; cold water is now rapidly added until the temperature of the bath is reduced to 80. After a sufficient intermission—usually five or six minutes—the body is quickly dried with a soft towel and the patient put back to bed between sheets. The effect of the bath is sometimes very powerful and the child remains livid looking and collapsed for some time. In such a case small doses of brandy must be given in warm milk at short intervals, and artificial heat applied to the feet."

When in doubt as to the advisability of using antipyretics or baths, Dr. Starr suggests moderately full doses of quinin sulphate. In his experience, when given by the mouth, or preferably by the rectum, in suppositories of two to four grains every three or four hours, it has frequently reduced the temperature, quieted restlessness, and produced sleep.

The condition of the eyes must not be overlooked. The eyelids should be washed every three or four hours with water as hot as can be borne, and afterward a few drops of a saturated solution of boric acid applied to the conjunctivæ.

FOR SEVERE CONJUNCTIVITIS.

In cases of severe conjunctivitis the following prescriptions may be employed:

℞. Zinci sulphatis
Morphinæ sulphatis, āā .... gr. ss
Aquæ rosæ .... ℥i
M. Sig. A few drops into each eye twice or thrice daily.
℞. Acidi borici
Aquæ (sat. sol.), āā .... ℥iv
M. Sig. Wash eyes eight or ten times daily.
Or, should there be persistent discharge:
℞. Hydrargyri chloridi mitis .... gr. x
Vaselini (white) .... ℥iv
M. Sig. Apply to lids.
℞. Cocainæ hydrochlor .... gr. i
Aquæ destil .... ʒiv
M. Sig. Drop a few drops into the eyes twice daily.

The nose and throat should be thoroughly sprayed every three or four hours with some mild antiseptic solution, such as diluted borolyptol, glycothymolin etc.

Chronic Cystitis.

Dr. Hearn writes, in Dunglison's *College and Clinical Record*, that chronic bladder affections, in which the mucous membrane is depraved and there is frequent and difficult micturition, and perhaps prostatic enlargement in old men, are helped by the following:

℞. Ext. uvæ ursi .... ʒvi
Tinct. hyoscyami .... ʒss
Tinct. opii camphorat .... ℥iss
Liq. potassæ .... ʒii
Tinct. lupuli .... ʒiii
Syrupi .... ℥ss
Aquæ menthæ pip., q. s., ad .... ℥vi
M. Sig. Two teaspoonfuls twice daily in water.

If the urine is alkaline, boric acid should be substituted for the liquor potassæ.

Prophylaxis of Gonorrhea.

Kopp's improved formula for prophylactic injections of protargol is given as follows in the *Muench. Med. Woch.*, of Dec. 12, 1899:

℞. Protargol
Tere c. glycerin, āā .... parts xx
Aqua destil. (tepid), ad .... parts lx
M. Rub the protargol and glycerin together in a bowl and add the tepid water, which dissolves them at once.

Treatment of Furunculosis.

Martin treats furunculosis of external origin by hot douches followed by washing with "black soap," ether and sublimate for eight to ten minutes a day. Brewer's yeast he finds remarkably beneficial in furunculosis of digestive origin. See JOURNAL, xxxiii, p. 176.—*Muench. Med. Woch.*, Dec. 12, 1899.

Current Medical Literature.

Titles marked with an asterisk (*) are noted below.

Medical News (N. Y.), Dec. 30, 1899.

[illegible]

Boston Medical and Surgical Journal, Dec. 28, 1899.

[illegible]

Philadelphia Medical Journal, Dec. 30, 1899.

[illegible] Medical Journals. H. O. Hall.
[illegible]
11.—*Case of Successful Suture of Vas Deferens Divided in a Hernia Operation. John B. Roberts.
12.—[illegible]
13.— Further Thoughts on Silver Nitrate Injections in Treatment of Pulmonary Phthisis. Thomas J. Mays.
14.— New Pile-Clamp. Arthur E. Hertzler.
15.— An Obstetric Tricyclic Calendar. Wm. L. Kantor.
16.— Case of Tetanus Successfully Treated with Antitetanic Serum. E. B. Adams.
17.—*General and Local Infection by Bacterium Coli, with Report of Cases. J. N. Hall.

Medical Record (N. Y.), Dec. 30, 1899.

18.—*Etherization: Means Whereby the Quantity was Reduced from 1000 to 100 Grams per Hour: with Especial Reference to Position of Head as Affecting Respiration. A. Ernest Gallant.
19.—*Treatment of Serous Effusions. Charles H. Lewis.
20.— Considerations on Prophylaxis of Glanders in Havana. Enrique [illegible]
21.— Case of Subcutaneous Craniotomy. Sidney F. Wilcox.
22.— Jequirity in Treatment of Trachoma. R. H. T. Mann.

Maryland Medical Journal (Baltimore), Dec. 30, 1899.

23.—*Some of the Dangers of the Market. Mary Sherwood.
24.— Inflation and Medication of Middle Ear in Non-Suppurative Otitis Media. E. Oliver Belt.
25.— Free Use of Drinking Water in Acute Hemorrhage. Louis Kolipinski.

New York Medical Journal, Dec. 30, 1899.

26.—*Tubercle Germs and Giant Cells in Human Tissue. Philip Daggett Bouland.
27.—*Arrangement of Gastric Instruments Devised to Facilitate the Physical Examination of the Stomach and Its Treatment. Charles S. Fischer.
28.— Some Practical Notes on Diseases of the Rectum. Lewis H. Adler.
29.— Diphtheria: Remarks on Clinical Diagnosis and Treatment. Herman B. Sheffield.
30.—*Surgical Treatment of Phthisis. Walter C. Wood.
31.—*Mastoiditis: Importance of Early Surgical Treatment. James Francis McCaw.
32.—*Heroin in Affections of Respiratory Organs. Henry D. Fulton.
33.—*Diet in Typhoid Fever. Edward Speidel.
34.—*Examinations of Urine in Epilepsy. Edwin G. Klein.

Cincinnati Lancet-Clinic, Dec. 30, 1899.

35.—*Experimental Research into Cause of Phenomena Attending the [illegible] George W. Crile.
36.— Ophthalmic Memoranda: Ocular Affections in the Negro. David [illegible]

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37.—*Four Cases of Tetanus Treated by Carbolic Acid Injection, at the St. Louis City Hospital. H. M. Neifert and R. F. Amyx.

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38.—[illegible]
39.— Note on Reasonable Control of Tuberculosis. Carroll E. Edson.
40.—*Alexander Operation in Retrodeviations of Uterus. Hugh M. Taylor.

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41.—*[illegible]
42.— Suppurative Disease of Accessory Cavities of Nose. Their Symptomatology and Diagnosis. C. E. Bean.
43.— Life on the Army Transport. H. P. Ritchie.

Medical Fortnightly (St. Louis, Mo.), Dec. 15, 1899.

44.—*Pus Involving Pelvic Viscera and Adjacent Structures. W. C. [illegible]
45.—*[illegible] Albert E. Sterne.
46.—*Report of Eight Cases of Diphtheria Occurring in One Family. H. C. Campbell.

Annals of Gynecology and Pediatry (Boston), December, 1899.

47.—*Neuroses of Menopause Caused by Intestinal Fermentation. Charles J. Aldrich.
48.—*Surgery in Its Relation to Female Pelvic Organs. John B. Wheeler.
49.— Some Practical Experience in Asepsis and Antisepsis in Obstetrics. [illegible]
50.— Report of Case of Puerperal Sepsis and What It Teaches. Charles H. Glidden.
51.—*Eclampsia. F. L. Brigham.
52.— Typhoid Otitis. Charles H. Paintor.
53.— Case of Cystitis of Long Standing, Complicated with Chronic Malaria Together with Sluggish Liver and Habitual Constipation. J. W. Walker.
54.— Clinical Study of Lymphatic Glands in 100 Cases of Scarlet Fever. Jay F. Schamberg.
55.—*Puerile Indigestion. F. C. Morgan.
56.— Indigestion in Infants and Children. James H. Taylor.

Richmond Journal of Practice, November, 1899.

57.—*The Alexander Operation in Retrodeviation of the Uterus. Hugh M. Taylor.
58.—*A Perfect Antidote for the Poison of Snake and Spider Bites. S. T. A. Kent.

New England Medical Monthly (Danbury, Conn.), December, 1899.

59.— Treatment of Constipation. J. M. Mathews.
60.—*Reconstruction of Pelvic Structures Incident to Lesions of Perineum. H. O. Marcy.
61.— Some Remarks on Choice of a Reconstructive Agent After Severe Hemorrhage. E. E. Hutchins.
62.— Who Shall Operate? What Shall the Patient Pay? Robert T. Morris.
63.— Chronic Dyspepsia Successfully Treated with H_2O_2. George A. Gilbert.
64.— Some Notes on Uric Acid as a Cause of Gastric Disorders. Wm. H. Murray.
65.— Implantation of a Glass Ball into the Orbital Cavity. L. Webster Fox.
66.— Medical Expert Testimony. Geo. L. Porter.
67.— Alopecia. L. Duncan Bulkley.

Railway Surgeon (Chicago), Dec. 26, 1899.

68.— Thoughts Relative to Needs of Our Railway Surgeons' Association and the Betterment of Our Surgical Work. H. L. Getz.
69.—*Compound Traumatic Separation of Lower Epiphysis of Femur. Gilbert Geoffrey Cottam.
70.— Head Injuries. William Jepson.

Ophthalmic Record (Chicago), December, 1899.

71.— Thrombosis or Embolism of the Central Artery of the Retina after Ligation of the Vessels of the Neck. H. Gifford.
72.— Simple Eye Shade. S. Mitchell.
73.—*Two Cases of Methyl Alcohol Amaurosis from Inhalation of the Vapor. R. S. Patillo.
74.— Case of Obstructed Retinal Circulation, with a Series of Pictures Showing the Changes in the Vascular System During its Re-establishment and the Formation of New Vessels in the Retina. Swan M. Burnett.

Virginia Medical Semi-Monthly (Richmond), Dec. 8, 1899.

75.— Further Observations on Hay-Fever. John Dunn.
76.— Gastric Lavage. Robert F. Williams.
77.—*Examination of Blood in Surgical Diseases. H. Stuart MacLean.
78.— Blood Examination as an Aid to the Surgeon. E. C. Levy.
79.— Should Reputable Physicians Encourge the Use of Secret or Semi-secret Proprietary Medicines? Bittle C. Keister.
80.— Recent Work on the Etiology of Malaria. William S. Thayer.
81.— Vagaries of Fever as They Occur in the Mountains of Virginia. R. M. Wiley.
82.— Scarlet Fever. Thomas N. Vincent.
83.— Case of Gunshot Wound of the Knee-Joint. Llewellyn Eliot.

Therapeutic Gazette (Philadelphia), Dec. 15, 1899.

84.—*Prevention and Treatment of Puerperal Eclampsia. Edward P. Davis.
85.—*Treatment of Eclampsia. James Clifton Edgar.
86.—*Treatment of Puerperal Eclampsia. A. F. A. King.
87.—*Treatment of Puerperal Eclampsia. Edward Reynolds.
88.—*Treatment of Eclampsia. Richard C. Norris.
89.—*Prognosis and Treatment of Nephritis. H. A. Hare.
90.— Anesthetics, Local and General, as Applied to Taxis, Herniotomy, and Operations for Radical Cure of Hernia. J. Coplin Stinson.
91.—*Treatment of Gonorrhea in Women, with Special Reference to Urethritis. G. E. Shoemaker.

Medical Age (Detroit, Mich.), Dec. 25, 1899.

92.— Temperance Question in the Army. W. L. Parker.
93.— Late Ideas Regarding Surgical Antisepsis. A. G. Ellis.
94.— Women with Multiple Cardiac Lesions, Complicated with Serious Intra-Abdominal Trouble, Possibly due to Paracentesis—The Paracentesis Followed by a Change in the Ratio of White Corpuscles to Red. Wm. Pepper.

Laryngoscope (St. Louis, Mo.), December, 1899.

95.— Review of Present Position of Intratympanic Surgery in Chronic Suppurative Otitis and in Sclerosis of the Middle Ear. Gherardo Ferreri.
96.— History and Discussion of a Case of Meniere's Syndrome. Heber N. Hoople.
97.— New Nasal Septometer. Edwin Pynchon.

St. Louis Clinique, December, 1899.

98.— William Cullen. James M. Ball.
99.—*Clinic Notes. O. F. Baerens.
100.— Tuberculosis and Its Rational Treatment. M. E. Chartier.

101.— Use of Fats in Wasting Diseases. C. W. Lillie.
102.— Treatment of Hysteria, with Reports of Cases. Milton P. Creel.

Buffalo Medical Journal, January.

103.—*Etiologic Relation of Autointoxication and Autoinfection to Diseases of the Eye. Alvin A. Hubbell.
104.—*Hygiene of the Asthmatic. George N. Jack.
105.— Some of the Causes and Effects of Mouth Breathing. J. M. Ingersoll.
106.—*Resuscitation of Apparently Dead Newborn by Labrode's Method. Francis Eustace Fronczak.
107.— Cephalagra and Tic-Douloureux from Accessory Sinus Affection. S. F. Snow.

Inter-State Medical Journal (St. Louis, Mo.), December, 1899.

108.— Discussion of General Meningitis. T. Brooks.
109.— Some Gall-Stone Cases. S. P. Schroeder.
110.— Treatment of Erysipelas. David S. Booth.
111.—*Scholastics and Mystics. James M. Ball.

Cleveland Journal of Medicine, December, 1899.

112.—*Habit-Disease and the Tobacco Habit. George M. Gould.
113.—*Clinical Fragments. G. W. Crile.
114.—*Obstipation and Its Radical Treatment. Thos. Chas. Martin.
115.—*Disinfection in Smallpox. John L. Hess.
116.— Two Cases of Chronic Morphinism Complicated with Chronic Alcoholism. Austin J. Pressey.
117.— Case of Submucous Myoma. Hunter Robb.

American Journal of Surgery and Gynecology (St. Louis, Mo.), December, 1899.

118.—*Operation on Cervical Ganglia of Sympathetic for Epilepsy, Glaucoma and Exophthalmic Goiter. Emory Lanphear.
119.— Practical Value of the Urethroscope. F. Kreisll.
120.— Profuse Diarrhea Twelve Hours Following Laparotomy. C. G. Levison.
121.—*Complete Prolapse of Ovarian Tumor Through the Anus; Operation; Recovery. J. H. Baughman.
122.— Syphilitic Stricture of Rectum. Joseph M. Mathews.
123.— Report of a 94-Pound Ovarian Cyst. W. M. Mayfield.
124.— Surgery as a Business. C. P. Thomas.
125.— Report of Some Unusual Cases. Wm. Bradford Craig.
126.— Treatment of Septic Infections Following Pin-pricks, Abrasions and Similar Injuries. Edward H. Ochsner

Occidental Medical Times (San Francisco), Dec. 15, 1899.

127.— State Requirements for Admission to Practice of Medicine. A. M. Henderson
128.— Medical Practice in Gautemala. W. H. Wentworth.
129.— Pleuritis. J. S. Adams.

Peoria Medical Journal, January.

130.— Eye Strain as a Cause of Headache and Other Nervous Manifestations. Charles D. Thomas.
131.— Chronic Bright's Disease. I. F. Harter.
132.— Medical Organization. James Tweddale.

Medical and Surgical Bulletin (Nashville, Tenn.), December, 1899.

133.—*Presidental Address, Middle Tenn. Med. Soc. M. C. McGannon.
134.— Hydrotherapy. L. L. Sheddan.
135.—*First Attention to Injured Eyes. George H. Price.
136.— Auto-Intoxication. L. E. Ragsdale.
137.— Septic Wounds. C. N. Cowden.
138.— Puerperal Eclampsia, with Report of Cases. Reginald Stonestreet.

Georgia Journal of Medicine and Surgery (Savannah), December, 1899.

139.— Cancer. Hugh M. Taylor.
140.—*Four Recent Cases of Gall-stones with Remarks. Hunter McGuire.
141.— Therapeutic Value of Hypnotism. Jno. R. Rose.
142.—*Perfect Antidote for the Poison of Snake and Spider Bites. S. T. A. Kent.
143.— Ecce Quam Bonum! Henry R. Slack.
144.— Christian Scientists: What Shall We Do With Them? F. Julian Carroll.

Texas Medical News (Austin), December, 1899.

145.— Malarial Hematuria. M. L. Langford.
146.— When to Operate in Gin and Railroad Accidents. J. P. Oliver.
147.— Baby's First Year. J. C. Van Nuys.

Canada Lancet (Toronto), December, 1899.

148.— Some Historic and Other Data on Circumcision. N. E. Aronstein.
149.— Anemia and Its Treatment. Deering J. Roberts.
150.— Bubonic Plague in 1141 B.C. Frank Tidswell and James A. Dick.

Iowa Medical Journal (Des Moines), December, 1899.

151.—*Prevention of Wound Infection. C. E. Stoner.
152.— Placenta Previa. T. J. Shnoll.

Medical Sentinel (Portland, Ore.), December, 1899.

153.— Points of Clinical Interest in Recent Operative Cases. Andrew C. Smith.
154.— Congenital Rectal Occlusion the Result of Maternal Impression. C. E. Worthington.
155.— When Shall We Operate for Hernia? J. B. Eagleson.
156.— Medical Legislation. R. L. Nourse.
157.— Uric Acid. E. J. Labbe.

AMERICAN.

1. **Splenectomy.**—[illegible] enlargement, as well as [illegible] in misplacement by axial rotation or [illegible]. The contraindications to its removal are extensive adhesions, leucocythemia and profound cachexia. In short, splenectomy should never be done except under the most favorable circumstances unless immediate death is threatened. Splenopexy has been suggested by some, but Bovée suggests that it must be remembered that the spleen is not a necessary organ, and that splenectomy is really the preferable operation. The symptoms are nearly always referable to the location of the organ, though in wandering spleen other organs may appear to be involved. In rupture, the symptoms are those of profound shock and internal hemorrhage. In malarial enlargement, the history of the case is to be had. Localized pain, mild or severe, is nearly always present, and marked cachexia is often noticed. In tubercular spleen, the differential symptoms are not always plain, and the same may be said to be true of malignant disease. The condition of the blood is of the greatest importance, and its changes from the normal form one of the most important complications. Anemia, extensive adhesions, diseases of the liver, pregnancy, etc., are important complications. The diagnosis is not ordinarily difficult, and the technic of the operation is well known, but Bovée here calls attention to one important point, viz., the ligation of the gastrosplenic ligament before dealing with the larger blood-vessels. This loosens the organ and materially facilitates the operation. The results of splenectomy are not unfavorable, and in the cases collected by the author, the deaths have been reduced to about 16 per cent. He reports two successful cases in detail.

2. **White Swelling of the Knee.**—Judson reports eleven cases of this condition, and calls attention to the most important point of treatment, which is to relieve the joint from pressure and traumatisms.

4. **Surgery of Common Bile-Duct.**—Halsted here reports several cases of surgery of the bile-duct, containing points of special interest. His paper is a long one and can be best appreciated by reference to the original.

5. **Dystocia in Multiparae.**—Concerning the difficulty of labor in multiparæ, occasionally met with, Boland sums up as follows: 1. Certain multiparæ, after one or more easy deliveries, lose the power of natural parturition. 2. This is due to failure of the expelling forces in the uterus and abdominal walls. 3. Artificial delivery is imperative in such cases as promptly as a diagnosis is established. 4. Infant mortality is high in artificial delivery by the natural passages. 5. The human female is very tolerant of aseptic mechanical genital injuries. 6. Is suprapubic delivery justifiable in these cases when a positive diagnosis is established?

7. **Buried Sutures in Lacerations Involving Sphincters.**—Kelly has recently described his method of operating on the ruptured perineum, and called attention particularly to dissecting out and suturing the sphincter ani muscle with buried sutures of catgut. Cabot has used buried sutures for many years, for this purpose, with extremely good results, and as his technic differs somewhat from that of Kelly, he describes it as follows: After the perineum, completely ruptured through the sphincter, has been thoroughly refreshed and the ends of the sphincter have been laid bare, a row of catgut stitches is taken, bringing together the rectal wall, particular care being taken to bring the stitches out exactly on the edge of the mucous membrane, not entering the caliber of the bowel. The outermost of these stitches include the divided ends of the sphincter muscle. When this row of stitches is tied, the rectum is entirely closed off from the wound and we have left a surface resembling that of a rupture of the perineum of the second grade, in which the rectum is not involved. A second row of buried catgut sutures is then taken, and with these stitches the ruptured pelvic fascia, the levator ani muscle and the ends of the transverse perineal and sphincter vaginæ muscles are drawn together. In this way a solid perineal body is constructed. [illegible] method of suturing, in order to still further draw together and [illegible]. The result of the method has been the construction of a perineum of greater solidity and [illegible]

[illegible] method. The buried stitches have in no instance given any trouble, and the method is one which must commend itself to any one giving it a thorough trial. In treatment of the [illegible] wall, Kelly approximates the rectal rent "by fine interrupted silk sutures passed on the rectal side, entering and emerging on the mucosa about 1 cm. from the margin of the cut." Stitches thus entering the rectum always have the disadvantage that they become infected from the rectal contents, and silk especially acts as a wick and becomes soaked with the fluids that are in contact with the exposed portion of the threads. By the writer's method, the stitches do not enter the rectum at all, but draw the mucous membrane snugly together, exactly as the mucous membrane of the bladder is approximated by the operation for vesicovaginal fistula. Results prove that infection from the rectal mucous membrane does not follow this method. He also describes one of the many cases on which he has operated in this way, in which union of the deep parts by first intention was not absolute. The suture used has been chromicized catgut of small size, which is easy to disinfect and quick to absorb. If extra strength is required, it is used double.

9. **X Ray Examinations in Life Insurance.**—Williams calls attention to the usefulness of X-ray examinations for life insurance purposes, especially as regards the thoracic organs. He thinks there is no other method which gives us such trustworthy information and complete evidence of normal and abnormal conditions in the chest as the use of the fluorescent screen.

10. **Grave Secondary Anemia.**—DaCosta reports a case strongly simulating progressive pernicious anemia, but differing from it in the great reduction of hemoglobin, which was down to 17 per cent., and the increase in white blood-cells, both of which were against the diagnosis. He considered the case one of secondary anemia following achylia gastrica, serious enough in itself but not so serious as pernicious anemia. The treatment recommended is arsenic—Fowler's solution—3 drops every four hours, to be followed later by iron when it can be digested, and probably also dilute hydrochloric acid. The diet is milk, eggs, meat juice and underdone meat finely cut up with 2 grains of caroid for its digestion.

11. **Suture of Vas Deferens.**—Roberts reports a case of accidental severance of the vas deferens, in which he operated by slitting up one end of the severed tube, inserting the other end within it, suturing it with a few sutures to close the split and hold the parts together, as has been done in cases of divided ureter. He reports the case as probably new, and suggests the propriety of the method in similar accidents. In his instance the results, as far as preservation of the testicle was concerned, were good.

12.—See abstract in The Journal of Sept. 2, 1899, p. 621.

17.—Ibid., Aug. 19, 1899, p. 482.

18. **Etherization.**—Gallant describes his method of giving ether: an open cone which can be closed with the finger and which will permit the free access of air when desired. He also notes the especially troublesome forms of stertor occurring in these patients, which he thinks are due to positions of the head. The patient must not have the neck bent too far back or the jaw too near the sternum. He points out the various accidents and how to meet them, and calls attention to the following points in after-care: 1. Of hot water, he says that ever since a celiotomy patient under his care sat up in bed two hours after operation, emptied the contents of a hot-water bag into her stomach and recovered, it has been his practice to give hot water *ad libitum* as soon as the patient is conscious enough to ask for a drink. It allays gastric irritability, quenches the thirst, and if vomited really washes out the stomach. Its early use has a good effect on the kidneys and intestines. 2. As to nourishment, milk, with or without lime-water, is given as soon as the stomach is quiescent. Starvation does not strengthen a weak heart, nor aid recovery from loss of blood or shock. 3. As soon as the dorsal decubitus becomes at all irksome, he turns the patient on the side, when a restful sleep will follow. 4. Intestinal distension or paresis usually begins during the latter part of the first day, and soon becomes a source of great discomfort. If not relieved by high enemata, he at once resorts to friction along the colon; beginning at the right iliac fossa, he passes the hand up the ascending, across the transverse, and down the descending colon, slowly repeating this maneuver for fifteen or twenty minutes. This results in free discharge of gas from the rectum, gives immediate relief, assures us that there are no intestinal kinks, and that the bowels will move whenever it is deemed desirable.

19. **Treatment of Serous Effusions.**—Lewis discusses the mechanism of serous effusions in detail, and the futility of the ordinarily recommended methods are pointed out. He says that diuretics and counterirritants have had their day; hydragogue cathartics drain fluid from the vessels, but carry no assurance that the latter will recoup themselves from the reservoir of the pleura; diaphoretics possess all the disadvantages of hydragogue cathartics with none of their disadvantages; iodids and salicylates serve as forlorn hopes; antiphlogistics are antiquated and unscientific; so that the patient, as a rule, emerges from a longer or shorter course of internal medication, and comes to the aspirator, a sadder and weaker man. Here, too, no assurance can be given that there will be no return of the fluid, and if repeated aspirations are necessary, "the last state of the man is worse than the first." His own method, after having experimented with various astringents, which would, he thought, lead to exudative processes and absorption of the fluid, was the use of methylene blue mixed with the serum after aspiration, and reinjected, and he reports twenty cases in which this treatment was followed with apparent satisfaction to himself. He believes the methylene blue thus introduced is fatal to the tubercle as well as to other germs, and as its solution with the serum is perfect, it reaches every part.

23. **Dangers of Food Infection.**—Sherwood calls attention to the dangers of food infection, especially of meat and milk, and criticises the lack of care in the examination of food for domestic use. She reports that she has had the not unmixed pleasure of visiting some of the urban cow stables where milk is obtained, and found there most unsanitary conditions. She believes that a larger force of inspectors and a correspondingly more thorough work is necessary for the public safety.

26. **Tubercle Germs in Giant Cells.**—The occurrence of tubercle bacilli in giant cells in human tissues has been insisted on by Koch and Weigert and others, while Orthmann, Fütterer and Krückmann express doubt as to their frequency in this situation. Bourland reports that he has examined thousands of giant cells in human tissues, and in only four cases has he found them to enclose tubercle bacilli. He therefore offers this as supporting the doubts and findings of Fütterer and Krückmann. The relation, he thinks, between the bacilli and the giant cells must be a variable one, not fixed by anything apparent in the light of our present knowledge. In order to meet the questions that might be raised as to his technique, he gives it in detail.

27. **For Examination of Stomach.**—Fischer describes a form of gastric tube through which various instruments may be introduced into the stomach without coming in contact with the tissues, and thus avoiding the repeated intubation which is sometimes irksome to the patient.

30. **Surgical Treatment of Phthisis.**—The various methods of surgical intervention for tuberculous disease of the lungs are reviewed by Wood, who speaks favorably of the Murphy method of causing collapse of the lungs by nitrogen injection. He believes there is merit in this, and has been surprised not to see more reports of experiences with it.

31. **Early Treatment of Mastoiditis.**—The importance of mastoiditis and the necessity of its proper treatment are discussed by McCaw, who concludes his paper as follows: 1. In threatened mastoid involvement, and in the mild acute cases, the conservative plan of treatment should be first tried for a week or ten days, unless dangerous symptoms arise. 2. Operative interference should be instituted in acute cases where there is sagging of the posterosuperior canal wall; where the infection is of a virulent nature, and in all cases complicating chronic otorrheas.

32. **Value of Heroin.**—Fulton adds another recommendation of the advantages of heroin in respiratory disorders, and claims that while it is a veritable boon to the consumptive as a palliative to cough, it has a wide range of usefulness in

both acute and chronic forms of bronchitis. He employed it with great satisfaction in a series of cases last winter, giving it to children and adults in proportionate doses. By previous knowledge of the patient in most cases it was not difficult to see the effect which this agent had in bringing about improvement or recovery. Maximum doses produced gastric disturbances similar to those of morphin, but in lesser degree, and the desired effects can generally be obtained short of producing this.

33. **Diet in Typhoid.**—Speidel believes that the most important food in typhoid is water, which may be given by enema if not readily tolerated by the mouth, or intravenously in extreme cases. The error of overfeeding typhoid patients is often made. They rarely die of starvation, and much of the delirium and tympanitis of the disease may be ascribed to errors in this direction. The amount of food should be in proportion to the digestive capacity of the patient, as evidenced by the absence of undigested food in the stools and by the temperature, a patient with high temperature being in no condition to digest food. Buttermilk is the ideal food, obtained fresh every day. Next in order is sweet milk, which can be prepared in various ways and should be administered with some care. Filtration will answer in the majority of cases, but if necessary, Pasteurization and sterilization may be resorted to. When milk is absolutely refused, it will be found that unfermented grape-juice in wine-glass doses every three hours will support the patient during the entire febrile stage. When the temperature reaches normal in the morning, he allows the patient to chew steak, if trustworthy, cautioning him not to swallow the fiber, and also allows him chewing gum for the exercise of the muscles of mastication. The gradual change from liquid to solid diet is rendered easier if gelatin preparations are used. In ordinary cases a simple dietary will answer, but when complications occur and the patient rejects the ordinary routine, the physician is often severely puzzled, and various methods mentioned in this paper are offered as suggestions in such cases.

34. **Urine in Epilepsy.**—Klein has examined the urine in twenty-three patients in the Willard Asylum. The findings were chiefly transient albuminuria and excess of chlorids after the fits. Testing in the intervals did not find these characteristics so manifest in so many cases. Glucose was not found, and he reports a series of experiments made with strongly saccharine diet, in which he thinks he found a larger amount of glycosuria than would be found in normal individuals under similar conditions.

35. **Inhalation of Hot Air and Flame.**—The summary of the evidence obtained by Crile's experimental research on dogs is as follows: The evidence tends to show that the direct effects of the flame inhaled into the lungs, with the upper air-passages excluded, are not capable of causing sudden death. When the flame is inhaled through the mouth and upper air passages as well, a very marked reflex inhibitory action on both the heart and the respiration is produced. In such a case after a control has been taken—a control showing a characteristic inhibitory acton on the heart and respiration—when both vagi are severed, the inhibitory action on the heart is wholly prevented, and while the respirations are not so greatly altered in their character, they do not wholly escape reflex influence. The same may be said of similar experiments in which physiologic doses of atropin had been given. The great irregularity of the blood-pressure curve shows that two factors are at work in its production, the one an accelerating, the other an inhibiting; and in the cases in which a blast of hot air or flame was introduced through the mouth, both of these factors were brought simultaneously into play, while in the experiments in which the flame was forced into the lungs through the trachea, but one factor—the accelerating—was active. In view of the fact that hot air and flame very markedly stimulate reflex inhibition of the heart and the respiration, it is quite probable that the sudden collapse from inhaling hot air or flame is due to the reflex inhibition of the cardiac and respiratory action, in the way just pointed out. Death may be caused in a few minutes by exhaustion of both the respiratory and circulatory mechanisms from overstimulation.

37. **Tetanus Treated by Carbolic Acid.**—Four cases of the treatment of tetanus by the Baccelli method, by carbolic acid injections, are here reported by Neitert and Amyx. In three instances though the injections were larger than those recommended by Ascoli, the patient died. The fourth made a good recovery.

40. See ¶ 57, below.

41. **Treatment of Wounds of Hands and Feet.**—Courtney criticises the average practice in treating lacerated and contused wounds of the extremities, and points out the faults: 1. The sacrifice of portions before there is a reasonable certainty that the blood-supply has been entirely destroyed and exposed bones will not be covered. 2. The fallacy that the hand or foot of a laboring man can be made surely surgically clean at the time of the first dressing. 3. Suturing the wound while uncertain as to asepsis. 4. Wet or moist dressings. 5. The free use of iodoform and the dismissal of the patient to his home, in office cases, with only a few instructions as to rest, position, etc., and as to his return for future care. He gives his own method in detail.

44.—This article, here appearing as an original paper, has already been printed elsewhere, as titled in THE JOURNAL of Dec. 2, 1899, p. 1411, ¶ 117; also December 23, p. 1601, ¶ 92.

45.—The same may be said of this paper, abstracted in THE JOURNAL of Nov. 18, 1899, p. 1284, ¶ 96; also mentioned as again printed as an original paper, December 2, p. 1411, ¶ 143, and December 16, p. 1539, ¶ 86.

46. **Antitoxin in Diphtheria.**—Campbell reports in detail the results from the use of antitoxin in eight cases of diphtheria occurring in one family. His results were favorable.

47. **Neuroses of the Menopause.**—The chief point maintained by Aldrich is that the menopause is a physiologic process and not one of decay. The doctrine that it is sexual and physical decrepitude is misleading and not founded on facts. He attributes a large part of the trouble to absorption of toxins from the intestinal tract, and insists on the importance of looking after the digestion, the intestinal asepsis and constipation.

48. **Surgery of Female Pelvic Organs.**—This article is a plea for radical rather than partial operations in pelvic surgery, and Wheeler sums up in the following propositions: 1. In operative cases the best prospect of a complete and speedy restoration of health is afforded by a radical operation. 2. In the case of a young woman with most of her child-bearing life before her, it may be justifiable to offer the less reliable aid of a partial operation, in order to give her every chance to preserve the function of reproduction. 3. In the case of a woman approaching the menopause—and *a fortiori* if she has passed it—there is no valid reason for refusing to give her the benefit of a radical operation.

51.—See abstract in THE JOURNAL of Nov. 11, 1899, p. 1225.

55.—Ibid.

57.—This paper, here printed as an original, has appeared elsewhere; see THE JOURNAL of Dec. 23, 1899, p. 1601, ¶ 113; also ¶ 40, above.

58. **Antidote for Snake and Spider Bites.**—Kent reports two cases of bites, one from a spider and the other from a copperhead, which were cured by the use of a plant growing in Virginia, one of the club mosses, Selaginella apus. The method of using this plant, which is locally known as "snake moss," is to take about .5 dram, or as much as can be packed in a large thimble, macerate it thoroughly with an ounce of sweet milk and have the patient drink the milk and swallow a portion of the moss, binding the balance to the wound. The author is, however, doubtful as to any special good from this last measure. He could add, he says, many cases to those cited, but he thinks them sufficient to establish the value of this remedy. (See also, ¶ 142, below.)

60.—This paper appeared in THE JOURNAL of Oct. 21, 1899.

69. **Separation of Lower Epiphysis of Femur.**—After reporting a case in a boy aged 7, and reviewing the literature, Cottam draws his conclusions as to this condition in the following: 1. Compound traumatic separation of the lower epiphysis of the femur, from its structural peculiarities, is a formidable lesion, rarely treated successfully and attended with

[illegible]

[illegible]

84. **Prevention and Treatment of Puerperal Eclampsia.** [illegible] tions. All reflex irritation originating in the uterus [illegible] aroused to elimination by the most direct and efficient agents. The skin should be excited by a hot moist pack. Calomel in a 5 grain dose, and thorough irrigation of the large intestines, [illegible] weight of opinion is against the use of pilocarpin and large doses of morphin or chloral or potassium bromid. There is, however, evidence that in the absence of bleeding the hypoder[illegible] and when bleeding is not practiced, hypodermoclysis and the use of veratrum viride would have the same effect as bleeding, though less rapid. In the period after labor, when the patient has begun to eliminate slightly, but is still restless and semi-delirious, morphin and codein have their uses, and strychnin may be called for if the heart's action is deficient. If the toxemia has not been too long continued, and the patient is young and healthy, the prognosis is not bad, but if it is of long standing and the patient debilitated, or if she is a primapara above the average age, the chances for recovery are bad. The physician should first direct attention to diagnosing and [illegible] and he can not treat it vigorously in the best manner, he should call in assistance. Delay is dangerous.

85. **Treatment of Eclampsia.**—Edgar formulates the line of treatment for the pre-eclamptic state, as follows: 1. Reduce the amount of nitrogenous food to a minimum. 2. Limit the production and absorption of toxins in the intestines and tissues and assist in their elimination by improving the action of the bowels, the kidneys, the liver, the spleen and the lungs. 3. If necessary, remove the source of trouble by emptying the uterus. The diet he would advise is light and digestible, and he insists on the value of exercising, but when this is not available, oxygen by inhalation is of great utility. The curative treatment is: 1. To control the convulsions, and for these, chloroform is first in his opinion, next veratrum viride and third chloral. 2. Empty the uterus under anesthesia as rapidly as possible without injury, and, lastly, the essential is the elimination of poisons which presumably cause the convulsions, and he would use intestinal catharsis, diuretics, especially glonoin, and veratrum viride and diaphoresis by hot air baths [illegible]

86. **Treatment of Puerperal Eclampsia.**—King treats the [illegible] and wet pack, a mustard plaster used once only, followed by hot poul[illegible] thus relieved, he uses digitalis and lithium citrate to increase [illegible] ther that will divert the pressure of the gravid uterus toward the diaphragm and away from the pelvis. To control the convulsions when they have occurred, he uses large doses of veratrum viride and morphin hypodermically, and in anticipation of each convulsion as it begins, a cautious inhalation of chloroform. If the convulsions can be kept in abeyance, and labor proceed without interference, so much the better. Quiet and a dark room are advisable. He thinks that patients sometimes die from suffocation caused by the falling back of the tongue, and the clinching of the tongue by the teeth is sometimes, therefore, a salutary action.

87. **Treatment of Puerperal Eclampsia.**—Reynolds would use pilocarpin in a single dose when diaphoresis can not be obtained without it, but he is afraid of the drug, as he has seen it produce a watery secretion from the lungs rather than the skin. Hot air baths and cathartics are used as by the others. He employs sedatives almost as a routine practice, giving bromids in large doses with small amounts of chloral when the urinary suppression is well marked, but using chloral to the physiologic limit, with or without the bromids when convulsions are attended with comparatively little disturbance of the renal functions.

88. **Treatment of Eclampsia.**—Norris follows the same general lines as those before. He has found, however, that the urinary changes may indicate marked alterations without serious toxemia, while the latter may exist with very slight traces in the urine. He prefers chloral to morphin to control the convulsions, and gives a dram of chloral by enema, repeated four or five times in twenty-four hours if necessary. In primigravidæ, full blooded, with strong pulse and cyanotic, he uses venesection until a positive effect has been produced on the pulse. In less sthenic cases he prefers veratrum viride. To aid elimination, the injection of normal salt solution under the mammary gland and into the rectum is of great value, and a hot wet pack will aid the action of the skin. Pilocarpin is contraindicated on account of its tendency to edema of the lungs. Epsom or Rochelle salts are the most efficient eliminators, in his experience.

89. **Prognosis and Treatment of Nephritis.**—Hare says that in acute nephritis the largest part of the treatment must be prophylactic, and if properly carried out grave renal complications can be avoided. Mild alkaline diuretics, free use of pure water and the use of purgatives will do much to prevent these. In addition to these, hydrotherapeutic treatment is also of value. In chronic nephritis we must do what we can to prevent the spread of the disease and relieve annoying or dangerous symptoms, and these can be treated best by a proper regimen and careful diet. He knows of no drugs that distinctly decrease the elimination of albumin in advanced nephritis, and he thinks it doubtful whether attempts in this direction are wise. His experience with the so-called medicinal diaphoretics is not altogether favorable. The condition of the heart should be looked after. Hypodermoclysis is more beneficial in cases of uremia from chronic contracted kidney than from those due to chronic parenchymatous nephritis, and it is least valuable when dropsy is marked. He thinks the contradictory views in regard to the use of morphin are more in appearance than in fact. When it is beneficial it is probable that sedation of the nervous system is called for. In other cases it may be dangerous; each case must be decided for itself.

91.—See abstract in The Journal of Nov. 11, 1899, p. 1228.

96. **Meniere's Disease.**—The case reported is one of vertiginous attacks in a man aged 26 years, apparently robust and plethoric but decidedly nervous. There was no loss of consciousness and no symptoms suggesting epilepsy. Vertigo was occasionally apoplectiform. Tinnitus was absent in the beginning, but later became a marked feature. The examination of the ear did not reveal adequate conditions to account for the symptoms. Hoople reviews this case at length, and attributes the vertigo to high tension of the intralabyrinthine fluids, producing upon the organ of Corti, effects with loss of function like that caused by increased tension in glaucoma, on the rods and cones of the retina. In this case he would consider it due to a reflex neurosis and he gives several reasons supporting this view of the case.

99. **Notes on Turbinals, Tonsils, Etc.**—Baevens comments on nasal and throat conditions met with, urging less prescribing of cocain and advocating conservatism in ear, nose and throat work.

103.—See mention of this paper in The Journal of Nov. 11, 1899, p. 1229.

104. **Hygiene of Asthmatics.**—The points especially made by Jack are the necessity of proper diet, which should consist of such foods as are most rapidly assimilated and most readily oxygenated, the most available meats being fresh, rare beefsteak or roast. This, however, is not alone sufficient, and he begins feeding with the progressive diet constructed by

Leube, which is as follows: 1. Bouillon, Leube-Rosenthal meat solution; milk; soft-boiled or raw eggs; dry toast or crackers; water or neutral indifferent effervescent (CO_2) water. 2. Boiled calf's brains; boiled sweet-bread—thymus of calf; boiled young chicken; boiled squab; cereal soups; tapioca cooked in milk; boiled calf's feet. 3. Sirloin pulp steak; grilled sirloin steak; scraped raw ham; mashed potatoes, baked with a little milk and butter; a little white bread; cup of hot water with milk and salt. 4. Roast beef; roast chicken; venison, partridge and veal; boiled lean fish; macaroni; bouillon or rice soup; spinach; a little wine. 5. Baked apple; all common foods; finally, salads, vegetables and stewed fruits. This he has clinically found satisfactory. He also advises the free use of acid fruits. The diet of the asthmatic should be varied and abundant—he should make eating his chief aim in life and should eat frequently, much and in variety. Next to dieting he ranks hydrotherapy, and the method he prefers is cold water sponging followed by friction. Sunlight is another essential, and the baths above mentioned should be taken in a well-lighted room, if possible under direct solar rays. He speaks also of the value of altitude in the treatment of asthma, and the necessity of regular habits. He would cut off tobacco absolutely, and would only use alcohol under medical direction during severe asthmatic seizures. Next to altitude, the most important question of location is the presence of malaria, which should be avoided. This explains the advantage of city over country life.

106. **Resuscitation in Newborn Infants.**—The advantages of rhythmic traction of the tongue, according to the method described by Laborde, are insisted on by Fronczak, who reports several cases in which it was used with success. It can be used while the child is in a warm bath, is not fatiguing and is available in every case.

111. **Scholastics and Mystics.**—Ball gives a historic sketch of Cornelius Agrippa, Jerome Cardan, the Rosicrucians and Robert Fludd.

112. **Habit Disease and Tobacco.** Gould gives statistics as to the consumption of tobacco and his ideas of its dangers and benefits. As to what is excess, when the odor of tobacco is readily detected in the breath of a smoker five minutes after smoking, when nothing whatever has been done to disguise or neutralize it, he would say that that individual is smoking too much. He also states that the consumption of coffee goes parallel with that of tobacco. The more one smokes, the more coffee one can and usually will drink. In conclusion he lays down a scheme of classification of habitopathics, tentatively offered.

113. **Tendon Suture, Cholecystotomy, Suppuration After Hernia.**—These subjects are considered by Crile, empyema of the gall-bladder leading to the cholecystotomy with recovery, and the hernial suppuration being from a deep suture, the hernia recurring.

114. **Obstipation.**—Martin describes his method of treatment by section of the rectal valves, and briefly mentions three or four out of a large number he has operated on in whom the operation did not succeed. A successful case in a physician is reported at greater length.

115. **Disinfection in Smallpox.**—Hess finds that a 20 per cent. solution of formaldehyde applied to articles infected by smallpox is satisfactory for disinfection, and patients discharged from the detention hospital were required to take a bath in a 2.5 per cent. solution, which did not irritate the skin or produce any unpleasant symptoms. He sums up by saying:

"All materials or fabrics which have in any way come in contact with variola, that can not be moistened with a 20 per cent. solution of formaldehyde without destroying their beauty or usefulness, should be destroyed. Patients, when convalescent from smallpox, should be bathed in a 2½ per cent. solution of formaldehyde, and furnished with new clothes or clothing which has been thoroughly disinfected by that agent."

118.—See THE JOURNAL of January 6, p. 36, ¶ 87.

121.—Ibid., Aug. 19, 1899, p. 472, ¶ 68; December 23, p. 1603, ¶ 74.

133. **Cancer.**—McGannon concludes his address with the following deductions: 1. We are as yet uncertain as to the actual cause of cancer. 2. Our knowledge warrants us in suspecting that it is of parasitic origin, and that it is contagious. 3. At first it is a local growth, curable by complete extirpation, and fatal if not so removed. 4. It is our duty in every case when cancer is possible to suspect it and to bring to bear on it every known aid to its early recognition. 5. When a diagnosis is made at a time favorable for cure by the complete removal of the growth, then we should not only advise, but urge, immediate operation. 6. If the diagnosis is made at a time when the lymphatics are involved and a return is likely, knowing the more or less speedy fatal termination of the case when left to nature, it is our duty to place the facts before the patient, and if operation is accepted under the conditions, to make the attempt to remove the disease by as complete an operation as possible. 7. If the tumor is deemed inoperable, a living death should not be created by abandoning the case, but life should be cheered and hope stimulated by the employment of some of the non-operative methods of treatment mentioned.

135. **Eye Injuries.**—The importance of first attention to injuries of the eye is illustrated by cases reported by Price. The first thing in all cases is to find out the cause, how the injury was inflicted. This is of prime importance, for if there is any danger to be apprehended involving the iris, we should always resort to atropia. If there is injury to the cornea we should use simple salves and washes to cleanse the eye. He gives special cautions against leaving a solution of cocain in the hands of the patient. It should never be employed except by the physician.

140.—See THE JOURNAL of Dec. 23, 1899, p. 1604, ¶ 109.

142.—See abstract above, ¶58.

151. **Prevention of Wound Infection.**—After a rather lengthy discussion of the general subject and its history, Stoner lays down the following rules, which he thinks should be observed in addition to those usually practiced in aseptic surgery: 1. Limitation of the duration of the operation to the very shortest time consistent with safety. 2. Limitation of the number present to those actually needed to assist in the operation. 3. The use of the face mask by those engaged in teaching. 4. The discontinuance of holding the flaps by the exposed hands, by tenacula or forceps. 5. The wearing of sterile rubber gloves by all who come in contact, directly or indirectly, with the wound. 6 Observance of care in making the primary skin incision, and the method of passing needles and sutures through the skin. 7. The use of iodoformized or sublimated sutures.

FOREIGN.

British Medical Journal, Dec. 23, 1899.

Clinical Lecture on Case of Scurvy-Rickets in Boy of Twelve Years. EDMUND OWEN.—After describing a case falling under the head of the scurvy-rickets of Cheadle, or hemorrhagic rickets, Owen discusses the condition and its etiology, the boy's age making the case an exceptional one, as it rarely occurs after 3 years. He remarks that it is not a disease of the poor, but rather of the well-to-do, and he attributes this largely to the prepared foods used for hand-reared infants. The disease is as yet unknown in the west of Ireland, and has only of late years made its appearance in some other parts of the world. It seems to go with civilization.

Harveian Lectures on Surgical Treatment of Tuberculous Diseases. W. WATSON CHEYNE.—This second lecture of Cheyne's takes up tubercular peritonitis and its surgical treatment. He describes the various forms: the miliary, acute and subacute with ascites, the fibrous form and the caseating, giving their symptoms and prognosis. The disease may be either primary—2 to 10 per cent.—or secondary from intra-abdominal or other tuberculosis. The common sources of infection are intestinal ulcers, and also the Fallopian tubes. Lung tuberculosis occurs in something like 25 or 30 per cent., while that of the pleura is not uncommon in these cases. It would appear from the statistics of cases operated on that peritoneal tuberculosis is most common in females, while the post-mortem statistics show the reverse. We must assume that a larger portion of females come to operation than males, often from mistaken diagnosis of ovarian or other diseases. The prognosis was formerly considered absolutely bad, but of late years better statistics have shown us that it is not altogether so unfavorable, even under medical treatment alone. The caseating form is the most fatal. Surgical treatment of tubercular peritonitis was discovered by accident by the late Spencer Wells, but was first brought definitely forward as a therapeutic measure by Koenig. Cheyne reviews the statistics and shows that in a very large portion of cases permanent cures are affected. He gives a table of Aldibert's cases treated by laparotomy, both in children and adults, which certainly make a favorable showing. Roersch's statistics are also favorable, and even in the caseating cases in children a percentage of recoveries of over 50 is shown (Roersch). The most favorable are those belonging to the miliary type with localized ascites, those with diffuse ascites next; next are the fibrous adhesive forms. The prognosis is more grave with the caseating type, and yet a large proportion of cures is obtained. Even the involved lung seems to sometimes share in the improvement after the operation. The method of operation is described, and it should be followed by medical measures as soon as possible. He does not attempt to fully explain the *rationale* of the cure of tubercular peritonitis by laparotomy, but suggests that an antitoxin is formed in the blood, and that the serum poured out by the operation may have bactericidal properties.

Lancet, Dec. 23, 1899.

Observations Bearing on the Question of the Influence Which Is Exerted by the Agglutinins in the Infected Organism. A. E. Wright and George Lamb. The question as to the relation of specific agglutinating substances to immunity is here treated. The authors confine themselves to the consideration of the argument that the agglutinins must be inactive during life, since the microbe continues to cultivate itself long after their appearance in the blood. The question is whether these microbes are, as a matter of fact, cultivating themselves in the presence of agglutinins, and they, therefore, made a number of observations in cases of Malta and typhoid fever, with the serum taken from the heart blood and from the spleen and Peyer's patches, using various dilutions and observing the effect. A marked difference existed between the serum from the spleen, and that from the general circulation, and they conclude that the microbes of these diseases cultivate themselves in the infected organs in mediums relatively poor in agglutinins, the spleen offering such a location. Theorizing on these results, they hold that the bacilli enter into chemical combination with the agglutinins, and thus effect a corresponding reduction in the agglutinative power of the containing medium, and that when the mass effect of the agglutinins is reduced beyond a certain medium, the agglutinative effect is no longer exerted. When the bacteria have been introduced in sufficient quantity to bring this about, they will cultivate themselves perfectly unchecked within the limits to their action. Heat or fever is a direct antagonist to this process, as it indicates an increased afflux of arterial blood and lymph flow, and when this process has gone sufficiently long and the agglutinins and other antibacterial substances are produced in sufficient quantity, they will be present in the blood in sufficient concentration to permit of their entering and abolishing the non-agglutinative envelopes which surround the colonies of germs. This done, the production of the toxins will be arrested and the temperature will fall. If, however, there remains somewhere in the organism, in some stagnant capillary or elsewhere, a colony not thus reached, relapses are liable to occur. The authors also made three observations to test the question as to the non-agglutinative character of the serum in the typhoid spots, by taking the serum from these and from the finger tips and comparing the effects. They found that the serum from the typhoid spots reacted in low dilutions, but rapidly failed to react as the dilution was made greater, while this was not true with the serum taken from the general circulation.

Gangrene Complicated by Glycosuria. Cuthbert S. Wallace.—The question of the origin of gangrene with glycosuria is discussed by Wallace, who accounts for the condition by the existence of arterial disease. He reports a number of cases and ends his paper with the following conclusions: 1. There yet remains to be proved that true gangrene—excluding death from acute specific processes which may occur in any subjects at any age—occurs in diabetic patients unaccompanied by such arterial disease as would of itself produce the gangrene. 2. The glycosuria may or may not precede the gangrene but is not usually accompanied by other signs of diabetes. 3. Septic wounds may produce a glycosuria which vanishes when the septic process is removed. 4. Individuals suffering from septic processes are often on the borderland of glycosuria. 5. Gangrene may aggravate a pre-existing glycosuria. 6. The arterial disease is sometimes that which accompanies, or is produced by, chronic renal disease. 7. It has yet to be proved that neuritis can produce any gangrene comparable to that of the so-called diabetic gangrene. 8. The best chance of recovery is offered by removal of the limb near the trunk, and this measure should be undertaken before the patient is reduced by septic absorption. 9. The presence of glycosuria may be an indication, instead of a contraindication, for operation.

Glasgow Medical Journal, December, 1899.

Recurrent Insanity: An Analysis of Relapsed Cases. Hugh Kerr.—This paper is an analysis of 450 cases admitted into the Buck's County Asylum during four years, and the author's conclusions are summarized in the following: 1. Recurrent cases form a large proportion of the curable ones admitted into asylums. 2. In these hereditary predisposition to insanity is present in a greater number than in primary cases. 3. Alcoholic or other excess is a frequent factor in the causation of relapses. 4. In cases of early life, menstrual irregularities in the female and masturbation in the male are frequently present. 5. The puerperal period and the periods of gestation and lactation account for a large proportion of female recurrent attacks. 6. The climacteric period in both sexes is a potent predisposing or exciting cause. 7. The majority of the attacks occur in middle life; the first, however, is most frequent in the adolescent period, and is later in males than females. 8. The prevailing forms of insanity are maniacal, melancholic forms being almost restricted to the middle period of life. 9. The tendency is toward recovery, minor relapses being frequent before complete convalescence. 10. The largest proportion of chronic cases is found in second attacks. 11. In many of the cases a certain periodicity is established, the tendency, however, being toward chronic insanity. 12. This class of patients furnished many who are dangerous to themselves and others, a danger which is increased by the impulsive character of their acts, and the frequent absence of marked premonitory symptoms, before the onset of the attack.

O Brazil Medico (Rio), Nov. 22, 1899.

Influence of Pregnancy on Heart Disease. J. Candido.—"Pregnancy is less injurious for a woman with heart disease, in most cases, than severe muscular exertion." Certain precautions must be observed however, Candido continues. Short walks in the open air during the first months are beneficial, always stopping short of fatigue. All fatiguing muscular exertion should be avoided during pregnancy, and a mixed milk diet commenced by the second or third month, ingesting two quarts of milk a day. Small doses of digitalis may be taken at long intervals. Colds and emotions should be avoided. "Rest, milk and a little digitalis is the tripod on which should rest the prophylactic régime of cardiopaths who wish to become mothers."

Semana Medica (Buenos Ayres), Nov. 9, 1899.

Operative Treatment of Total Symblepharon. Demaria. The modification of the usual methods consists in the application of a single large flap from the region of the epitrochlea. The flap was round and larger than the space to be covered, to allow for shrivelling, and the dermic side was applied to the stump of the eyeball—destroyed by quicklime in the observation described. Unfortunately the results are only a trifle better than those secured by Panas and others with a double flap: the culs-de-sac have gradually disappeared and the insertion of an artificial eye is still an impossibility.

Echo Medicale (Lille), Dec. 17, 1899.

Chronic Tuberculous Peritonitis Successfully Treated with the X Ray. E. Ausset and Bedart. These confrères, both professors at Lille, announced in 1898 the cure of a case of chronic ascitic peritonis with the Roentgen ray, and no recurrence since. Another typical case is now described in which absolutely no other treatment was used, not even superalimentation, the patient, a girl of 4 years, whose abdomen measured about twenty-four inches in circumference, with several indurated masses, easily palpated and evidences of walled-off collections of fluid. In the course of the sèances with the X-ray, eight to fifteen minutes every other day, the ascitic fluid entirely vanished by the end of the second month; the child has increased nearly seven pounds in weight and the abdomen is now of nearly normal circumference. The tube was placed 25 to 15 cm. from the abdomen.

Revue de Medicine (Paris), Nov. 10, 1899.

Variations in Gastric Sensibility. J. C. ROUX.—The painful spot noticed so often in the epigastrium, with stomach and other troubles, was marked with nitrate of silver on six tuberculous subjects, and a skewer inserted through to the back at this point, after death. It passed through the solar plexus in each case, or to be more exact, through the nervous plexus which surrounds the celiac trunk. Roux noted, in a number of subjects, that the sensibility varies from day to day or hour to hour, and that the causes which increase it are either of peripheral—irritations in the stomach or abdominal viscera—or central origin—depressed condition of the nervous system. The pain can be relieved by general moral and physical rest, especially rest of the stomach, and by anesthesia of the mucous lining of the stomach and cutaneous revulsion—chloroformed water or two teaspoonfuls of a solution of 5 cg. cocain in 150 grams of water; the effect of a sinapism lasts fully an hour. These measures are equally effective whether the pain is of central or peripheral origin. The symptom which dominates all the rest in the painful manifestations of any gastropathy is evidently the degree of hyperesthesia of the gastric mucosa, hence an excess of acid or retention of food are only secondary factors in the pain accompanying gastric disturbances.

Non-Coronary Angina Pectoris. MOREL-LAVALLÉE.—A number of observations carefully analyzed establish that angina pectoris may occur secondarily and independent of any coronary lesion, with the varied and vasospastic aspect conventionally reserved for "false angina." In these observations the genesis of the affection was manifestly complex and required the treatment for true angina as much or more than arterial medication. All were hysterics, but the overexertion of the myocardium may lead to serious consequences, and renders the prognosis grave. This reserve on the part of the physician is absolute in case of definite perinervous lesions, either direct—sclerous mediastinitis—or indirect—irradiating neuralgias of intercostal origin, consecutive to pleurisy—and also in case of a pure hysterical angor. The writer concludes by protesting against the assumption that hysterical are necessarily harmless affections.

Semaine Medicale (Paris), Dec. 20, 1899.

Albuminuria from Standing. J. TEISSIER.—Postural or orthostatic albuminuria is a rare affection, and the prognosis is favorable with appropriate treatment. The albuminuria only occurs when the subject has been standing; ten minutes on the feet may bring it on and forty minutes in bed will abolish it completely. Teissier explains the etiology as threefold: a congestive element, a catarrhal element and a nervous influence. The congestive element is proven by the fact that the intermittent albuminuria exclusively limited to the periods of standing, becomes permanent during the menstrual period. The urine contains urinary mucus and nucleo-albumin, establishing the catarrhal element, and a nervous influence is marked in all the observations on record. This etiology is confirmed by the fine results attained with the combination of bromid, antipyrin and quinin. An exclusive milk diet is detrimental, as it dilates the stomach and tends to produce alimentary albuminuria. The recumbent position two hours after the midday meal is beneficial. Intellectual work should be restricted to the minimum; the subjects are mostly young persons in a stage of rapid development. Mountain air raises the arterial pressure, which is frequently subnormal, and is advantageous, with other tonic measures. The seashore is counterindicated except in very sheltered localities and when there is no evident nervous taint.

Mediastinal Pleurisy. G. DIEULAFOY.—The mediastinal syndrome—dyspnea, attacks of suffocation, dysphagia, pertussis-like coughing, vocal troubles and wheezing—deviations of the trachea or projections into its cavity, noted by direct examination of the organ, existence of pain and dulness in the vicinity of the third and fourth dorsal vertebræ, the dulness contrasting with the normal resonance of the "limitrophic regions," the abrupt debut, form a bundle of proofs sufficient for the affirmation of mediastinal pleurisy, which is confirmed by the appearance of a vomica. Bacteriology is also useful in the diagnosis; the nature of the affection can be determined by Bezancon's agglutinating test, as in most cases it is due to the pneumococcus. Medical therapeutics is impotent; the evacuation of the deep, purulent, encysted tumor is always insufficient and leads to septicemic accidents, usually fatal. The patients should be confided to the surgeon at once. This form of pleurisy is rare. Dieulafoy has encountered it twice, and only three other observations are on record. His experience with interlobar pleurisy (see THE JOURNAL, xxxiii, p. 1417), demonstrates the inestimable benefits to be realized when the practitioner and the surgeon work hand in hand to determine the exact site of the abscesses and evacuate them. He presents his well-known views on appendicitis, and especially the "masked forms," in the third volume of the report of the Hotel Dieu for 1898-99, from which the foregoing is condensed, and enters a new field in his study of hydatid cysts of the spleen, summarized below.

Hydatid Cysts of Spleen. G. DIEULAFOY.—Laparotomy is required for these cysts, which are always beyond the reach of the needle. They may be either ascending or descending. No other tumor of a splenic origin can project to such an extent upward, pushing up the diaphragm to the fifth intercostal space, but the diagnosis of a descending cyst is more difficult. The examination of the blood, the shape of the spleen, the pauses in the development, the more or less rapid growth of the tumor, the feeling of the spleen on palpation should not be neglected in the diagnosing. If the spleen has to be abated, the leucocyte balance, disturbed for the first few months, becomes re-established by the end of this time.

Centralblatt f. Chirurgie (Leipsic), Dec. 16 and 23, 1899.

Formation of Ganglion in Continuity of a Tendon. C. HOFMANN.—In extirpating a ganglion of the dorsum of the foot, it was found located inside the tendon of the peroneus tertius, the second case on record of a ganglion inside of a tendon. No indications of degeneration were noted, and Hofmann inclines to the opinion that degeneration is not an important factor in the evolution of a ganglion. He thinks that a vigorous vascular neo-growth may occur in certain conditions in very spongy connective tissue—not fat tissue—with proliferation of connective tissue, and that degeneration does not occur till later. According to this theory the part played by the vessels in neo-formative processes differs from that which has been hitherto ascribed to them. In this case the patient had fallen over a chair a year before, and had noticed a numbness in the foot and a progressively growing tumor not long after.

Changes in the Internal Organs with Pronounced Scoliosis and Kyphoscoliosis. M. BACHMANN.—In the study of 276 cases of curvature of the spine—197 necropsies—Bachmann found some of the internal organs dislocated—heart, diaphragm, etc.—sometimes deformed—lungs, liver, etc.—and some quite frequently organically altered. It is noticeable that 251 of the 276 cases—91.3 per cent.—presented pathologic alterations in the circulatory apparatus; all but four restricted to the heart and pericardium—41 with valvular affections and 13 with valvular defects. Hypertrophy and dilation of the heart, usually the right, were noted in 182 cases—65.9 per cent. —coinciding with an affection of the heart muscle in 76 cases. Affections of the lung tissue, bronchi and pleura were noted in 274 cases: emphysema, 46.7 per cent.; atelectasia and compression of the lungs, 46.5; bronchitis, 41.6; phthisis, 28.3; pneumonia, 20.6; pleuritic processes, 74.6; pneumonia was the cause of death in 32 out of 197 cases, or 16.2 per cent.; primary or secondary fatal heart failure in 59.4 per cent. Curvature of the spine has a marked effect on the psyche and nervous system. Compression of the intercostal nerve explains the frequent intercostal lumbar and abdominal neuralgias which are increased by exercise and incapacitate the subject for work. The monograph is published in full in the *Bibliotheca Medica*, Part D-I, 4, appearing soon after the author's sudden death on the German Deep Sea Expedition. The results of his re-

[illegible] in case of [illegible].

Radical Operation for Inguinal Hernia in Infants. [illegible] He has [illegible] treated [illegible] and ligating it as high up as possible in the [illegible] ring, which ensures an undisturbed and permanent cure. Nearly all were out-patients. Only one child died, and it was moribund when operated on. From five to eight years have elapsed in seven cases.

Can a Gauze Compress Forgotten During a Laparotomy Work Through Into the Intestines Without Causing Serious Symptoms? J. P. zum Busch.—Rehn reported, at the last German Congress of Surgery, a peculiar case of intestinal [illegible] caused by a gauze compress overlooked in the abdomen during a laparotomy. The passage of the compress into the intestines, with comparatively little disturbance seemed very strange to him, and the general impression was that the compress must have been swallowed. Busch relates a similar case: the patient returned after the laparotomy complaining of stomach troubles, abdominal pains but not very severe, vomiting for one day and constipation, but not appearing very sick, good appetite and no hysteria. A shallow movable protuberance was noted below the umbilicus, moving along, after castor-oil had been administered, until evacuated per anum and found to be one of the compresses used in the operating-room, of peculiar shape and size, and almost impossible for the patient to have procured clandestinely. The presence of an exudate noted in the pelvis and its absorption later also confirm the possibility of the spontaneous rupture of a forgotten compress into the intestines.

Two Gastroenterostomies with Plates Cut Out of a Turnip. E. v. Baracz.—The plates are cut on the same principle as Senn's bone plates, and were recommended by the writer some years ago. In the two new cases reported the plates were applied with the most satisfactory results, the advantages being the rapidity with which the gastro-enterostomy can be done, the approximation of such a large expanse of serous membrane, no danger of infection of the peritoneal cavity, reduction of sutures to the minimum and impossibility of peritonitis from perforation. The half-digested remains of the turnip were evacuated the fifth day in one case. One patient survived the removal of the carcinoma eight months; the other only three.

Alteration in Intestines and Kidneys After Implantation of Ureters in Intestine. J. Kalabin.—Four dogs had one ureter implanted in the intestine; two died of peritonitis and one of uremia; the fourth remained healthy and cheerful until killed thirteen months later. The implanted ureter and intestine were found normal, but the kidney on this side showed a marked, regular, micro-diffuse proliferation of stroma between the uriniferous tubules of the medullary structure, and of the cortical to a slight extent. The epithelium of the Henle loops and of the convoluted tubules and the endothelium of the Malpighian capsules were much swollen, the two first vacuolized, and granulated masses of albumin were found in the lumen. The capsule of the kidney was abnormally thick and formed of solid connective tissue which had grown directly into the cortical substance at one place 3 mm. in diameter. Collapse of the organ was noted at this point as in case of an infarct. The tubules of this region had become merely large holes with no epithelium, some empty, others containing a granular or homogeneous mass. The tufts were in various stages of degeneracy, and patches of round celled infiltration were also observed at this point.

Dermatologisches Centralblatt (Berlin), December, 1899.

The Growth of the Hair. J. Pohl.—The hair was cut close to the head in small patches on several persons and the growth carefully measured. The first point noted was that cutting the hair checks its growth for a month, after which it returns to normal. The average rate of growth in a month was 10 to 13.5 mm. in boys 11 to 17 years of age; 15 mm. in the writer, between his twenty-first to twenty-fourth year, and 11 mm. at 60. In five insane patients, the rate of growth was less: 7, 8, 9 and 12 mm. a month. The curious fact was established that each two to four hairs form a group more closely connected than the rest, and that one hair of this group grows more rapidly than the rest for a while and then stops, when its neighbor assumes a more rapid growth for a while and then stops, the next continuing the rate, and so on until the turn falls again to the first hair; also that hairs have a typical length of life, after which they fall out, and this occurs in a group in the same alternate manner as the growth progresses. These phenomena were noted in the hairs on the back of the fingers as well as on the head. The typical length of a hair is twenty to forty inches, and its life two to six years. The highest rate of growth occurs in the middle of this allotted span. Fever checks it.

Profeta's Law. R. Bruggemann.—This law is generally accepted as applying to the healthy children of syphilitic parents, that they are immune to syphilitic infection. But Profeta only claimed that the healthy children of syphilitic mothers were immune, and some recent observations have shown the fallacy of the assumption that a syphilitic father can confer immunity.

Deutsche Medicinische Wochenschrift (Leipsic), Dec. 7 and 14, 1899.

Calomel As an Antiseptic in Obstetrics and Gynecology. Theopold.—The calomel is carried in a wide-mouthed bottle and, before attempting any palpation or operation, Theopold dips his fingers, after thorough disinfection, into the bottle, working the powder well under the nails and then rubbing the hands and arms with it. Each instrument and each tampon is coated with the calomel in the same way. His obstetric patients seldom require a second visit, and he has not lost a single one out of two hundred patients, since he began using the calomel, although the conditions in much of his country practice are far from favorable.

Clinical Significance of Elimination of Remains of Meat in Feces. A. Schmidt.—"Connective tissue that is not most thoroughly cooked is only digested in the stomach, while nuclear substance is only digested by the pancreatic juice, assisted to a slight extent by intestinal putrefactions. The appearance of remains of connective tissue in the feces, visible to the naked eye, indicates a disturbance in the gastric digestion, although it leaves undecided the question of the nature of this disturbance. It is a very sensitive test of the digestive function of the stomach after ingestion of a hundred grams of well-cooked chopped meat. If remains of muscle are perceptible under the same conditions, the intestinal digestion is deranged, but whether it is the secreting or absorbing function that is out of order can not be determined by this means."

Case of Diphtheria with Erythema and Joint Swellings. A. Schuetz.—In the observation reported, no serum had been given, and yet the symptoms of cutaneous erythema and swelling of the joints appeared, which have usually been attributed to serum treatment in other observations.

Muenchener Medicinische Wochenschrift, Dec. 19, 1899.

Tests of Disinfection of Hands. Paul and Sarwey.—The first report of tests made with the sterile box described in The Journal, January 6, p. 39, shows that it is impossible to render the hands completely sterile with Ahlfeld's hot water-alcohol method of disinfection. Ehrig and Winternitz were the only ones of the twelve persons tested who had even one hand completely sterile after the most thorough disinfection by this method; four had from 20 to 80 germs develop from a final scraping with the curette.

Value of Urine-Gelatin Medium for Diagnosis of Typhus. E. Unger and E. Portner.—The writers proclaim this method, as a distinct process in bacteriology. (See The Journal xxxiii, p. 1504.) Hitherto the detection of typhus bacilli in the feces has been extremely difficult, and required at least four to five days, but it can now be accomplished in two or three, and with more certainty than ever before. They found the bacilli by the second day of the disease, and until the eighth to tenth after subsidence of the fever, reappearing when a relapse was imminent. The bacilli exceptionally persisted as late as five weeks after subsidence of the fever, as in a case that left the hospital entirely cured, a warning that the excreta of convalescents may still be dangerous for others. No typhus colonies could be derived from blood taken from patches of roseola, but the gelatin-urine medium proved exceptionally favorable for the development of cultures from the urine, which grew with an abundance of tendrils seldom to be obtained in cultures from the feces, although frequently there were no indications of any renal affection. The following three points the writers assert must be borne in mind: 1. If no colonies with tendrils develop after several attempts, the case is evidently not typhus. 2. Numerous colonies with long tendrils indicate typhus. 3. Colonies with short tendrils speak for typhus if the clinical signs of the affection are evident, but not otherwise. Certainty can only be attained by further bacteriologic tests or the usual chemical tests to determine the identity of the cultures, which robs the method of much of its advantage as a means of early diagnosis.

Grece Medicale (Syra), November, 1899.

Traumatic Incontinence of Urine Cured by Suprapubic Cystotomy. A. P. PETRIDIS.—A boy of 12 had suffered from constant incontinence of urine for seven years, since a lateral cystotomy to remove a stone from the bladder. The wound had healed normally. After the failure of the usual measures to cure the enuresis the bladder was opened through a hypogastric incision. The vesical mucosa was found slightly congested and the wall thicker than normal, and contracted. The organ was closed and in a few days had healed; the incontinence ceased. There has been no recurrence during the fourteen months since.

Spontaneous Recovery From Puerperal Septicopyemia with Multiple Cutaneous Abscesses. ARMAOLEAS.—A woman with evidences of intense puerperal infection, appearing three days after delivery, refused antiseptic local treatment as she and her family were extremely ignorant and superstitious, and the physician withdrew from the case after giving a little quinin and bismuth. Summoned later, he found the patient with high fever and numerous cutaneous abscesses and gangrenous decubitus, but no purulent localization on the internal organs. The multiple abscesses evacuated their contents and healed, and the patient recovered completely, the spontaneous abscesses having evidently served to eliminate the infectious germs.

Gazzetta Degli Ospedale (Milan), Dec. 17, 1899.

Relations Between Tuberculosis and Nervous Diseases. G. ROSSI.—A thousand patients were examined at De Renzi's clinic: 489 affected with tuberculosis, generally pulmonary, and 511 with various nervous diseases. Study of their antecedents and present status reveals an unmistakable connection between tuberculosis and nervous diseases. In 197 or 25.5 per cent., the tuberculosis coincides with some pronounced nervous affection and they influence each other in other cases, succeeding or alternating in the evolution of the family, "countersigning its degeneration." Neuropathic antecedents were noted in 28.6 per cent. of the cases of tuberculosis. Tuberculous antecedents were found in 22.6 per cent. of the cases of nervous disease. Rossi believes that the key to the relations between tuberculosis and neuropathy is to be sought in vasomotor disturbances in the nutrition induced in the organs by the perversion of the nervous system, thus slowly predisposing the organism to tubercular infection. The great influence of the vagus on the nutrition and functions of the lungs, and on infections, explains this connection. He further announces that the antagonism hitherto accepted between cerebral hemorrhage and tuberculosis does not exist in reality, as he found cerebral apoplexy in the families of 9 per cent. of the tuberculous subjects, and in 31.7 per cent. of the tuberculous subjects with neuropathic antecedents.

Medicinal Intoxication with Belladonna. A. CALANDRA.—A [illegible] a pill containing [illegible] cg. of podophyllin. Symptoms of intoxication appeared in fifteen minutes, general prostration, etc., and in the course of a few hours violent diarrhea and syncope. Normal conditions were not restored for three or four days.

St. Petersburger Medicinische Woch., Dec. 9, 1899.

Vascular Lesions and Intestinal Neuroses. R. V. ENGELHARDT.—The writer is in the habit of asking all his patients suspected of a nervous tendency, whether they have had migraine, vertigo or palpitation of the heart without appreciable cause, or suffer from cold hands or feet or from facile sweat secretion, whether there is a tendency to chilblains and whether these phenomena are affected by menstruation. He comments on the astonishing frequency with which these questions are answered in the affirmative, and expresses his conviction that the phenomena are all directly dependent on vasomotor disturbances in the circulation, which hypothesis also explains the symptoms of a vasomotor nature so frequently noted in the course of intestinal neuroses. Both the vasomotor disturbances and the intestinal troubles are symptoms of a disturbed circulation. Morbus Basedowii and migraine seem to stand in the closest relation to the vascular system, and each may be accompanied by a watery morning diarrhea. These intestinal disturbances may also accompany general anemia and neurasthenia, or appear alone, and he attributes them to a vasomotor origin, among other reasons, on account of the alternate appearance of pure vasomotor disturbances and of intestinal phenomena in individuals or in members of the same family. He describes a family of seven brothers and sisters in whom, coincident with a general nervous predisposition, possibly dependent on it, certain objective symptoms manifest themselves in various parts of the organism: headache, constipation, alternating with enteritis membranacea in one, ameliorated by suggestion and pregnancy; the second suffered from cold, cyanotic hands and feet, chilblains; the third from migraine; the fourth from hyperidrosis, cold extremities, headaches; another from migraine, mucous morning diarrhea, palpitations; the father from hyperidrosis from youth, and now muscular atrophy of a portion of the left arm, probably anterior poliomyelitis on an arteriosclerotic foundation; the mother has migraine and angina pectoris, with indications of coronary sclerosis. The one feature common to all these various clinical pictures is a disturbance in the circulation. "Further study of neurasthenia and hysteria will confirm more and more the existence of this connection with disturbances in the circulation." Vasomotor disturbances are evident in the cardialgia of anemic-neurasthenic subjects: the pulse becomes small and irregular, the extremities cold, the abdominal aorta tense; it pulsates violently and is painful on pressure. Cardialgia in elderly persons with generalized arteriosclerosis presents quite a different picture. It usually appears at night, the subjects are uncomfortable reclining and prefer to stand, the lips and extremities become blue and cold. Diuretin is frequently effective in these cases. Anemic-nervous patients often complain of meteorism and a tendency to morning diarrhea, especially pronounced just before the menses and much alleviated by menstruation and pregnancy. Meteorism is a frequent symptom of arteriosclerosis. It may cause the greater discomfort on account of the limitation to the excursions of the diaphragm and the consequent pressure or dislocation of the heart, but objectively the symptoms suggest that the organic alterations in the abdominal vessels are the direct cause. This supposition is confirmed by the efficacy of potassium iodid and caffein in such cases. Adenot states that the mesenterial are the arteries most frequently affected with arteriosclerosis. This condition may disturb the circulation in the abdominal region, and entail meteorism and mucous diarrhea, such as occur in case of torsion of an intestinal loop and its local venous stagnation, which induces local meteorism and a profuse secretion from the intestine. The same occurs on a larger scale in the conditions known as plethora abdominalis. "This parallelism between the symptoms of an intestinal neurosis and similar disturbances in notorious arteriosclerosis has long impressed me. In both cases the alterations in the vessels, whether dependent on merely functional or organic disturbances in the circulation, are the direct cause for the manifestation of the phenomena, and these spontaneously group themselves into local intestinal or more remote objective indications of a disturbed circulation." He reviews the various observations of vasomotor neuroses and coincident arteriosclerosis published, and establishes as the principle for therapeutics the restoration and maintenance of a normal rhythmus in the circulation.

Voyenno-Medizinski Journal (St. Petersburg), Nos. 7, 8 and 9.

Operative Treatment of Paralysis from Pressure in Tuberculosis Spondylitis. SOBOLEWSKI.—"When mechanical treatment fails, laminectomy is of undoubted benefit and is harmless." The patient should be kept warm during and after [illegible] in [illegible]. Abrupt manipulation of the [illegible] must be [illegible] liable to induce shock. In case of [illegible] of the [illegible] in the form of sclerotic pachymeningitis, and tuberculosis of the processes, the laminectomy is in [illegible] operation. But even in other cases when improvement is all that can be expected, it is of great efficacy. It is contraindicated in extensive diffuse affections of the bones and [illegible] of the internal organs. Sobolewski bases his article on [illegible] personal and 117 observations in literature. The operation has been repeated two and even three times in a few cases [illegible]. (See THE JOURNAL, January 6, p. 16.)

Hernia of the Lung.—P. [illegible].—A tumor the size of a [illegible] appeared in the suprasternal region of the neck on one side of the sternocleido-mastoidei, in the course of a very difficult labor, simultaneously with an inguinal hernia. The tumor has not grown during the thirty years since, but increases to the size of a hen's egg during coughing, and is drawn in during inspiration and protrudes with expiration. It collapses at the slightest palpation. Potain reported a similar observation last year; intervention is evidently unnecessary in such cases.

Societies.

Clinton County Medical Society.—The recent meeting of this Society, held in Clinton, Iowa, resulted in the election of the following officers: president, Geo. Hofstetter; vice-president, D. S. Fairchild, Jr.; secretary, E. L. Martindale; librarian, J. C. Langan.

Hancock County Medical Society.—The following are the newly elected officers of this Society, which met at Findlay, Ohio, Dec. 28, 1899: president, T. S. Wilson; vice-president, N. L. McLachlan; secretary, Don C. Hughes; assistant secretary, M. S. Williamson.

Austin District Medical Society.—The fourth quarterly session of this Society was held at Austin, Texas, late in December, and the following officers elected: president, S. E. Hudson; first vice-president, A. Nowlin; secretary and treasurer, W. A. Harper.

Philadelphia Obstetrical Society.—At the last stated meeting of this society the following named were elected for the ensuing term: president, John C. DaCosta; vice-presidents, John M. Fisher and George M. Boyd; secretary, Frank W. Talley; treasurer, John G. Clark.

Wapello County Medical Society.—At the regular January meeting, the following officers were elected for the ensuing year: president, George C. Pope; vice-president, F. W. Mills; secretary and treasurer, C. R. Russell. The Society will hold its annual banquet January 18, at Ottumwa, Iowa.

Seneca County Medical Society.—This Society was organized at Tiffin, Ohio, last month, by electing the following officers: president, C. T. Benner; vice-president, Robert Swigart; secretary, Georgia Finley; treasurer, Wm. H. Focht. Meetings will be the third Thursday in each month.

Schuylkill County Medical Society.—The annual session of this Society was held at Pottsville, Pa., January 2, and the following officers elected: president, W. C. J. Smith, St. Clair; vice-president, A. L. Gillars, Pottsville; treasurer, D. Taggart, Frackville; secretary, G. W. Farquhar, Pottsville, censor, A. P. Carr, St. Clair.

College of Physicians of Philadelphia.—The following officers were elected on January 3: president, W. W. Keen; vice-president, Horatio C. Wood; censors, Alfred Stillé, William F. Norris, Richard A. Cleeman and Arthur V. Meigs; secretary, Thomas R. Neilson; treasurer, Richard H. Harte; honorary librarian, Frederick P. Henry; councillors, DeForest Willard, Robert G. LeConte.

N. Y. Neurological Society.—At the annual meeting of this Society, held in New York City, the 2d inst., the following officers were elected for 1900: president, Frederick Peterson; first vice-president, Joseph Collins; second vice-president, L. Stieglitz; recording secretary, Pearce Bailey; corresponding secretary, Lewis A. Conner; treasurer, Graeme M. H

Washington (D. C.) Obstetrical and Gynecological Society.—At the recent meetings of the Society the following papers were presented: Dr. Stone, "Surgical and Mechanical Treatment of Dysmenorrhea;" Dr. Vanrensselaer, "Surgery of Typhoid Fever;" Dr. Sprigg, "External Palpation vs. Vaginal Examination in Normal Labor."

Washington (D. C.) Microscopical Society.—At its annual meeting, this Society elected the following officers: president, Paul Partsch; vice-president, Rupert Nortan; recording secretary, Professor Mooers; treasurer, Robert Reyburn; curator, Prof. Wm. H. Seaman. At the close of the election, Dr. Seaman read a paper on "Medicine Droppers and the Measurement of Drops."

Washington (D. C.) Medical Society.—At the recent meetings of this Society, the following papers were presented: Dr. Foster, "Common Features in Neurasthenia and Insanity: Their Common Bases and Treatment;" Dr. Arwine, "Fungous Foot of India;" Dr. Burnett, "A Series of Cases of Suppurative Inflammation of the Temporal Bone;" Dr. Belt, "Eye and Ear Work in the London Hospitals;" Dr. Johnson, "A Case of Addison's Disease Treated and Improved by Suprarenal Extract;" Dr. Jung, "A Contribution to the Diagnosis of Diverticula in the Lower Part of the Esophagus."

Washington (D. C.) Academy of Sciences.—At the annual meeting of the Academy, held the 20th ult., Dr. S. C. Busey delivered his annual address, taking for his subject "American Medical Ethics." This paper will appear in THE JOURNAL. He urged on the profession the importance of strict adherence to the ethics of the AMERICAN MEDICAL ASSOCIATION, and deprecated the tendency of the profession to recognize and endorse by certificate or otherwise proprietary medicines and remedies. He also disparaged the holding, by physicians, of patents for medical contrivances and instruments.

N. Y. County Medical Association.—At the next meeting of this Association, which will be held the evening of January 15, Dr. Thomas H. Manley will report the following clinical cases: "Senile Gangrene of Foot;" "Gangrenous Perforature of Sigmoid Flexure;" Mammoth Omental Hernia." The principal paper of the evening will be by Dr. L. F. Garrigues, entitled, "A New Method for Retroperitoneal Drainage of Pyosalpinx, with a Report of Five Cases." There will be a symposium on "Strangulated Hernia." Dr. Parker Syms will open the subject, with "Some Practical Remarks Concerning Its Diagnosis and Proper Treatment;" Dr. H. M. Silver will speak on "Diagnosis of Strangulated Hernia;" Dr. John F. Erdman on "Treatment of Strangulated Hernia;" Dr. Irving Haynes on "Radical Cure in Operations for Strangulated Hernia;" Dr. W. B. DeGarmo on "The Mechanical Treatment; Prophylactic and Post-Operative," and Dr. W. B. Coley on "Strangulated Hernia in Children."

Western Texas Medical Association.—At the meeting held the 28th ult., at San Antonio, Texas, this Association passed the following concerning the antivivisection bill now before Congress. The bill is printed in full on another page, this week.

Inasmuch as a bill has been introduced into the United States Senate for the third time, by Senator Gallinger of New Hampshire, for the further prevention of cruelty to animals in the District of Columbia, and known as Senate bill No. 34, the object of which, according to its advocates, is twofold: 1, to prohibit vivisection, and 2, to aid the passage of similar bills in all the state legislatures.

Resolved, That it is our duty as a body of scientific men to do all in our power to defeat this insidious and inhuman effort to restrain scientific research, to stop the progress of preventive medicine, and to perpetuate ignorance and disease and suffering among animals and men.

Resolved, That this Association exert its utmost influence individually and collectively with the Senators and Representatimes in Congress from this state and with the members of the Senate committee in charge of the bill to defeat the same, and that a copy of these resolutions be forwarded to each one of these gentlemen respectively.

Resolved, That a petition be circulated among the citizens of San Antonio in order to arouse as vigorous a protest in this infamous and misguided scheme as possible.

Chicago Academy of Medicine.

Nov. 10, 1899.

(Continued from p. 45.)

SALIVARY FISTULA.

DR. G. FRANK LYDSTON—The first case I wish to report is one of salivary fistula, cited for the purpose of outlining a rather novel procedure for the operative cure of the fistula: The patient was a man, 25 years of age, who had been under treatment for syphilis, and was referred to me for what was believed to be a gumma in the region of the parotid gland. On examination the tumor proved to be a salivary cyst. I proceeded to extirpate it, and on the second day after operation I discovered, much to my disgust, that the cyst communicated, in all probability, with Steno's duct. I had substituted a salivary fistula for the tumor. Some three months later the patient, having stopped treatment for two or three weeks after the operation, returned to me. Cauterization and repeated suturing had been done by a surgeon who had endeavored to heal the fistula. I suggested a novel operation, which consisted of an attempt to re-establish the continuity between the bottom of the fistula and the normal opening of Steno's duct. After freshening the edges of the fistula, I passed a large, pointed, straight probe, armed with strong silk obliquely through the cheek and made it emerge from the normal opening of Steno's duct inside of the cheek. I fastened a small soft catheter to the ligature and drew it through the mouth. On the end of the catheter I fastened a single strand of silver wire which was drawn through the distal extremity of the catheter in such a manner as not to occlude its opening, thus leaving its lumen free. I countersunk the catheter to the depth of half an inch in the tissues of the cheek, and fastened the wire to a small lead plate, after stitching the fistula with catgut sutures. Beneath the plate was applied a dressing of idoform gauze. The free end of the catheter was made to emerge from the mouth. From that time on saliva flowed freely from the mouth. At the end of ten days the wire was cut and the catheter removed. The fistula was found to be absolutely healed. No further trouble from the fistula was experienced. Whether the probe had traversed Steno's duct, I can not say, but more likely I made a new fistula through the cheek, emerging in the mouth, and simply causing the fistula to open as nearly as possible at the normal opening of Steno's duct.

I do not know that this particular operation has been performed before; I have never seen it mentioned in literature. I do not claim that it is applicable to all forms of salivary fistula, but it proved a novel and successful procedure in this case. It is certainly applicable to the simple varieties of parotid fistula. How applicable it is to other forms of salivary fistula, remains to be seen. The last I heard from the case was about a year ago, two years after the operation. The patient was then in as good condition as at the time of my last examination—apparently perfectly cured.

TOTAL RESECTION OF SPERMATIC CORDS VS. THE OPERATIONS OF RESECTION OF THE VAS DEFERENS AND CASTRATION FOR PROSTATIC HYPERTROPHY.

DR. G. FRANK LYDSTON presented this subject. He said in part: I find that one of the great obstacles to castration is that even in the limited number of cases in which the operation is applicable, i. e., where the sexual function is not a paramount consideration and of no physiologic importance, the old men have a strong prejudice against the operation. Most of them believe that they are too virile to allow their testicles to be removed, a matter which they look upon with considerable pride. Furthermore, a patient who may consider his virility a thing of the past, does not like the idea of returning home minus these ornaments. He does not like to have remarks made to the effect that he has lost his testicles. As to resection of the vas deferens, the correlation of the nerve-supply of the vas deferens taken alone, and the prostate, is not quite so important as is claimed by those who advocate this operation as a substitute for castration. Certainly, the operation does not give as good results as castration. This has been my own experience and that of others who have practiced it. Total resection of the spermatic cords is quite as radical, so far as the result on the prostate is concerned, as castration. I do not believe the removal of the testis itself cuts much of a figure, as regards the effect on the prostate. Those cases in which removal of the vas deferens has accomplished the desired results bear me out in this assertion. The removal of the testicle affords added traumatism, making the operation a much more serious one. It is far easier to do total resection of the spermatic cords under local anesthesia than it is to perform castration. I am inclined to believe that some of the psychic symptoms that develop after castration in old men are due to the impression made on the mind of the patient by the removal of the testicles *per se*, rather than to the psychophysical effect of their absence. Furthermore, in some cases in which there is delirium and mania following castration, there is in addition to the psychic element a certain degree of uremic disturbance. The necessity of a more prolonged operation and more pronounced shock incidental to castration would perhaps explain the difference between these results and those obtained in mere resection of the vas deferens alone. The same would hold true as regards the results obtained from castration and total resection of the cords. In connection with this operation, like the operation of castration and resection of the vas deferens, the immediate results are not always supported very strongly by the remote results. A great many cases have been reported too soon after operations: they have not been followed carefully enough. For the time being, these patients have improved, but later on have relapsed into the same condition as before operation. The observations I have made on this point militate against the enthusiasm that has been manifested in certain quarters with reference to operations upon the spermatic cords and castration in the treatment of prostatic hypertrophy. This assertion is particularly pertinent in the case in point, because the individual was one in whom, *a priori*, we would not expect to obtain any marked results. The man was 65 years of age, with general atheroma, marked arcus senilis, and his radials were like pipe-stems, or, worse than that, as large as lead pencils. He was considerably emaciated. He was averse to having a radical operation performed. I suspected there might be a cancerous element in his case, although I was not able to detect anything of that nature. He had a markedly vesiculated bladder, with those peculiar columns found in cases of general atheroma. It was one of those typical cases of general atheroma involving the bladder and prostate, which Guyon describes, showing the condition which he believes to be the foundation of prostatic hypertrophy in all cases. The prostate proper was rather succulent. There were evidences of recent hyperplasia and considerable tenderness. I believed there was a possible chance of relieving the prostatic obstruction by operation.

Operation was done under cocain, less than 1 gr. being administered. Both cords were resected, one after the other, by an incision over the external ring, the cord being drawn out in the usual way. In these operations I make the resection high, over the inguinal ring, rather than down in the scrotal region, believing that the results are better. There were no evidences of disturbance from cocain except a little tingling of the fingers during the operation. By resecting first on one side, and then on the other, several days later the operator can, if he wishes, do the operation without any particular degree of shock. Then, too, if there be symptoms of intolerance of cocain, the second operation can be postponed until some future time. I rarely use stronger than 1 per cent. cocain, with 1 per cent. carbolic acid and 10 per cent. antipyrin solution. By resorting to local anesthesia, we avoid the manifest dangers of general anesthesia, and particularly nephritis, a condition that is very likely to result in old men from the influence of the anesthetic on the kidneys. I am satisfied that patients frequently die two or three weeks after operations, as a result of the effects of the anesthetic on the kidneys. I called attention to this point several years since. A practical point with reference to the permanency of the results is this: My patient had been compelled to rely on the catheter for some four or five months. He had not passed a drop of urine naturally for a year prior to that time, only being able to pass a few drops at a time. The second night after operation he passed six ounces of urine at one micturition. On the third day he passed, at one time, seven or eight ounces, on the fifth day he was passing over fifty ounces per hour in a natural way. I congratulated myself that I had effected a very brilliant cure. I found, however, at the end of three weeks, when he was ready to go home, he was passing urine every one or two hours in apparently normal quantities, this being due to an overdistended condition of the bladder. My assistant had not watched that particular point carefully for probably twenty-four or forty-eight hours, and it would naturally have deceived anyone who had not had this experience before. The prostate was reduced considerably in size, and on the right side, which had been especially prominent, it had shrunken to practically its normal dimensions. I should say that there was 50 per cent. reduction on the other side. I do not believe I cured this patient by the operation, but I feel that it exerted an important influence on his prostate. How much rest had to do with it, I am unable to say, but he had not obtained such results from the long rest in bed that his general condition had necessitated from time to time.

I submit this modification of the usual operation as being better from a cosmetic standpoint, better from the standpoint of its psychic impression on the patient, and its relative simplicity than the operation of castration, and the ordinary operation of resection of the vas deferens alone.

Dr. James G. Kiernan—With reference to one point in connection with the last case reported by Dr. Lydston, as regards operation for prostatic hypertrophy, it seems strange that he should have ignored a nutritional function of the testicle which corresponds closely to that of the ovary. At the 1897 International Medical Congress, Metchnikoff reported a number of experiments which showed that many antitoxins were the product of the ovary and the testicle, and these should be considered as to that function apart from the question of reproduction. It is quite well established that the ovary has functions connected with general nutrition apart from reproduction. I do not think I state the case too strongly when I say that the trend of gynecology is to preserve the ovary for this particular function apart from its reproductive. Granting the value of the removal of the testicles on account of their influence on prostatic disorders, and admitting the untoward secondary effects which result from this, if the same results be obtained by the procedure which Dr. Lydston has advocated, then it is peculiarly valuable.

There is another point apart from the local influence of the operation which deserves consideration, and that is the influence on the general system, which J. William White, of Philadelphia, has well called the constitutional influence of the operation per se. If the constitutional influence of the operation per se, which is not a purely psychic one, can be produced by the operation which Dr. Lydston has advocated it would seem desirable that the operation should be undertaken in preference to castration, which certainly does produce psychic disturbances in old men, just as oöphorectomy after the menopause [illegible]

Dr. [illegible] L. Baum—Inasmuch as most cases of prostatic enlargement present themselves for treatment at a time when the condition is far advanced, it is still a question whether the procedures advocated by Dr. Lydston, or prostatectomy, or testectomy will yield sufficiently good results to justify their use. The aggravated symptoms are mostly due, not so much to the enlargement of the prostate itself as to a secondary congestive condition. The operation for the relief of enlarged prostate has yet to be found.

Dr. Emil Ries—I feel very much as Dr. Baum does in regard to the treatment of diseases of the prostate, which are generally comprised under the name of prostatic hypertrophy. At present operative measures for the relief of this condition are highly unsatisfactory. We have to differentiate between treatment which is directed to the prostate itself and the treatment of some obscure, unproven, never satisfactorily explained nervous or other relation between other organs and the prostate. The latter refers to operations on the testicles and vas deferens. These operations have been founded on an assumed analogy between the relations of testicle and prostate and those of the ovary and a fibroid of the uterus. If this analogy is the only basis on which we have to build our hope in the treatment of prostatic hypertrophy, the sooner we get rid of that kind of treatment, the better. The experience of gynecologists, which has extended over more than one decade, has proven that the removal of the ovaries in the treatment of fibroids is a failure. Not only does the expected atrophy of the fibroid, after the removal of the ovaries, fail to take place in a large number of cases, but it has been observed in a comparatively large number of instances that after the natural menopause or the artificial operative extinction of the function of the ovaries, the fibroid has grown more than ever before.

As far as the relation between the ovary and the fibroid is concerned, it is more than probable that the effect of the extirpation of the ovary on the fibroid is not that of a relation of functions but simply the abolition of the blood-current from the ovarian arteries to the fibroid which in the removal of the ovaries is brought about by tying the blood-vessels which feed the upper half of the fibroid uterus. This is substantiated by the parallel method of tying the uterine arteries alone, whereby the lower half of the blood-supply is shut off from the fibroid, an operation which sometimes results in the diminution in size of the fibroid.

But to return to the prostate. There is assumed a functional relation between testicle and prostate, which is not explained or well established.

Let us consider what has been observed after operations for the removal of the testicles or of the vas deferens. The initial results reported after the removal of the testicles or resection of the vas deferens were highly promising. Later on, however, we have had reports of a condition of things not by any means as promising as the first reports. What is the reason? The first reports have all been lacking in one esssential point, namely, the patients have not been observed long enough after the operations. If a patient improves after an operation, it is no guarantee that he will be so much better a year after it. Dr. Lydston reports a case in which he says the patient was apparently very much improved, but in reality, not cured, as observation some time after the operation showed. The frankness of Dr. Lydston is refreshing, and the profession would be much better off if it had the unfavorable results of other cases rather than those insufficient reports characterized as beautiful results, and which are so unsatisfactory to scientific work. No doubt in a great many instances unfavorable results have not been reported at all. I am not sure whether the junctional or nervous relation between the testicle, vas deferens and prostatic hypertrophy exists. There are, however, possibilities of direct mechanical relations between them which I have not seen considered in text-books, and which seem to me to be worthy of consideration. I have examined a number of prostates microscopically, with especial reference to the corelation between the vas deferens and prostatic hypertrophy. It is very possible that in a number of cases a fibroid or adenomatous growth in the prostate, which constitutes what we call prostatic hypertrophy has a constricting or compressing influence on the vas deferens. As long as there is any function in the testicle there is secretion from the testicle, and if this secretion, in consequence of an obstructing tumor, accumulates in the prostatic part of the vas deferens, it must produce an additional enlargement of the prostate. If we cut off the supply from the testicle by resecting the vas deferens, much of the prostatic obstruction will be relieved. This is simply a mechanical principle, and one which may be of great importance, as many of the prostates, of which I can show you microscopic specimens, are filled with adenomatous growths, and it is highly probable that they produce a constricting influence on the vas deferens. I have also seen fibromatous growths springing from the fibrous and muscular sheath of the prostatic portion of the vas deferens which produce stenosis of the vas. If we cut off the supply from the testicle, the stenosis will exert little or no influence, and the prostate will collapse to some extent. However this theory will have to be further established.

If permitted, I wish to say a few words in regard to the treatment of the prostate itself, and refer to prostatectomy and prostatotomy. The latter, in cases of so-called prostatic hypertrophy, may be of great benefit, especially if the so-called hypertrophy be in the nature of an adenomatous growth, with the formation of cysts in the prostate. If we cut into the prostate, either by making a perineal section, or by doing a Bottini, we may empty the cysts, and cause the cyst walls to collapse. In prostatectomy we have an operation which reminds me very much, as far as its results are concerned, of myomectomy for fibroid tumors of the uterus. The resuts of prostatectomy are just as bad now as they formerly were in the early operations of myomectomy because the tumors were extirpated at a stage when the cases were extremely unfavorable. The patient with prostatic hypertrophy consults us after he has lived a catheter life for a shorter or longer time, after his bladder has become infected, after the urethral sphincters are more or less impaired, after hydro- or pyo-ureter, or nephrosis perhaps has formed, and then we have a septic bladder to deal with, as well perhaps as an unfavorable condition of the ureters and kidneys. Under such circumstances we need not be surprised if operative measures of treatment are followed by failure. We have to operate through a suprapubic incision in order to remove the median lobe, and we enucleate what tumors we can from the prostate. But we are operating in a septic field, with the ureteral sphincter greatly impaired or suppressed, so that the septic field of operation is in direct communication with the most essential organ, the kidney, and naturally such an operation is attended with no small degree of danger. The same thing held good in the early days of myomectomy. Patients came to us exsanguinated, pale, anemic, carried to the edge of the grave, so to speak, by the anemia and by the sepsis which was caused by the sloughing of tumors. If these patients were operated on, they died, so that myomectomy was considered a highly dangerous operative procedure. It is not so now, because we operate on them much earlier. Now we not only protect the patient from the dangers of a severe operation, but we often save the uterus, and there is no good reason, it seems to me, why the same good results should not be accomplished in prostatic work.

One great hope in the future lies largely in the work that has been done on the ureters, and by this means we may be able to secure much more favorable results in operating on patients with prostatic hypertrophy. It may be possible in the future to completely switch off the urine from the bladder, and get it through the ureters into some other organ which is provided with a sphincter, allowing the patient to live in comfort without infection taking place. The operation of implanting the ureters into the rectum, as it has been tried repeatedly, is fraught with the danger of infecting the kidneys; an operation which we could not at this time recommend to a patient with prostatic hypertrophy. The suprapubic cystostomy, even with the addition of Witzel's technique, is rarely satisfactory to the patient.

DR. REUBEN PETERSON—Dr. Ries has spoken of transplantation of the ureters into the rectum as a possibility in the treatment of enlarged prostate. For some months I have been performing experiments on dogs, having no particular object in view except to see whether the kidneys would be infected if the ureters were implanted into the rectum. I quite agree with what Dr. Ries has said relative to the present status of this operation. It is unjustifiable. It is impossible to insert a small tube, like the ureter, into a large tube, like the rectum, without obtaining a certain amount of stricture of the ureter, and if this is the result, then infection will necessarily follow. That has been the result in the dogs that I have been able to save by operative means. If infection does not take place it is a chance, and not due to any good surgery on the part of the operator. If an operation could be devised whereby a lateral anastomosis between the ureter and the rectum could be made, precluding any possibility of stricture of the ureter with subsequent dilation and hydronephrosis, infection of the kidney might not necessarily follow. My experiments have shown that where the greatest amount of stricture exists, there we have the largest amount of infection of the kidney. My experimental work leads me to the conclusion that the lateral anastomosis I have mentioned is a surgical possibility, and at some future time I shall report the condition of the kidneys whose ureters have been united to the rectum by this method.

As far as the sphincter control of the urine in the rectum goes, the operations have been a perfect success. There is no irritation of the rectum, the dog emptying his at certain intervals of anywhere from three to six hours. However, the possibilities of infection of the ureters and kidneys following transplantation of the former into the rectum are so great that the operation for removal of the prostate is at the present time, with our present knowledge, far preferable.

I do not agree with what Dr. Baum has said regarding patients not being cured by the removal of the prostate. I recall one case in which a prostate was removed by Dr. Van Hook, and a perfect cure resulted. For three years after the operation the man suffered much pain, although the bladder symptoms were improved. Then the pain suddenly ceased and he has remained perfectly well ever since although the operation was done five years ago. The median lobe was removed by the combined method from above and below. I have always attributed the pain which persisted for such a long period after the operation to an unhealed ulcer of the base of the bladder.

I was particularly impressed with what Dr. Ries said in regard to the possibility of obtaining good results from the early removal of the prostate. Some time ago I had the pleasure of witnessing Dr. Ries operate for the removal of the prostate. There was but little hemorrhage, and I was struck with the comparative ease with which the prostate was removed. If the operation can be perfected, a great many cases can be cured in that way.

Regarding just one other point, brought out by Dr. Kiernan. I do not believe that there are constitutional changes produced by the removal of the ovaries after the menopause, although the changes brought on by the removal of the functionating organs are varied, and many times may be severe. I do not think any constitutional symptoms will result from the removal of the testicles at the age Dr. Lydston has advocated this operation.

DR. G. F. LYDSTON, closing the discussion—It was not my intention to go into the entire field of the pathology and surgery of the prostate in reporting my case. I simply narrated the case to illustrate a method which I am satisfied, from experience with this and other cases, will prove a very valuable substitute for two operations—castration and resection of the vas deferens, both of which at best have narrow limitations. The older members of the Academy know how I stand on that particular point. I recall that in reviewing "Twentieth Century Practice of Medicine," to which I had the honor of contributing the chapter on "Diseases of the Prostate," the late Dr. John B. Hamilton made the remark that I had taken a very conservative attitude. I have changed my opinion considerably with reference to those operations. I find that many patients, who do not like to be castrated, hail with more or less joy the operation of resection of the vas deferens. The operations of castration and of resection of the vas deferens are undoubtedly of value in certain cases; but it was not my intention to enter into their indications, excepting as I mentioned them incidentally.

Dr. Kiernan raised a point which I was very glad to have him bring up. I have been watching, with more or less curiosity, recent experiments in the conservative surgery of the ovary, particularly those of ovarian grafting, and the possibility of their having a bearing on the question he referred to. Dr. Peterson has practically answered the remarks of Dr. Kiernan for me. A great deal depends on the age of the subject.

Dr. Baum took a rather pessimistic view of operations in general for the relief of prostatic hypertrophy, and his views were answered inferentially by the remarks Dr. Ries made with reference to the time that these operations should be performed. We should advocate early prostatectomy in these cases, other things being equal. I have elsewhere made the assertion that the trouble with prostatic surgery is that it is not given the same opportunity that has been granted to uterine surgery. It is rather difficult to draw analogies between the surgery of the prostate and that of the uterus. I agree with Dr. Ries in saying that both operations on the testes and cord, and radical operations on the prostate, have effected cures, though perhaps not so many as were claimed at first. I have been disappointed in some of my own cases, but I have been highly gratified by the results in others, particularly where early prostatectomy has been performed. In a patient on whom I operated five or six years ago, a man, a little over 50 years of age, and otherwise in excellent condition, I removed the two lateral lobes and a [illegible] or rather, I shelled out adenomatous growths from these sites, and obtained a perfect cure. That man is a living exponent of what can be done by early prostatectomy. He was operated on in the pre-surgical stage of his condition, before he had been infected. If it were generally understood that radical operations on the prostate, if performed comparatively early, are more or less promising, and general practitioners would look out for symptoms of prostatic disease, we might be able to get our cases at a much earlier period. As a matter of fact patients have had more or less trouble with the prostate for years before the symptoms became sufficiently prominent to induce them to consult a surgeon.

So far as the analogy between the prostate and its pathology and surgery with the uterus is concerned, it cuts very little figure nowadays. We mention these things in giving a historic survey of the subject, but very few advanced surgeons take them into serious consideration.

The one I have advanced is a substitute for the other two operations on the vas deferens and testes. It is evident that, so far as the result is concerned, the condition of the prostate determines the question. Patients with a distinct fibroid change in the prostate are not likely to be benefited very much by these operations. When the case has advanced and glandular tumors or a fibroid condition exist, then I should not expect a favorable result from operative interference.

I was very glad Dr. Ries referred to early operation, or early treatment. In many cases local treatment of the prostate by means of massage will relieve the congestion and irritation about the prostatic urethra, and in a measure prevent the development of typical prostatic hypertrophy, which is a term we use for the sake of convenience.

With reference to suprapubic section, in many cases in which we substitute a suprapubic fistula for castration, it is far preferable, so far as the mental condition of old men is concerned. I have obtained excellent results from that method. I recall the case of a man who was made comfortable the rest of his days by that method, whereas before he had suffered severely with pain during urination so much so that I confidently expected to find a stone on exploration. He acquired almost sphincteric control of his suprapubic fistula. His method of urinating was to take a glass funnel, put a little absorbent cotton under the lower edge of it, and pass his urine through the funnel into a vessel. He did this for several years, and finally died of a condition which was not referable to his genito-urinary apparatus. With reference to the point of operating suprapubically for the purpose of establishing a permanent fistula, by making a small incision into the bladder, a mere puncture, so to speak, followed by forceps, dilating it, passing the finger in and exploring, no further operation on the bladder is necessary to make the fistula permanent. By operating in this way the muscular wall of the bladder will often develop a sphincteric function.

With reference to the direct results of castration, the contributions of White and others have shown that the operation was not based on analogic reasoning altogether, but on experimental results and observations in dogs. Castration has a marked influence over the prostate. It does not necessarily follow that we can cure all forms of prostatic hypertrophy by the operation I have advocated; I do not claim that, but the operation is certainly applicable in a certain number of cases.

With reference to grafting the ureters into the rectum, it is a serious operation and old men are better off using their catheters. How important the operation of Maydl, of grafting the ureters into the sigmoid flexure, may be in its relation to prostatic hypertrophy in the future, I do not know. But I believe I am correct in stating that the trend of surgical opinion is in the direction of that method rather than the transplantation of the ureters into the bladder, which is almost inevitably followed by infection of the kidney and its necessarily serious results.

(To be continued.)

Mercurial Ointment in Erysipelas.

A number of additional observations have recently been related by Dematteis, in the *Gazz. degli Osp.*, confirming the extreme efficacy of mercurial ointment, even in the gangrenous form of erysipelas.

Cleveland Medical Society.

Dec. 8, 1899.

DIGITALIS AND ITS AIDS IN CHRONIC CARDIAC HEART DISEASE.

Dr. J. B. McGee read a paper on this subject. The essential indication in treatment of chronic heart diseas is to maintain the integrity of the cardiac muscle. Myocardial weakness implies a lack of ability to overcome valvular defects. To restore deficient compensation, the indications are to lessen the labor of the heart, to increase its power, and to improve its nutrition. The dual action of digitalis makes it of special value when the heart muscle is weak and the vascular tension low. Under its use there is an absolute increase in the volume of the cardiac muscle, so that digitalis may have a really curative action. He prefers long-continued medium doses, diminishing them as dropsy subsides or the pulse reaches normal. Because of the varying composition and medicinal value of digitalis, a preparation of the plant itself, preferably standardized, is the best. When there is high tension, it may be combined with a vasodilator, such as nitroglycerin. Because strophanthus has little action on the vessels, it is of especial value in the presence of high tension. Diuretin acts best in children, and caffein is more effective than its soluble salts. Strychnin is an almost ideal circulatory stimulant, especially in cardiac asthenia, and it is therefore of great value in the treatment of the aged. The diuretic action of calomel should always be remembered, as it is particularly effective in cardiac dropsy with hepatic congestion.

Dr. P. M. Foshay drew attention to the fact that medical society programs, as a rule, showed that no subject is so steadily neglected as therapeutics, despite the fact that the treatment of disease is the chief aim of the art of medicine. He has had gratifying results from the diuretic effect of calomel used along with digitalis, but reported one death of a patient with chronic heart disease, from the exhaustion incident to a serous diarrhea that was probably caused by the calomel and digitalis.

Dr. H. W. Rogers thought that the manner of use of digitalis was largely a question of diagnosis. Certain conditions of the heart seem to be made worse by its use, especially some cases of aortic insufficiency. He noted one case of death within half an hour after the administration of half a dram of the tincture of digitalis. The case was one of dilated and hypertrophied heart, and death was undoubtedly due to the fact that the patient had for a long time been taking small doses of digitalis. He suggested that physicians pay too little attention to the functions of the liver and intestines in chronic heart disease. Very often, placing the patient on a regulated diet, and unloading the venous system through the intestinal tract, greatly relieves an overburdened heart. He also said that there are certain cases of pneumonia in which better results can be obtained from the use of digitalis than from the use of strychnin.

Dr. C. F. Hoover had never seen, in a single case, any evidence of vasoconstriction following the use of digitalis, and thought that the increase in volume and duration of the pulse was due to the prolongation of the systole of the left ventricle. The indications for the use of this drug necessitate a very nice study of the character of the pulse. The normal radial pulse being an expression of the ventricular systole and contraction of the elastic aorta, there occurs in consequence, in atheroma of the aorta, a pulse that is short and rapid and quite similar to that of aortic insufficiency. Here digitalis will do little good, while nitroglycerin will greatly relieve the heart. The first stage in the breaking down of the myocardium against peripheral resistance is marked by the slowing of the heart-rate, while later in the process the pulse becomes very rapid and arrhythmic. He reported a case of a man in a condition of extreme general cyanosis, with cold extremities and very weak pulse, due to increase of peripheral resistance, and which could be detected from the long duration of the pulse. Under the administration of nitroglycerin, the cyanosis promptly and entirely disappeared. The increased volume of the liver in chronic heart disease is not always due to passive hyperemia. The experiments by Gad showed that distension of the hepatic vessels will obstruct the flow of blood through the portal vein. In the case of cyanosis before mentioned, the patient's liver was diminished at least two fingers' breadth in volume within two or three days, under the administration of nitroglycerin. No doubt it is these cases in which the saline cathartics do the most good.

Dr. J. G. Spenzer asked the essayist if he had stated that caffein was more efficient than its soluble salts. He noted that calomel had been used as a diuretic by physicians in Ohio, in the early part of the century. He thought it was an excellent thing to use the entire drug of digitalis rather than any of the alkaloids.

Dr. J. H. Lowman noted that Dr. Delamater of Cleveland, in the early part of the century, was accustomed to use a pill composed of a quarter of a grain of squills, calomel, opium and digitalis, in chronic heart disease. He thought there was usually no real objection to the long-continued use of digitalis in the case of senile hearts with arteriosclerosis, especially as it increased the nutrition of the heart muscle.

Dr. R. D. Fry said he had experienced favorable results from the use of digitalis in the chronic bronchitis of the aged, and had found it superior to any other remedy.

Dr. J. B. McGee, in closing, stated that it had been his experience that caffein gives better results than its soluble salts. He had used squills very little. He thought there was little risk in using strychnin in long-continued large doses, provided the effect was carefully watched. He had not used digitalin hypodermically, as it is insoluble.

Dr. L. B. Tuckerman noted that from the earliest settlement of northern Ohio the physicians of that district were accustomed to use calomel as a diuretic.

Feeding in Typhoid Fever.

Dr. G. W. Moorehouse read a paper on this subject. During eight months, 57 cases of typhoid fever were treated at Lakeside Hospital, and 35 of these on return of the appetite, were fed, without regard to the temperature. The feeding was usually kept up during relapse, unless the appetite diminished with the increase of temperature, which did not commonly occur. In the fatal cases there was no return of the appetite, and they were fed only milk. Five died, a mortality of 8.8 per cent., and 11, or 19 per cent., had relapses. Well-cooked rice, soft-boiled or poached eggs on soft toast, macaroni, *blanc mange*, thickened soups, crackers with milk, scraped beef and minced chicken comprised the dietary of these patients, and these articles give about the same range, but not the same same variety, as the diet given by Dr. Shattuck (Journal, xxix, p. 51) to his typhoid patients. With this diet the majority of the patients were satisfied until their temperatures had been normal for some time, and later they were fed still more liberally, but not until they would ordinarily have received full diet.

The general condition of typhoid patients improved greatly under food; no hemorrhage nor perforation occurred after its administration, but the percentage of relapses to the whole number of cases was rather high. There is very little material available for a statistic determination of the relative mortality under liberal and strict diet, but what there is seems rather in favor of the liberal diet, and this suggests a possible prognostic value of a return of the appetite.

Dr. J. H. Lowman said that in observing these cases that occurred in his service at Lakeside Hospital, recovery seemed more rapid and the patients seemed in better condition after the trial of the liberal feeding, but after Dr. Moorehouse had tabulated the results, the rather large proportion of relapses surprised him. He is sure that typhoid patients are not sufficiently fed, and that the emaciation in this disease is often due to this fact. He noted that the normal body daily required food containing 1500 to 2000 heat units. This would require five to six pints of milk on a strictly milk diet. This amount is too large to give, while the addition of a little farinaceous food will add enormously to the number of heat units, and a little rice or cracker may be added to the milk with very great advantage. He thought that these articles added to the diet tended to prevent some of the late complications of the disease that often result from the low state of the general nutrition. The value of soups is very low, while that of meat juice is the same as that of milk, consequently meat juice is usually given in much too small quantities. There is no necessity of using meat, and there might be some danger.

Dr. R. D. Fry had never seen a case of relapse in typhoid when a strict milk diet had been employed during the course of the fever, and for several days after its subsidence. In cases in which a strict milk diet is not well borne, some liquid peptonoids may be substituted. As the cases reported appeared to show about 40 per cent. of relapses, the result could hardly be considered as favorable to the practice of early feeding. He had seen numerous cases of typhoid made very much worse by the administration of remedies to check the diarrhea. He thought that if the treatment of typhoid by simply careful nursing and strict milk diet, with perhaps the addition of peptonoids, was carried out, the results were much better than when any medicine was used.

Dr. W. H. Humiston criticized the use of crackers with milk in typhoid, for the reason that crackers are very indigestible, being composed chiefly of flour and lard. He thought that the recovery of these patients after the eating of crackers spoke wonders for what a typhoid patient can endure. The using of rice he thought commendable.

Dr. O. B. Campbell said that in regard to the feeding of typhoid patients, as well as in regard to the administration of medicine, he had come to the conclusion that there was no routine method to be followed. There are so many constitutions and so many varying features of the disease that it is impossible to lay down any rule of diet or remedies. Some may secure good results from one method of treatment in a certain series of cases, while others will certainly fail in employing the same method. The conclusion of the whole matter is that the physician must carefully study each case and treat it in accordance with the observed conditions.

Dr. E. W. Moorehouse, in closing, said that he did not care to adopt the method of liberal feeding. He had simply reported its use in a series of cases. The cases were not fed until they had some appetite, and so long as that continued the feeding was not interrupted. If there was any rise of temperature and the appetite failed, the amount of food was reduced. Most of these patients were returned soldiers from the recent war and were in a bad condition. He did not think that intestinal perforation can be attributed to anything that the physician can prevent, but he thought that the amount of tympanites was one of the most important things for the physician to watch, and if there is any distension, even though the temperature and pulse are satisfactory, something should be done for it because of the possible danger of perforation. The proportion of relapses as compared with the whole series of 57 cases is 19 per cent. He thought that Dr. Fry's experience was very unusual, as Osler, who is extremely careful to limit the diet to milk, reports relapses, and Pepper, whose rules in this respect were the most rigid, and who gave milk diet for ten days after the normal temperature was reached, reported relapses.

Fibromyoma of Labium.

Dr. B. O. Coates reported a case of fibromyoma occurring in the labium majus. The patient was aged 21, married, and had one child. There had always been some enlargement of the left labium, but after marriage it had developed rapidly and caused pain during coitus, as well as obstruction during parturition. The growth lay in the median line, and greatly resembled a scrotum with one testicle higher than the other. This resemblance was so great that one physician had termed the case "hermaphroditic." The tumor mass measured 17x8x6 cm., and was movable, irreducible and painless. Three separate tumors could be made out, two of which were of the consistency and size of testicles, while the third was larger and harder. Around these were a large number of smaller ones. The skin was not adherent to the tumor. After removal, sections showed clearly that they were fibromyomas.

Dr. Coates, in reply, said that the skin was not adherent to any extent, that the tumors were all fairly movable beneath the skin, so much so that the house surgeon ventured the diagnosis of varicocele.

Dr. Hunter Robb asked if Dr. Coates had found the skin adherent to the fibromyomatous tumor, and said that this was an exceedingly interesting specimen. He had never met with such a case, and knew of few references to similar ones.

THE JOURNAL OF THE
AMERICAN MEDICAL ASSOCIATION.

SATURDAY, JANUARY 13, 1900.

SERUM TREATMENT OF TUBERCULOSIS.

It would be hazardous to venture a prediction as to the outlook for the serumtherapy of tuberculosis. With our present knowledge, antitoxins—at least in effective amount and activity—are believed to be produced only in the so-called self-limited diseases, and tuberculosis is scarcely included among these. It should, however, not be overlooked that recovery from tuberculosis—often spontaneous—is by no means rare, and the fact that a large number of those exposed to infection are not attacked by the disease would seem to indicate that the body does possess certain protective influences even against this much-dreaded disease. For these reasons the hope seems not unjustified that time will yet bring a remedy. This hope has not been realized in either tuberculin or tuberculin R, nor yet by any other of the antitubercle sera on the market. Investigation toward this end is actively going on, and the errors of the past may prove the stepping-stones of the future. One of the most persistent students in this field of activity is Maragliano, of Genoa, who, in a recent communication[1], on the basis of clinical and experimental experience answers in the affirmative the question whether tuberculosis is susceptible of treatment with antitoxic serum. He contends that, by the methods described by him three years ago, it is possible to obtain a serum containing protective substances that possess the property of neutralizing in healthy experimental animals—guinea-pigs and rabbits—the toxic effect of lethal doses of tuberculous toxin. The test-poison may consist indifferently in the bodies of dead bacilli freed of fat, in aqueous or glycerin extracts or in active substances obtained from these. The antitoxic serum exhibits its protective activity if injected as long as six hours before the toxin, or together with the toxic substances. The toxic substances employed invariably destroy healthy control animals within two or three days. The same antitoxins prevent all thermic reaction when injected into tuberculous human beings at the same time with positively pyrogenic doses of tuberculin, whereas subsequent injections of the same amount of tuberculin alone are followed by febrile reaction. These antitoxins excite the development of new protective substances when injected into healthy and diseased human beings. On repeated simultaneous injection with non-toxic doses of tuberculous toxin, the antitoxins prevent, in healthy experimental animals, the occurrence of the progressive wasting that takes place in animals treated with the same amount of toxin alone. In the blood and in the serum of tuberculous individuals toxins have been found that exert the same biologic effect on guinea-pigs as the tuberculous toxins. It has further been determined that this toxemia can be diminished and dissipated by systematic injections of antitoxic serum, so that the injection of blood serum or the urinary extract will not be followed in guinea-pigs by the deleterious effects mentioned. At the same time the presence of antitoxins that formerly were not present in the blood of the patients can be demonstrated. The tuberculous antitoxin is harmless to human beings and animals, either healthy or tuberculous. Care must be taken, however, not to confound the results of the trauma inflicted by the injection with the special effects of the antitoxin, as some tuberculous subjects exhibit thermic reaction after injection of even physiologic salt solution, or of the physiologic serum of various animals. As much as 40 c.c. of antitoxic serum have been injected into tuberculous patients at one time without reaction.

Although the antitoxin is capable of neutralizing the activity of the tuberculous toxins in the animal body, it has not yet been shown that it exercises any direct inhibiting effect on the growth or multiplication of the tubercle bacilli. In the test-tube the antitoxin exhibits an attenuating or destructive influence on the tubercle bacilli. Bacilli kept for twenty days at a temperature of 37 C.—98.6 F.—in antitoxic serum are innocuous for rabbits and guinea-pigs, and do not develop when inoculated on the usual culture-media. It can not be concluded that a similar result takes place in the animal organism. It may, however, be supposed that the serum effects some change in the soil within the body in such a way as to inhibit or destroy the activity of the bacilli. If virulent tubercle bacilli and antitoxic serum are injected into the peritoneal cavity of guinea-pigs, and if peritoneal fluid be removed after the lapse of thirty-four hours, it will be found that, although bacilli are still present, their injection into other guinea-pigs will not induce tuberculosis, and no development follows inoculation of the usual nutrient media. The injection of antitoxic serum into the peritoneum, together with .2 gram of virulent living bacilli, prevents acute infection in guinea-pigs, whereas the control-animal receiving the same amount of bacilli dies in the course of two or three days. The guinea-pigs treated with the antitoxin die after the lapse of a month, greatly wasted, but they may survive if the intraperitoneal injection of antitoxin be continued. As many as 50 per cent. of the guinea-pigs thus treated will be saved.

It may reasonably be concluded that the antitoxins, inasmuch as they neutralize the toxins, likewise favorably influence the soil in the animal body, and experience justifies the opinion that the properties and the alterations in the animal organism govern largely the distribution and the vital activity of the bacteria, particularly also the tubercle bacilli. Support for this view is found in the fact that with improvement in the general condition the bacilli disappear from the sputum, whether recovery be spontaneous, through hygienic and dietetic measures, or be caused by antitoxin treatment. This signifies that the tubercle bacillus can be effectually opposed, without the necessity for remedies capable of attacking it directly in the tissues. On the other hand, it can be assumed that the symptoms of tuberculosis are largely due to the tuberculous toxins, and not to the bacilli as such. It is possible to develop characteristic pathologic-anatomic alterations in animals with the toxins alone.

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[1] Berliner Klin. Woch., Dec. 4, 1899, p. 1073.

The conclusion would seem justified that the same significance and the same therapeutic indications must be conceded to the antitoxins of tuberculosis as belong to the other antitoxins in the treatment of infectious diseases, because those relations are based as determined experimentally on the scientific demonstration of the action and the application of the antitoxins; and it is believed by Maragliano, that the results obtained in the treatment of tuberculosis in human beings confirm those of experimental observation.

RELATION OF RENAL DISEASES TO OTHER MALADIES.

Consulting physicians habitually see a considerable number of patients who have been under the care of general practitioners, and are frequently surprised at the number of cases in which renal lesions have been overlooked because the symptoms which the patient has presented have not pointed directly to kidney disease, and the physician has not been careful enough in his examination of the patient to insist on a careful urinary analysis. This carelessness is chiefly due to the fact that the general practitioner is so pressed for time that he fails to make an analysis when he should do so, or else it depends on the fact that his primary medical training has not been of such a character as to teach him the importance of such examinations. As a matter of fact, there are few diseases met with among human beings which so frequently produce aberrant and unusual symptoms as disease of the kidney. It seems hardly worth while to point out that no case of severe headache should be treated for any length of time without a careful urinary analysis being performed, and again, the various neuralgic pains in different portions of the body, which do not yield readily to treatment, should at once be regarded with suspicion as evidencing deficient elimination of toxic materials from the system. So too, it is not uncommon for physicians to meet with cases of disturbed heart action due to renal changes, or with a subacute or chronic bronchitis, which fails to yield to ordinary methods of treatment and is found to be due to defective renal activity. In some cases, on the other hand, it is not to be forgotten that in association with changes in the kidneys there are primary or secondary alterations in the circulatory system, and a careful examination of the heart and arterial walls may reveal the fact that not only the kidneys but also the heart and vessels need the attention of the therapeutist.

In another class of cases digestive disturbances, varying widely in degree and character, may manifest themselves. Even continued nausea, or attacks of vomiting, may be dependent, not on any local condition, but on the presence of uremic poison in the blood, and urea poured out by the gastric mucous membrane undergoes an ammoniacal change and so irritates this viscus. In other patients, attacks of violent serous diarrhea, which give the patient much annoyance and cause great weakness, are in reality efforts on the part of the system to eliminate poisons which are accumulating so rapidly that, did active purging not ensue, grave toxemia would at once develop, and so the important lesson is learned that active purging in a patient with degenerated blood-vessels, or in a younger person with edema, should not be suddenly checked with opiates or astringents until the physician is satisfied that the kidneys are acting properly. In still other patients cerebral symptoms develop, such as dizziness and swimming in the head, and these should not be put down to a thickened tympanic membrane, or to middle or internal ear disease until all possibility of unhealthy kidneys has been eliminated from the case. Meniére's disease may be closely simulated by uremic intoxication. In connection with the question of bronchitis, we have neglected to speak of the frequency with which the prognosis, and, indeed, the diagnosis of pneumonia may be confirmed by urinary analysis. In many cases of renal lesion, consolidation of the base of the lungs or pulmonary edema will be looked for more carefully if the physician is aware of the fact that the urine is not as it should be, and usually the presence of albumin and casts in the urine of a patient suffering from pneumonia increase the gravity of the prognosis to an extraordinary degree.

Finally, it is not to be forgotten that cases are on record in which acute respiratory symptoms, depending on sudden pouring of liquid into the lungs, or edema of the glottis, has come on with great suddenness and apparently without any of the ordinary causes, these symptoms being entirely due to the uremic condition which in reality underlies them.

PATHOLOGIC ADAPTATION AND NATURAL HEALING.

The power of the organism to adapt itself to pathologic conditions is a subject of broad biologic as well as medical interest. That pathologic adaptation is receiving thoughtful attention is well shown by the frequency with which it is chosen as the subject of general addresses before medical gatherings. Thus, Nothnagel spoke on this topic before the pathologic section of the eleventh International Congress, in Rome, in 1894; and Welch delivered an instructive and scholarly presidential address on "Adaptation in Pathological Processes," at the Congress of American Physicians and Surgeons in 1897. In this latter, Welch reviews some of the most striking examples of adaptation seen in human pathology—the hypertrophies, regenerations, inflammation—and reaches the general conclusion that "the healing power of nature is, under the circumstances, present in desire, frequently incomplete and measures, and systems of treatment based exclusively on the idea that Nature is doing the best thing possible to bring about recovery or some suitable adjustment, and should not be interfered with, rest often on an insecure foundation. The agencies employed by Nature may be all that can be desired; they may, however, be inadequate, even helpless, and their operation may add to existing disorder. There is ample scope for the beneficent work of the physician and surgeon." Welch emphasizes that in adaptation the agencies employed are such as exist primarily for physiologic uses, and that they often have no special fitness for securing good pathologic adjustment.

In a recent discussion of this subject, by Leube,[1] the power of an organ to act vicariously for organs performing similar functions is especially emphasized; the examples cited and discussed are, the skin and the kidneys, the stomach and intestines, the spleen and the lymph glands.

A degree of reciprocity between the skin and the kidneys certainly exists. The secretion of the sweat glands normally contained uric acid and urea; it is a familiar fact that profuse perspiration reduces the amount of water in the urine; and energetic diaphoresis is much used in nephritis for the removal of dropsical accumulations. Leube warns against the danger of diaphoresis in cases of subcutaneous edema, because while water is freely eliminated the excrementitious substances brought into the skin are not removed as freely; they are liable to be reabsorbed into the blood and produce intoxication. The salivary glands and the bronchial mucous membrane at times eliminate considerable quantities of urates (Fleischer). In uremia the vomitus may contain urea, but this is evidently not at all constant.

Suspension of the digestive activity of the stomach may be fully made up for by vicarious function of the intestine. This is well shown in experimental removal of the stomach, also by the good general nutrition sometimes observed in patients suffering from complete gastric achylia. Leube thinks that careful study of the factors brought into play in the exercise of vicarious intestinal functions would soon yield new therapeutic indications.

The bone marrow, lymph glands and spleen are the blood-making organs. The most important is the marrow. The enlargement of the spleen in chlorosis, and the apparently favorable course of the cases with splenic enlargement lead Leube to regard the enlargement as vicarious. The enlargement of the lymph glands after splenectomy and the consecutive lymphocytosis constitute another example of vicarious action of functionally homologous organs.

Finally, Leube cites instances to show that morbid processes may be modified in a way beneficial to the organism by increase in the activity of organs that perform wholly different functions from the diseased organ. In this category especially belong cases in which increased activity of various secretory organs helps to eliminate morbid fluids of various kinds and poisons. In addition to generally well-known facts of this kind, an example is cited of an enormous spontaneous salivation followed by complete resorption of an extensive ascitic accumulation; no less than three liters of saliva were discharged in a day. Therapeutic ptyalism, induced by chewing on pieces of rubber, gave unquestionably favorable results in exudative pleuritis.

It will be observed that the organism possesses numerous means for conquering diseases and eliminating disease products, and Leube calls attention to these mechanisms for the purpose of directing our therapeutic efforts as much as possible along the lines thus indicated by Nature.

OSTEOPATHY IN KENTUCKY.

We devote considerable space this week to a legal decision rendered in Kentucky against one of the fads of the day. We do so because it covers the question in a legal and common-sense way, and gives us the inner workings of these "remarkable" people who have discovered, with the naked eye, nerves and "such" that scientific investigators with the best of microscopes have failed to discover in all the past. The legal decisions referred to and the arguments used will be useful to those in other states who intend to oppose this latest movement to debase medicine. The Board of Health of Kentucky deserves the thanks of the profession of that state for the excellent work it has done in keeping this and other forms of quackery out of its borders. It has required work and constant effort, and like energy, backed by a united profession, will have like results in other states. As the judge concludes: "It is singular, indeed, that in an enlightened age like this such humbug schools and ignorant pretenders should find recognition by the laws of any state."

A DANGEROUS EMPLOYMENT.

The article by Betts, in this issue of The Journal, on the dust pneumonia from a gold-mining plant, makes a serious indictment of the management of such establishments. A mill employing on an average fifty men, with a monthly change or discharge list of fifteen, would itself be significant of something wrong. When out of a total of about one thousand employed during five years, one hundred, "conservatively speaking," have already died, and there is a prospect of many more following them, we see the unquestionable evidence of one of the most fatal of occupations. Dr. Betts gives a record of thirty deaths of previously robust workmen whose average time from first employment to death was twenty-nine months, with details of some of the cases and autopsies showing the lung conditions and leaving no question as to the cause of death. It is only just to say that Dr. Betts closes his paper with the statement that the mill superintendent is doing his best to improve the conditions, which will, he thinks, in a measure, remove the cause of trouble. It would appear, however, that there is a defect in the laws in regard to such unhealthful occupations that the publication of this experience ought to remedy.

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[1] Deutsches Arch. f. Klin. Med., 1899, 66, p. 80. Festschrift Ziemssen gewidmet.

THE SUCCESS OF WATER FILTRATION.

So important to the health of a community is the purity of its water-supply, that the interesting object-lesson afforded by the experience of the city of Albany, N. Y., in the matter of water filtration, should not be permitted to pass unnoticed. Having concluded, after due deliberation and thorough consideration of the subject, that filtration was the only immediate remedy for the contamination of its water-supply, derived from the polluted Hudson River, Albany, in fifteen months, erected a filtration-plant and put it into successful operation. Slow sand-filtration is the method adopted, and, whereas formerly typhoid fever was excessively prevalent, the water is now almost wholly free from bacteria, and, while formerly often discolored, is, besides, now perfectly clear. If anything has been learned of late years in connection with the water-supply, it is that filtration is not alone the most practicable, but it is the most potent, means at our command for purposes of purification and disease prevention. Of the truth of this proposition, and of its importance, evidence would seem to be afforded by the suggestion that has recently been made for filtering the water-supply of New York, which is received through the Croton aqueduct, and from protected water-sheds. It has been maintained that this water-supply is satisfactory, and that it does not breed disease, but it is now thought wise to remove, by means of filtration, even such slight possibility of contamination as may be conceived to exist.

PREMATURE BURIAL.

A prominent eastern physician has been quoted in the daily press as saying that 1 in every 200 interments is premature. The public is easily disturbed by such publications, and if they are not true they are abominable and, in fact, almost criminal. It is very doubtful whether even 1 in 1,000,000 burials is premature, and indeed, whether they ever occur except in times of great public panic, as in times of epidemic or in the extremely rare instances of prolonged and death-like trance. The sensational stories of conscious terror and helplessness given out are like ghost stories, common enough, but generally equally without a basis of fact. How anyone can give 1 in 200, or any other figure, as the number buried alive, it is hard to conceive, and such statements without adequate statistics to back them have no value whatever. The fact that a French inventor is or has recently been in this country endeavoring to introduce his device "Karnice" for preventing premature burials is probably the motive of the recent revival of newspaper interest on this subject, which has been gone over and rehashed many times in the past century. There is only one serious possibility of premature interment to be really considered, and that is in cases of epidemics with public panic and neglect referred to above. Under other conditions, when an individual apparently dies he does so practically and permanently, and the ordinary decent interval between that event and burial usually insures it in other ways. We need say nothing of the common fact of embalming or preserving bodies for burial, which puts resuscitation completely out of the question.

THE FUTURE OF THE X RAYS.

In an article in a new periodical[1], Professor Trowbridge, of Harvard University, shows that the accidental or semi-accidental discovery by Roentgen of the rays that bear his name and thus immortalize him is still bearing fruits, and what it may lead us to is still in the future. One fact that is particularly suggestive is that certain salts of the element uranium and certain derivatives of pitchblende possess the property of giving off these rays, so far as to cause the lighting of fluorescent screens, the dissipation of electric discharges and rendering air and gases better conductors of electricity. They can also penetrate opaque substances and throw shadows of bones on photographic plates. These salts produce at least some of these effects when spread in the form of powder on cardboard, and hence the suggestion of far simpler methods of X-ray employment than those now in use. It would be a great thing if, as Professor Trowbridge remarks, we could by a simple powder do away with the elaborate Crookes' tubes and influence-machines now essential in X-ray work. Physicists have not yet reached that result, but the possibilities of the future seem unlimited. It is a curious fact that these radio-active substances appear to give off these rays, like magnets, without losing any energy, another striking fact that suggests advantages in their future possible utilization. A surgical X-ray outfit may yet be a very simple and inexpensive affair; a few jars of powder or some incrusted screens with photographic plates may be all that will be required. Such imaginations are not altogether unjustifiable when we consider that the original discovery is hardly over four years old, and that only lately a substance has been found that is hundreds fold more radio-active than the original uranium earth first employed. We need say nothing here of the other and purely scientific leads that have been opened by this discovery; they have not as yet a medical bearing, and therefore do not concern us so directly in our professional work. No one can tell, nevertheless, what new possibilities may exist, even in this particular direction, in the near future.

THE PHYSICIAN'S CONTRACT.

THE JOURNAL[2] recently mentioned the suit of one Thomas Burke in Indiana, for damages against a physician who refused to answer a call. Burke therefore held him responsible for his wife's death. We have now to note a suit in Connecticut, brought by one Daniel Burke against a physician for failing to attend at the birth of a child, for which he had been bespoken. The child died shortly after birth, and the father, as its administrator, sues the physician for breach of contract. Just why the suit is brought in this form we are not told, possibly it was a legal necessity, but the doctor's attorney raised the curious point that there was no contract with the child, who, being unborn, could not have acquired contractory ability. The woman apparently passed her emergency without injury, and only the child suffered damages from any breach of contract that occurred. The point raised is a purely technical one, and the judge evidently so considered it, as his decision overruled the demurrer. The main question was, he held, whether there was a neglect of duty, the death of the child resulting therefrom; the complaint therefore stated a cause of action. If the contract existed, there was a neglect, and somebody must have been responsible for the consequences. The case does not seem parallel to the Indiana case, in which there was no mention of breach of contract.

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[1] International Monthly, MacMillan & Co., Vol. 1, No. 1, January, 1900.

[2] THE JOURNAL, Nov. 11, 1899, p. 1234.

BUBONIC PLAGUE.

Bubonic plague, to the medical profession of Europe and America, has been for many generations little more than a name met with in the history of epidemics. London became practically free from the dreaded scourge after the great fire. No doubt the latter was a factor of some importance in the prompt dissipation of the infection; but as the disease disappeared gradually from continental cities which had not been burned to the ground, other agencies must have been concerned in its suppression. If these agencies were, as many believe, the sanitary improvements of progressive civilization, we have surely at the present time no ground for anticipating any disastrous invasion, for the sanitary conditions under which we live are infinitely superior to those in existence when the plague ceased to prevail epidemically among the nations of Europe. Besides this we have now available for the protection of the people a more intimate knowledge of the causation of the disease and of the methods by which its progress may be stayed. During the past quarter of a century the existence of oriental plague has been reported from time to time in southeastern Russia and in some of the seaports of China. During the past six years it has spread extensively from these latter to the crowded and filthy habitations of the poor of many oriental cities. Recently it has passed the Red Sea and the Mediterranean, and even crossed the Atlantic to the coast of South America; and within the past few days information has been received of its appearance in Honolulu, Hawaiian Islands, and in Manila in the Philippines With the establishment of national quarantine stations at Manila and Honolulu, there need be no fear of an introduction of the disease into the United States, for our modern methods give us two safeguards, the first assuring that no infection shall be embarked at the infected port, and the second that no infection shall be disembarked at the home port. San Francisco, Cal., is already provided with the means to intercept infection, and it is understood that arrangements are in progress to have the needful equipment for disinfection and detention for observation established in Hawaii and the Philippines. But should the infection pass these double guards and effect a lodgment on our soil, there need be no fear of a recrudescence of the pestilence of the Middle Ages of Europe in the United States at the close of the nineteenth century, for, as we argued at the beginning of this article, the sanitary conditions under which we now live are infinitely superior to those which attended the decadence of the plague in Europe more than two centuries ago.

MARINE-HOSPITAL SERVICE REPORT.

The advance sheets of the U. S. Marine-Hospital Service health reports, of the concluding pages of Vol. xiv, contain some figures of interest. They show that while there has been a scattering epidemic of smallpox during the past six months, in the country, some 2000 cases altogether, the mortality has been very slight—scarcely 1.5 per cent. Undoubtedly the mass of the cases were of the milder type of varioloid, like the 125 reported as occurring at Dixon, Ill., where it long passed unrecognized, as "Cuban chicken-pox." Yellow fever has hardly been an epidemic anywhere except at Key West and Miami, Fla., and to a very slight extent in one or two other localities like New Orleans, La., and Jackson, Miss. Its mortality has also been small, less than 7 per cent. In Cuba also it was comparatively slight, though its mortality was greater. The worst locality was Santiago, with 230 cases between June 10 and December 9, and fifty deaths. The highest mortalities here reported are from Mexico—Cordoba and Vera Cruz—with 147 and 248 deaths respectively. The plague statistics from India are not encouraging, either as to death ratio or number of cases. The disease is reported as epidemic in Kobe, Japan, practically at our back door. Hongkong has the record as to mortality, with a total of 1640 cases and 1582 deaths between April 11 and October 28. From what we can learn, the disease seems to be confined to the natives, and its prevalence has excited comparatively slight attention. The usual tables of mortality of foreign and American cities are given, also the reports of immigrant inspectors of the Marine-Hospital Service abroad. The value of the service of these officials is readily appreciated for the main ports of embarkation, but the good some of these can do is lessened by the fact that in some cases, after inspection, the vessels touch and pick up passengers at various ports. Attention is called to this by Surgeon Anderson, stationed at Barcelona, and it would appear that the point is well worth notice by the bureau officials. The advance sheets of the beginning of volume xv, issued January 5, contain additional data as to epidemic diseases here and abroad, and a report on epidemic dysentery in Japan, by Dr. Stuart Eldridge, sanitary inspector at Yokohama. The continuance of yellow fever at Havana is noted, where it is considered due to the large number of unacclimated Spanish emigrants.

Medical News.

A CONTRIBUTION of $100,000 has been made to Harvard University for the investigation of cancer.

THE NEW building of Hamline University Medical College, Hamline, Minn., was formally opened the evening of the 1st.

DR. VICTOR C. VAUGHAN, Ann Arbor, Mich., has been appointed surgeon-general of the National Association of Spanish War Veterans.

WITH THE number for January, the *N. C. Med. Jour.* changes its name to the *Carolina Med. Jour.*, and becomes a monthly instead of a semimonthly.

THE AMERICAN colony's charity ball was given in the City of Mexico on January 1, and was attended by

President Diaz and wife. The entire proceeds of the ball will be given the American Hospital of that city.

THE FATHER and widow of Dr. Brault have equipped, as a memorial, a complete radiographic and electrotherapeutic service at the Saint-Louis Hospital in Paris.

DR. N. S. DAVIS, the Nestor of the ASSOCIATION, celebrated the eighty-third anniversary of his birth on the 9th. Dr. Davis is still well and active, walks to his office daily, and this anniversary day found him at his desk at the usual hour.

THE FORMER officers of the Illinois State Board of Health were re-elected, at the meeting of the Board on January 9. They are: president, C. B. Johnson, Champaign; treasurer, R. F. Bennett, Litchfield; secretary, J. A. Egan, Springfield; attorney, John A. Barnes, Chicago.

THE FIRST general assembly of the professional syndicate of the scientific press was held at Paris, Nov. 21, 1899, preceded by a banquet. The representatives of the medical press were in the majority, but architects, civil engineers, electricians, etc., were also in evidence. The secretary-general is Dr. Bilhaut, 5, avenue de l' Opera.

PROFESSOR SCHENCK, Vienna, according to the lay press, has been given permission by the Minister of the Interior, to retire on a pension. The faculty of the University of Vienna, of which he is a member, is said to have demanded his dismissal for the alleged frivolous publication of scientific matter constituting a form of self-advertisement, concerning his investigations on the theory of sex.

A PHYSICIAN who prescribes and sells to his patients whisky, brandy, wine or any other alcoholic liquor that is not compounded into a medicine by the admixture of any drug or medical ingredient therewith, is required to pay special tax as a retail liquor dealer, even though the alcoholic liquor thus furnished be prescribed as a medicine only and so used, according to a recently reported decision of Commissioner Wilson of the U. S. Department of Internal Revenue.

THE FRENCH Minister of the Interior has appointed a committee of forty-eight members to suggest practical measures to arrest the spread of tuberculosis. It includes a large number of physicians, architects, members of municipal councils, and of societies for the erection of homes for working people, etc. The *Progrès Médical* observes that practical measures abound; the question is to raise money to apply them, and suggests that as alcohol is responsible for over four-fifths of the cases of tuberculosis in the hospitals, the liquor trade should be made to in some way supply funds for the maintenance of sanatoria for tuberculous subjects.

THREE VICTIMS OF "CHRISTIAN SCIENCE."—At an inquest in the case of a young girl who died in Council Bluffs, Iowa, last week while under the care of a "Christian Scientist," it was discovered that death was caused by appendicitis. It is probable that criminal proceedings will be instituted against the "healer." Two deaths under similar conditions are reported from New Brighton, Pa., where a "Christian Scientist" treated a family stricken with diphtheria, with fatal results in two cases.

QUARANTINE EXTENSIONS.—An executive order issued by the President, extending the Marine-Hospital quarantine regulations over the Philippine Islands, has been promulgated by the U. S. War Department. The chief quarantine officer is to be stationed at Manila, and not exceeding $300,000 a year is to be paid by him for quarantine purposes. All vessels leaving these ports will be required to take out bills of health showing compliance with the quarantine regulations. The quarantine officers will have authority over all vessels arriving at these ports, except the war ships of the navy, which will be subject to special regulations to be promulgated by the war department.

NO DAMAGES AGAINST A MUNICIPALITY FOR DEATH FROM DISEASE.—From the *Sanitarian* of January, we learn of a remarkable decision of the Court of Appeals of New York in a suit against the City of Auburn for damages for a death from typhoid that was alleged to have resulted from a defective sewer, that in storms overflowed into the cellar of the decedent. There was no denial on the part of the city of a knowledge of its negligence. The court held that the statute that permits action for damages by reason of death caused by the wrongful act, neglect or default of another has no application in such a case, and that no action against the municipality can be maintained by an individual for damages from sickness caused by the neglect of public officers to observe sanitary laws. This may be good law, but it seems from the point of view of the physician and sanitarian to be very poor justice. It is possible that making municipalities liable in damages for sickness and death resulting from the criminal neglect of sanitary rules by public officers would result in some unpleasant occurrences, but there can be no question that the general result would inevitably and powerfully tend to make public officials vastly more solicitous of the hygienic necessities of a city, even at the cost of some neglect of the political machine.

MEDICAL EXAMINATIONS IN OHIO.—The students of the medical colleges of Cleveland, Ohio—according to the local papers—are organizing for an effort to defeat the proposed medical legislation advocated by the doctors of the state. Their claim is that as regards themselves the law would have an *ex post facto* tendency, as they entered on their studies with the prospect that their diplomas would at once admit them to practice, and, in fact, they are said to make the general claim that a diploma from a reputable college ought to be all-sufficient. They say the examining board will be a political affair, and that the measure is instigated by the fear of disastrous competition with the graduates of the "grand medical colleges of Ohio"—who dread the examination under the proposed law—and that they will have the faculties of the said colleges on their side in this movement. It looks as if a determined fire in the rear might be made from this unexpected quarter to defeat the law.

SOCIETY FOR RELIEF OF WIDOWS AND ORPHANS OF PRACTITIONERS.—The N. Y. Society for the Relief of Widows and Orphans of Medical Men has just issued its fifty-eighth annual statement. From this we learn that the Society was organized in 1842, with less than sixty members. In 1848 the membership was 80, in 1858 it was 110, in 1870 the roll was 125, and the number of members at the present time is 137. The first application for relief was in 1852, and at the present the number of beneficiaries is 21. Its funds now amount to $234,981.86, and are securely invested. The income for the past year was $10,301.59. The initiation fee is $25, the annual dues $10. The payment of $100 constitutes a life membership. The payment of the annual dues for twenty successive years constitutes an annual member a life member. Under the present by-laws of the society, the annuities allowed are, to the widow of a member an annuity of $100 a year, but for every $10 or multiple of ten of income an amount equal to 50 per cent. of said income shall be deducted from the annuity. Each child entitled to relief is allowed $100 per annum, subject to the same conditions as a widow. The society has extended aid to 18 widows and 6 children of deceased members during the past year. The present officers are: President, Dr. David Webster; vice-presidents, Drs. A. B. Judson, E. Herrick and J. D. Bryant; treasurer, Dr. Henry Guck; secretary, Dr. A. F. Currier. The showing made in the good work done and in the economy of management illustrates how much benefit might accrue from such an combination on a large scale, provided a similar excellent management could be depended on.

Medical Service in the Transvaal War.—Sir William MacCormac writes to the *Lancet* of December 23, of the hospital at Wynberg, known as General Hospital No. 1. This is seven or eight miles from Cape Town, South Africa, on the sloping ground of Table Mountain, an ideal situation both from a scenic outlook and the excellence of the climate, for however hot it may be in Cape Town, the location of the hospital always gives it a pleasant breeze. The wards are in part in the permanent buildings, but mainly in wooden and iron huts, containing fourteen to twenty beds each, and are lighted by electricity. The sanitary arrangements are very complete, and there is accommodation for 520 patients. At the time of writing, Nov. 25, 1899, 300 beds had already been filled with wounded from the earlier battles of Glencoe, Dundee, and Elandslaagte. An X-ray room has been fitted with modern apparatus and an operating theater of iron and wood has been built. Its furniture is of the well-known glass and iron type, with all necessary accessories. He says that it would be difficult, if not impossible, to secure better treatment in any hospital than the patients receive in Wynberg, and that "never before was an expedition more abundantly equipped with every resource which the medical authorities can suggest for the welfare of the sick and wounded. He makes brief notes of a number of cases in the hospital, and also describes one of the hospital trains, each coach of which contains twelve beds for the wounded and sick. These beds are placed endwise in three tiers, and have three-inch hair mattresses on canvas stretchers and are most comfortable. A simple arrangement admits of easy access to the bed from the stretcher. Some of the beds are fitted up as fracture beds. The saloon carriages making up the train have been remodeled so that they open at each end, allowing a passage way from one end of the train to the other, and one is devoted to kitchen service.

ILLINOIS.

[illegible] will of the late Russell D. [illegible] $25,000 is [illegible] Hospital, Ottawa. It [illegible] of the testator.

The [illegible] of the Illinois State Board of Health and the health officer of Dixon have issued a [illegible] of the [illegible] published in the daily press to the effect that smallpox was epidemic in the Illinois Normal School at Dixon. [illegible]

Chicago.

Dr. M. L. Harris has been elected attending surgeon of St. [illegible] Hospital.

The [illegible] of Dr. [illegible], who was recently struck by [illegible] is still serious.

Two cases of smallpox, imported from Columbia, Tenn., were discovered by Chief Medical Inspector Spaulding, January 8.

Dr. D. D. Eads of Paris Ky., and Mrs. Annie L. Hartwell were married January 1. They will reside in Chicago.

Dr. H. B. Hemenway will occupy the chair of preventive medicine in the College of Physicians and Surgeons during the remainder of the college year.

Dr. W. A. Evans addressed a meeting of the stockbreeders and dairymen, in session January 6, on the danger of milk taken from cows suffering from tuberculosis.

Postal card blanks for reporting all cases of contagious diseases are being supplied by the Health Department to every physician in the city.

The new sanatorium of the Alexian Brothers' Hospital was formally opened last week. The new department contains the latest appliance for treatment by hydropathy, electrotherapy, massage and Swedish movement.

The fund for the erection of a hospital for consumptives is now $11,500, $1400 having been subscribed during the past week. It is intended to commence work on the structure when the amount reaches $25,000.

Local physicians expect another epidemic of la grippe, as many cases have recently appeared. So far the disease has been of a mild type and has been confined to young children and persons over 60 years of age.

INSPECTION OF SCHOOLS.

Fifty medical inspectors of schools were assigned to their duties January 8. They were instructed by Dr. W. S. Christopher in their relations to the Board of Education. He informed them that they were not responsible for the medical treatment of children, but were simply to protect the schools against infection. Health Commissioner A. R. Reynolds instructed them as to the manner of conducting examinations.

MORTALITY STATISTICS.

The total mortality for the past week was 518, being an excess of 64 over that of the preceding week. This excessive number is due to the prevalence of pneumonia and bronchitis. These two diseases are accountable for 25.5 per cent. of the total mortality, there being 91 deaths from pneumonia and 41 from bronchitis. The mortality from diphtheria during the week is in excess of that of any week during the past year, there being 28 deaths from this cause, as compared with 27 the week previous.

MERCY HOSPITAL REPORT.

The Mercy Hospital has issued the golden jubilee number of its annual report, which contains a history of the institution since its foundation in 1850, and is embellished with a number of illustrations of the wards. The financial report shows that the total receipts for 1899 were nearly $90,000, and the expenditures were upward of $84,500. During the year 1948 patients were admitted.

THE DRAINAGE CANAL.

The partial opening of the Chicago Sanitary Drainage Canal, for the purpose of filling the ditch, has already greatly improved the quality of the lake water and the appearance of the Chicago River to an extent unknown during the past thirty years. Contrary to the general opinion, the water has not yet been allowed to pass the gates at Lockport, which will not be opened until the latter part of the month. At a meeting of the trustees of the canal, January 8, Health Commissioner Reynolds outlined the results of his inspection during the summer, of the water taken at forty different points in the Illinois and Mississippi rivers. He stated that St. Louis would be benefited instead of injured by the channel; 10,000 samples of water were analyzed by the staffs of the University of Illinois and University of Chicago. Dr. Reynolds said that Bridgeport is contaminated to the extent of 95 per cent., at Joliet 85 per cent., at Ottawa there is an improvement of 65 per cent., and at La Salle the water is practically pure. The water at Peoria is said to be as foul as at Bridgeport. Then comes another gradual purification, and at Havanna 60 per cent. of the germs have disappeared, and when the fluid reaches Grafton, the junction of the Illinois and Mississippi rivers, it is practically pure again.

OHIO.

THERE were eight cases of smallpox at the isolation hospital, at Columbus, January 3.

DR. FRANCIS M. MICHAEL of Eaton is suffering from septicemia.

DR. W. E. RANZ, a graduate of the Miami Medical College, has been appointed assistant surgeon to the Soldiers and Sailors Home, Sandusky, Ohio.

CINCINNATI MORTALITY STATISTICS.

The mortality from contagious diseases shows a decrease of 39 over that of the past week. There were 4 cases of diphtheria, one of which was fatal; 14 cases of scarlet fever, 2 fatal; 6 of typhoid, 2 fatal; 1 of consumption, and 9 deaths.

REGISTERING AND EXAMINING BOARD.

At a meeting of the State Board of Medical Registration and Examination, held January 2, the following officers were reelected for the ensuing year: president, N. R. Coleman, Columbus; vice-president, H. E. Beebe, Sidney; treasurer, David Williams, Columbus; secretary, Frank Winders, Columbus.

DAMAGE SUIT FOR DISINFECTING.

Suit has been filed against the City of Toledo by a smallpox suspect who was confined in the city pest-house. He alleges that his house was entered by the health officials, who damaged his furniture by burning sulphur as a disinfectant, thereby causing a loss of $325, which he seeks to recover by legal procedure.

KENTUCKY.

A NEW pest-house for smallpox patients is building at Owensboro.

DR. I. M. POYNTZ of Richmond, president of the Madison County Board of Health, tendered his resignation as a member of that body January 4.

THE TRUSTEES of the Owensboro City Hospital have appointed the following physicians as a hospital staff: C. H. Todd, Wm. E. Irvin, D. M. Griffith, J. P. Heavrin, C. C. Lewis, S. S. Watkins, and E. B. McCormick.

EASTERN KENTUCKY INSANE ASYLUM.

The seventy-fifth annual report of the Asylum, Lexington, has just been issued. It contains one from the Board of Commissioners, suggesting that the name of the institution be changed to State Hospitals for the Insane; that the management of the charitable institutions of the state should not be subject to the mutations of polities, rather be governed by civil service; that the medical superintendent and steward be elected by the Board of Commissioners; the other appointees being appointed by the medical superintendent. The special appropriation of $30,000 has been expended, resulting in the completion of the infirmary in every detail. The number under treatment during the year was 1092. A calculation based on the whole number of patients shows that about 4 per cent. recovered. The mortality of the whole number cared for was 6.45 per cent.

STATE BOARD OF HEALTH.

The annual report of the secretary of the State Board of Health, prepared for the legislature, contains the reports of the county boards of health, a list of their members, and the laws under which the State Board acts. The secretary makes an urgent appeal for an increase in the annual appropriation of $2500. Comparison is made with the appropriation last year in the states of Texas, Massachusetts, Illinois and Louisiana, in each of which the appropriation exceeds $50,000. In order to keep pace with other states, it has been necessary for the four hundred physicians composing the county and municipal boards of health to serve entirely without compensation. The report deals exhaustively with the yellow fever and smallpox epidemics. The work of the Board in the former was very prompt and thorough. Inspection of all trains was thorough, baggage was disinfected, destination noted and reported to local health authorities. Only three cases of yellow fever developed in all the refugees who came to Kentucky, and not one in her own citizens. The first case of smallpox was in Jellico, Tenn., in January, 1897. A severe epidemic raged at Richmond and Middlesboro, Ky., chiefly because the work of the inspectors and vaccinators was not allowed to proceed, on account of the refusal of the county authorities to meet expenses. There were over 1500 cases reported in the state, the total cash cost of municipalities in the affected counties being $57,000. Attention is called to the question of vital statistics, in the following language: "Our statute regulating the collection of births, marriages, and deaths, important questions to any civilized people, is obsolete and wholly inoperative. Until the law is amended and vitalized, any compilation and publication of the returns would be worse than useless, as it would not only be unreliable, but misleading."

HEALTH OFFICER'S AUTHORITY.

Henderson, Ky., has just had a legal question decided of considerable interest: Dr. H. E. Griffith was vaccinated on Nov. 10, 1899, and on the 19th developed what he claimed was vaccinia. The health officer claimed it was smallpox, and made preparation to have him removed to the pest-house. Learning of this Dr. Griffith asked the court for an injunction against Mayor Thompson and Dr. Moseley to restrain them from removing him to the pest-house. The attorney for the defense claimed that Dr. Moseley was not even a member of the City Board of Health; that he was only acting under authority of a committee of the common council, and that the mayor had no right to appoint him. Judge Dorsey sustained the appeal for an injunction, gave the plaintiff his complete liberty, and gave his opinion that Dr. Moseley was not the legally constituted health officer of Henderson County.

Louisville.

DR. JOHN MASON WILLIAMS has returned from the Philippines and has tendered his resignation as acting assistant-surgeon. He served with the army in Cuba, then sailed for the Philippines last May, and had two weeks' active service with the troops at the front, returning to this country with wounded and sick, and then serving in the smallpox hospital at the Presidio, San Francisco, Cal., for several weeks.

THE SUPERINTENDENT of the City Hospital has submitted his annual report, showing that improvements have been made costing $5000. Recommendations are made for an additional ambulance and stable, a separate building for tubercular patients and one for contagious diseases of childhood. The cost for improvements and expenses he estimates at $40,000.

NEW YORK.

A BEQUEST of $5000 has been left to the Syracuse Woman's and Children's Hospital.

INVESTIGATION OF FOOD.

A bill has been introduced in the legislature which provides that the commissioner of agriculture shall investigate and examine the food and food products that are manufactured, sold and exposed for sale in the State of New York, and for that purpose appoint such agent or agents and employ such chemist, chemists or other experts as he may deem necessary. The sum of $10,000 is appropriated for the purposes of the act, which also specifies that the commissioner of agriculture shall report to the legislature on or before Jan. 15, 1901, the result of the examinations made, with recommendations as to such legislation as he may regard necessary for the corrections of evils existing relative to food or food products.

New York City.

ST. VINCENT'S Hospital has just put into service a thoroughly up-to-date horseless ambulance, which is propelled by an electric motor run by a storage battery. It cost about $3000.

AN AMBULANCE of the Hudson Street branch of the New York Hospital was recently wrecked in a collision with a Madison Avenue trolley-car, and the surgeon, and the driver were seriously injured.

HEATING OF CARS.

There have been so many complaints regarding both the overheating and underheating of street cars that the Health Department has sent out a number of inspectors with instructions to examine into the sanitary condition of both the elevated and surface railroad cars, and report. There is good ground for complaint, for it is no uncommon experience for passengers to ride for a time in a comfortably heated car and then be transferred to another car and be compelled to shiver for the rest of the trip. This shows that the weather can not be blamed, and it must be evident to all that changing to cars of widely differing temperature is an excellent method of provoking an attack of pneumonia.

FEES AND PATIENTS' TREATMENT.

Complaints having reached the superintendent of Bellevue Hospital that some of the house staff have been in the habit of accepting money from their patients, and also that nurses and other employees have received tips, Charities Commissioner Keller has just promulgated a regulation that no employe of the Department of Public Charities shall accept from a patient or other inmate any sum of money, for any purpose whatever, except with the knowledge or consent of the superintendent of the institution in which the patient or inmate may be, and that any infraction of the rule will be punished with instant dismissal.

PENNSYLVANIA.

Lewisburg, January 1, celebrated the establishment of a new water system. The supply is so arranged that three surrounding towns may be supplied by the same source.

By the will of Jacob Jay Vandegrift, of Pittsburg, $2500 has been left to the Allegheny General Hospital; $2500 to the West Penn Hospital, and $2500 to the Pittsburg Free Dispensary and $100 to the Home for Incurables, all of Pittsburg.

A meeting of the Pennsylvania Medical Examining Board was held January 4 and 5, every member present. The examination papers of the different candidates who were examined at the June, 1899, meeting were carefully noted, and it is said will be embodied in a report to be filed at Harrisburg. The contents of this report has not been made known. The recent charges made relative to frauds committed by applicants before the Board, and mentioned in these columns, will be carefully sifted.

Philadelphia.

A lying-in hospital will be established by the Salvation Army here.

On January 2 the alumni of the Jefferson Medical College gave a smoker to the students of that institution.

Owing to the extreme cold weather, with consequent icy pavements during the week, an unusually large number of injuries has resulted and the hospitals have been kept very busy.

The Bureau of Health has given instructions to prosecute those persons guilty of selling milk which had been "watered." Another prosecution has been ordered by this department in the case of an undertaker who failed to state, in the funeral notice, that the person had died of a contagious disease.

The number of deaths during the past week was 513, an increase of 51 over last week, and a decrease of 200 over the corresponding period of last year. The principal causes were: apoplexy, 9; nephritis, 39; cancer, 12; tuberculosis, 56; diabetes, 3; heart disease, 57; influenza, 8; peritonitis, 10; bronchitis, 16; pneumonia, 101; appendicitis, 2; septicemia, 2; suicide, 2; tetanus, 2.

The Board of Health of Braddock borough, after being practically disbanded for some time, was reorganized January 3. The officers are: president, W. M. Carothers; secretary, John Richard; health officer, Frank P. Louis.

WORK OF BENEVOLENCE.

At a recent meeting of the Mutual Aid Society of the Philadelphia County Medical Society resolutions were adopted expressing appreciation of the benevolent work of Dr. Albert Fricke, for the widows and orphans of the Society, of which he was an honored member. Dr. Fricke bequeathed $10,000 to the permanent endowment fund of the Philadelphia County Medical Society.

MEAT INSPECTION.

During 1899, 126,334 head of cattle and 50,089 calves were inspected: 255 head of cattle were condemned, 2 being affected with actinomycosis, 229 with tuberculosis and 24 with other diseases; 3063 calves were condemned as "monkey calves," and their sale for butchers' meat prevented; 7423 visits were made to slaughter-houses, and all markets were visited twice a week; 11 persons were arrested, among whom there were several convicted for selling unwholesome meat.

DISPENSARIES AND FREE SOUP.

At the present time five societies provide nourishing soup and bread for those who are in want. Such work has just begun and will continue for ten weeks. The city is districted so that all portions are covered. One of the societies was established as far back as 1836. The matron of one states that there has been a marked falling off in the number of applicants as compared with last year. Should the good times cause this falling off, there will be a corresponding decrease in the number of patients at the different free dispensaries of the city, since many of the ailments seen there are due to impure, or lack of, food.

MORTALITY STATISTICS.

Registrar Shaw of the Bureau of Health has submitted his report of the deaths for 1899. It shows that there were 23,796 deaths, or more than 6 per cent. more than in 1898, though the rate per 1000 of estimated population is considerably reduced. Of the whole number of deaths in 1899 there were 4560 under 1 year of age, 2496 between the ages of 1 and 5, and 5677 over 60 years. Of these, 145 deaths resulted from membraneous croup, 849 from diphtheria, 132 from scarlet fever, 146 from cerebrospinal meningitis, 2818 from tuberculosis, 2424 from pneumonia, 294 from influenza, 1482 from heart disease, 726 from cholera infantum and 766 from old age.

PAY HOSPITAL FOR CONTAGIOUS DISEASES.

A meeting of those interested in the establishment of a pay hospital for contagious diseases has been held. The Woman's branch of this hospital has been organized, and $4000 has already been subscribed. It is believed that an appropriate lot will cost $25,000 and a disinfecting plant $12,000. In order to raise funds for this purpose an entertainment will be given at the Hotel Walton on February 7.

DISTRICT OF COLUMBIA.

Washington.

The Commissioner of Pensions has appointed Dr. R. W. Baker and Dr. F. V. Brooks to succeed Drs. J. P. Burwell and A. C. Lattimer in the local medical pension examining board.

IN CONGRESS.

The following bills have been introduced during the present session of Congress: Senate No. 34, for the further prevention of cruelty to animals in the District of Columbia—the antivivisection bill, printed elsewhere in this number of The Journal—by Senator Gallinger. Senate No. 1782, to issue warrants to acting assistant-surgeons of the U. S. Army, who served as medical officers either in the late Civil War or the Spanish-American War or the Philippine rebellion, by Mr. Platt of New York—see The Journal of Dec. 9, 1899, p. 1506. House of Representatives, No. 4476, providing for the appointment of members of the medical profession on the board of appeals in the office of the U. S. Secretary of the Interior, to whom shall be referred all medical and surgical questions, by Mr. Young of Pennsylvania. House of Representatives, No. 4483, for an increase in the medical department of the army, by Mr. Emmerson—*loc. cit.* House of Representatives, No. 4618, for the establishment of a food bureau in the U. S. Department of Agriculture, and for preventing the adulteration and misbranding of foods in the District of Columbia and the territory, and for regulating interstate commerce therein and for other purposes, by Mr. Babcock. House of Representatives, No. 5256, to appropriate $55,000 for the repair of the Army and Navy General Hospital at Hot Springs, Ark., by Mr. Little. House of Representatives, No. 5270, providing for the erection of a convalescent hospital at Vancouver barracks, State of Washington, by Mr. Jones. This bill provides an appropriation of $175,000, to be available immediately, for a hospital for the reception of sick soldiers returning from the Philippines, the work and money expended to be under direction of the U. S. Secretary of War.

MARYLAND.

REPORT ON FEEBLE-MINDED.

The sixth biennial report of the board of visitors of the Maryland Asylum and Training School for Feeble-Minded Children, shows that the institution is making rapid strides. It has 94 inmates. The buildings have been enlarged and several new ones erected. Attention is drawn to the fact that the institution gives accommodation to but a small proportion of the feeble-minded children in the state, yet it is overcrowded, and appeals for admission have to be refused. The managers have proposed plans for enlargement to a capacity of 500, and an appropriation of $125,000 a year for the next two years will be asked from the legislature, now in session. The inmates are given a thorough mental training, and there is also an industrial department. A number were so improved during the year as to warrant their discharge.

Baltimore.

THE ANNUAL dance of the nurses of the Maryland University Hospital was held on the 5th inst. Luncheon was served.

AN APPROPRIATION of $576 has been allowed the Health Department for the purchase of diphtheria antitoxin.

MR. CHARLES ADLER has given the Hebrew Orphan Asylum and Hebrew Hospital each $500 in memory of his wife, who died recently.

THE UNIVERSITY of Maryland has 318 students in its medical school with 200 dental and the same number of law students. The Woman's Medical College has 22 enrolled.

WORK IN the chemical laboratory of the Johns Hopkins University, recently burned, was resumed on the 4th inst., the building having been temporarily repaired.

THE FLINT CLUB.

The Flint Club, composed of physicians, and named after the late Prof. Austin Flint, held its annual meeting and banquet on the 4th inst., Dr. James Bosley presiding. Speeches were made by the Mayor of Baltimore and others. The club never elects officers, the members filling the various offices in alphabetic order. Meetings are held once a month, and during the year each member is required to tell a story, write a poem or sing a song. No words of over four syllables can be used in any of these.

ABOLISHMENT OF HEALTH DISINFECTORS.

In the sweeping retrenchments made by the new administration of Baltimore, many offices are being abolished and salaries being cut down. Among the abolished positions are those of the disinfectors of the Health Department. The mayor directs that the work of disinfection be done hereafter by the sanitary inspectors. The health commissioner urges that the work now devolving on the latter occupies their time fully and renders it impossible for them to assume any additional duties. They now inspect nuisances, prosecute cases, and take charge of the city's sick. The mayor insists that they assume also the work of disinfection, as was done prior to 1895.

Correspondence.

Trip to Paris.

OTTAWA, ILL., Jan. 10, 1899.

To the Editor: The committee having in charge the proposed European excursion for the Illinois, Iowa and Missouri state medical societies has just completed its arrangements for the ocean voyage. We shall place our party in charge of Hon. Frank C. Clark, of New York City, who has had a large and successful experience in conducting tourists all over the world. We have assured ourselves that all accommodations will be first-class; and that everything will be done to make the trip an ideal one. The steamship *City of Rome* has been chartered for our party, and will sail from New York, June 30, 1900. The main trip will occupy thirty-eight days, at a cost of $260, all necessary expenses included. Or if a more extended trip is desired, provision is made for a week in Switzerland and down the Rhine for $70 additional; also a fourteen-day trip through Italy for $100 additional. Tickets are good for one year.

The European tourist next year will be subjected to more than the usual crowding on steamers, at hotels, extortions and annoyances which detract so much from the pleasure of a tour in foreign countries. These we have anticipated and provided against. No more passengers will be booked than can be comfortably accommodated.

For further particulars, address, J. W. PETTIT, M.D.,
Member of Committee of Arrangements for Illinois State Medical Society.

Quackery in West Virginia.

CLARKSBURG, W. VA., Jan. 5, 1900.

To the Editor: The physicians of this state are making a determined fight against all forms of quackery. We are not making any criticisms in regard to any system of medicine, but are desirous of requiring all who practice medicine to conform to the laws of our state. For the past two years we have had a great deal of trouble with osteopaths and "Christian Science" practitioners, inasmuch as they refuse to take the examination, claiming that they are not practicing medicine. The statute of our state is very plain, and we now have an indictment against these people which we are desirous of pushing to the bitter end. Will you or your readers send me any court decisions bearing directly or indirectly on matters of this and similar character? Should any be sent by express, please send via the United States Express Co., if that be practicable. I am willing to pay all expenses in connection with procuring evidence of this character. Thanking you for your kindness, I am,

Yours very truly, M. P. GOFF, M.D.

[We would refer our correspondent to the decision against one of the current fads in another part of this issue.—ED.]

Pathologic Exhibit of A. M. A.

WASHINGTON, D. C., Jan. 3, 1900.

To the Editor:—My attention has been called to the proposition to establish a national pathologic exhibit in connection with the meetings of the AMERICAN MEDICAL ASSOCIATION, and I write you to say that I most heartily concur in the belief that it would prove of interest and value to the members of the ASSOCIATION.

This Hospital has a large number of interesting pathologic specimens which we will gladly furnish to assist in such an exhibit, and I am sure there are many similar institutions throughout the country that would be able to contribute matter of decided value and interest also. I hope that all those interested in the subject of pathology will co-operate to make this proposed departure a success, and creditable to the AMERICAN MEDICAL ASSOCIATION, Very truly yours,

A. B. RICHARDSON, M.D.,
Superintendent Government Hospital for the Insane.

Canada.

(From Our Regular Correspondent.)

TORONTO, Jan. 6, 1900.

DR. MINNIE GOMERY will leave Montreal shortly as a medical missionary for India.

THE TRUSTEES of Notre Dame Hospital, Montreal, are contemplating the erection of a new building possessing all the most modern and approved appliances.

DR. RUTTAN, registrar of the medical faculty of McGill, has returned to Montreal after inspecting the teaching appliances in the medical colleges in New York, Boston, Philadelphia and Baltimore.

A YOUNG man in Toronto has gone insane over the war in South Africa.

DR. JAMES BELL, Montreal, will read the address in surgery at the next meeting of the Medical Society of Nova Scotia, to be held at Amherst, July 4 and 5, 1900.

DR. MAUDE E. ABBOTT, assistant curator, pathologic museum McGill University, has left on a visit of inspection to some of the medical museums of the United States, including New York, Baltimore, Washington and Philadelphia.

WHILE carrying a bottle of ether to the sink in a Toronto engraving house, a young man had occasion to pass the furnace. The heat from the furnace ignited the bottle of ether and the man was very badly burned about the face, arms and shoulders.

TORONTO VITAL STATISTICS.

The vital statistics for this city during the year 1899 show a decrease of 115 births and an increase of 423 deaths over the figures of the preceding year. Marriages show an increase of 145. The birth-rate of Toronto is now at the figures recorded ten years ago. The totals for 1899 are: births, 4007; marriages, 1841; deaths, 3294.

ASYLUM AT FALCONWOOD, P. E. I.

Before the final report of the commission of inquiry into the irregularities at the P. E. I. provincial asylum has been handed in to the government, the visiting superintendent, Dr. Blanchard, who has had the medical supervsion of this institution for the past twenty-five years, has been dismissed by the government, his dismissal to take effect in February.

SMALLPOX IN QUEBEC.

Dr. Beaudry, inspector of the Provincial Board of Health, Montreal, who has been in charge of the work of suppressing smallpox in Kamouraska and Matane counties, Que., states that the disease has not yet been stamped out in these districts, though it is well under control. Three new cases have developed and he is afraid it will be well on toward spring before the disease will be completely stamped out.

DISEASE IN CITY DUST.

Montreal can condemn herself for being far behind the other cities of the world in the matter of laying good pavements and keeping her streets free from filth. It seems to be well borne out by facts that much of the sickness prevailing in that city during all seasons of the year can be traced to the dirty condition of the streets, and there seems to be no doubt that many deaths have resulted therefrom.

VITAL STATISTICS IN MONTREAL.

Dr. Laberge, M.H.O., has been endeavoring to have all births in the city reported direct to the health office. The following is the communication of the city's solicitor to the local board of health on the subject: "A draft of by-law concerning the reporting of births in the City of Montreal, to the Medical Health Officer, by all physicians or other persons therein specified, having been submitted for our approval, we have the honor to inform you that we are of the opinion that the city's power with respect to the reporting of births is not sufficiently well-defined, by the Charter, to permit of the adoption of such a by-law by the City Council." At the approaching session of the Quebec legislature an endeavor will be made to have the city's charter amended, so that the city council will then be able to pass a by-law as desired by the medical officer.

PATENT MEDICINE IN A COURT OF LAW.

Judgment has been given in Montreal, in a case arising out of an infringement of rights to the use of a certain "doctor's" name in connection with certain medicinal preparations, which we presume are foreign to regulars. The plaintiff took the action, claiming that the defendants were using the name of the doctor to certain pills, the plaintiff asserting that he had purchased the sole right to use this name, from the heirs of the late physician. The judge found that the defendants were misleading the public, as the pills were purported to have been prepared from one of the physician's prescriptions, and its use by others than the rightful owner would therefore be illegal. For these reasons the plaintiff was granted an injunction prohibiting his competitors manufacturing pills with that name or using that name in connection with their manufacture. Damages were not assessed.

CONTAGIOUS DISEASE IN CHARLOTTETOWN, P. E. I.

At a meeting of the Board of Health of this city, the 26th ult., the following resolution was carried unanimously: "That it is the determination of this Board of Health, that in order to prevent the spread of diphtheria in this city, the regulations of the Board and the provisions of the Statute constituting boards of health be strictly carried out by the Health Officer, and the penalties for the breach of such regulations be strictly enforced: and that Sections 1, 2 and 19 of the Rules and Regulations be published, viz: Any householder in whose house in the City of Charlottetown, there shall occur a case of smallpox, cholera, diphtheria, scarlatina, scarlet fever, typhus fever or typhoid fever, shall immediately notify the Board of Health, through its health officer or secretary. 2. When a physician knowns or suspects that any person to whom he has been called is sick of, or has died of, any of the diseases named in Rule 1, he shall immediately notify the Board of Health through the secretary or the health officer. 3. Every physician who has been furnished with proper blanks for the purpose stated shall immediately make such returns as the said blank shall indicate, to the health officer or the secretary.

UNSANITARY HOTELS IN ONTARIO.

The new provincial secretary of Ontario is setting himself out to clean up the rural hotels of the province. Circular letters are being sent to the respective license inspectors or commissioners to impress on landlords holding hotel licenses the desirability of making their places comfortable and wholesome for the traveling public. It is not thought that much expense will be thus thrown on this class of the community by putting their premises in a more sanitary condition, and the inspectors are instructed to report to the department from time to time, on the condition of these places in their immediate jurisdiction, and to probably withhold licenses to those who will not meet the requirements of the health of the traveling public in this particular. A copy of the circular is also being sent to the members of the Dominion Travelers' Association, seeking their coöperation, asking for complaints and, further, for them to give expression to suggestions whereby the condition of the hotels might be improved and their own comfort more adequately provided for.

Association News.

Section on Laryngology and Otology.—Members of the American Medical Association are cordially invited to contribute papers to the Section on Laryngology and Otology at the next meeting, in Atlantic City, June 5-8, 1900. Owing to the large membership it is necessary for those who desire to be on the program to arrange with the Secretary of this Section at once, in order that place may be reserved for them. According to the rules adopted by the Executive Committee, at Columbus last year:

The number of papers to be read will be limited to forty, each paper not to occupy more than fifteen minutes in reading.

Three addresses by special invitation may be obtained, at the discretion of the officers, from within or without the Association.

Papers are to be accepted in the order of their reception and at the discretion of the Executive Committee. Abstracts of all papers must be sent to the Secretary before May 1, 1900.

Discussions are to be limited to five minutes each.

The sending of the abstract is very important, in order that it may be published in the program, thus facilitating intelligent discussion. An early sending of titles of contemplated papers will be greatly appreciated. No titles can be received after January 28. Christian R. Holmes, Chairman, Cincinnati, Ohio; J. A. Stucky, Secretary, Lexington, Ky.

Deaths and Obituaries.

Wm. A. Hammond, M.D., surgeon-general U. S. A., retired, died suddenly at his residence in Washington, D. C., on the 6th inst., from heart disease. He was born at Annapolis, Md., Aug. 28, 1828, and was the son of Dr. Jno. W. Hammond. His early education was received at Harrisburg, Pa., whence he subsequently went to New York City, entering the University of New York, from which he was graduated in medicine in 1848. He subsequently studied clinical medicine at the University of Pennsylvania. He was appointed assistant-surgeon in the U. S. Army in 1849. He served three years in Europe and eleven in the West, during which time he made a special study of physiologic chemistry, writing a number of essays on the subject and receiving for one, "Albumen, Starch and Gum as Food," first prize from the American Medical Association. In 1861 he resigned his commission in the army to accept the chair of anatomy and physiology in the University of Maryland, but resigned that when the Civil War broke out, re-entering the army as assistant-surgeon. His advancement was rapid and his service brilliant, and in 1862 he was appointed surgeon-general with rank of brigadier-general. He is said to have been the originator of the army ambulance corps and the founder of the Army Medical Museum. In 1864 he was court-martialed and dismissed from the army for alleged irregularities in the awarding of certain Government contracts. He subsequently went to New York City, and engaged in private practice, making a specialty of diseases of the nervous system. From 1867 to 1873, he was professor of diseases of the mind and nervous system in Bellevue Hospital, and was afterward elected to a similar chair in the University of New York, where he remained until 1882, when, with others, he founded the New York Post-Graduate Medical School, becoming a professor therein. He was the author of a number of works among which were "Physiological Memoirs," "A Treatise on Hygiene," "Wakefulness," "Insanity in its Medicolegal Relations." He was one of the originators of the *N. Y. Medical Journal* and edited the *Quarterly Journal of Physiological Medicine and Medical Jurisprudence*. In 1898, a bill authorizing the President to review the proceedings of the court-martial and, if justice demanded, to reinstate Dr. Hammond, was passed by Congress. The bill was approved by the President the following year and Dr. Hammond was restored to his place on the army rolls as brigadier-general and surgeon-general retired. He was buried at Arlington National Cemetery on January 8, with full military honors.

WM. H. RANDALL, M.D., Augusta, Iowa, died on the 23d ult., aged 60 years. He was a graduate of Castleton (Vt.) Medical College, class of 1857, and during the Civil War enlisted as private in the 11th Massachusetts Infantry, being later commissioned as second assistant-surgeon of the 19th Maine Infantry, and then made surgeon of the regiment, serving as such until the close of the war.

CHAUNCEY P. LANDON, M.D., Westerville, Ohio, aged 73 years, died on the 30th ult. He was a graduate of Starling Medical College, class of 1849, and one of the founders of the Central Ohio Medical Society. He was also one of the oldest members of the Ohio State Medical Society, and twice its president. During the Civil War he was surgeon of the 133d Ohio Volunteer Infantry.

CHARLES STONER SHAW, M.D., Allegheny, Pa., died in Albuquerque, N. M., the 28th ult. He was a graduate of the medical department of the University of Pennsylvania, class of 1879, and physician to the Roselia Foundling Asylum and the Pittsburg Hospital for Children.

Miscellany.

Subject for Comment.—On the appeal of the City of Warsaw vs. Fisher, the appellate court of Indiana holds, two justices dissenting, that in an action for personal injuries counsel for the defendant may comment on the omission of the plaintiff to call as a witness the physician who attended him. It cites as having adjudications to the same effect, Michigan, Missouri, New Hampshire, and New York.

Proof of Insanity of a Criminal Revealed After Conviction.—The conference of the lawyers connected with the Paris court of appeals recently discussed, and decided in the affirmative, the question whether proof of the insanity of a criminal at the "time of the deed," revealed after his condemnation, should be entitled to rank as a *new fact* allowing the revision of the process.

Phototherapeutics with Acetylene.—Extremely satisfactory results are reported by Colleville, in the *Gaz. Hebd.*, 1899, 80, with the therapeutic application of acetylene gas in the form of "acetylith," a new, comparatively odorless product. The lamp is enclosed in a kind of magic lantern with a blue-violet glass in front of the lens to exclude the heat rays. Of the five cases treated three were varicose ulcers, one malus perforans and one ulcus tuberculosum.

Fractures and Radiography.—For the last year and a half Tuffier has had every fracture radiographed before treatment and after the dressings have been applied, and has kept a careful record of the subsequent functional results. He finds, to his astonishment, that in numbers of cases in which the reduction has been clinically perfect and the functional results most satisfactory, the reduction of the bones has in reality been far from perfect. He notes (*Semaine Med.*, Dec. 20, 1899) that it is necessary to insert the stitches as close as possible to the fractured surfaces in suturing bones, to prevent slipping.

The Index.—The closing number of THE JOURNAL of the AMERICAN MEDICAL ASSOCIATION for the second half of the year 1899 contains another instance of its progressive development, in the shape of the index. Besides the usual index matter, there is a special index containing the titles of the abstracts of all the original contributions appearing throughout that period in the principal American medical journals. Following this is a list of authors whose communications are thus dealt with. The great value of this arrangement will be at once evident if we think what a help it would be to us remembering the title of some paper, or remembering that some particular author had written a paper whose title we fail to recall, but the subject-matter of which impressed us. By the use of one or other of these indices, according to circumstances, we can track the paper to its abstract lair, and thence ascertain the journal in which the original appeared.—*N. Y. Med. Jour*, January 6.

Health in Michigan.—Reports for the four weeks ending Dec. 30, 1899, give rheumatism, neuralgia, bronchitis, tonsillitis and influenza as the five most prevalent diseases. Compared with the preceding month, pneumonia and influenza increased and remittent fever decreased in area of prevalence, at the state capital. Throughout the state, consumption was reported at 3 places more, scarlet fever at 13 less, typhoid fever 70 less, measles at 22 more, diphtheria at 18 less, whooping-cough at 1 more, smallpox at 6 less, and cerebrospinal meningitis at 2 places less than in the preceding month.

Pityriasis Rosea.—In the *Jour. of Cut. and Gen.-Urin. Dis.*, January (p. 43), a case of this affection, of interest because it began on the face, thence extending down over the neck and trunk, is reported. Attention is also called to a diagnostic point in differentiating this from an early macular syphilide or other macular eruption, viz., painting the area where the lesions are scarcely perceptible, with Lugol's solution, when the patches and rings will come out and appear of a mahogany color. This reaction does not result in the usual erythematous eruptions, unless there is desquamation, and even then the stain takes less deeply. The test should be applied during the first stages, and is of especial value in avoiding confusion with roseola syphilitica.

Diseases in Philippines.—In an address recently delivered in Baltimore, Md., by L. F. Barker, on some phases of his Philippine trip, he said that the most fatal diseases there are smallpox, typhoid fever, malarial and intestinal troubles. Smallpox, before the arrival of the American, was regarded by the natives as measles is by us, it is so common; but in a few months it was almost stamped out by vaccination. Intestinal troubles are very fatal, death usually resulting after forty-eight hours. If the bacillus can be found, it is likely this can be largely prevented and the efforts of the party the Doctor accompanied, were directed to this with, they believe, success. Good fish is the best food, but bad is the cause of much of the sickness. Ice baths and cold baths must be avoided and one must take the Spanish siesta from 2 to 4 p. m. daily.

Microbes in Holy Water.—Abba, one of the health officers of Turin, Italy, has recently made examinations of the holy water contained in the fonts inside the entrance doors of sacred edifices. Thirty-one specimens from as many churches were analyzed, and the results have more than confirmed his anticipations that this water may be an effective means of transmitting disease. Attention is called to the matter by the *Lancet's* Rome correspondent, in the issue of that journal for Dec. 23, 1899. The water is exposed to the dust that finds free access to the interior of the church, is dipped into by the fingers of the worshipers on Sundays and week days, morning, noon, and night, and the fonts are rarely cleaned. Concerning his recommendation of a weekly washing and disinfection of the pillars from which the fonts project, and of the fonts themselves, and the treatment of the water with antiseptics, the church press expresses marked indignation, condemning the suggestion as "unnatural" and "not free from grave objections."

Injuries from Roentgen Ray Treatment.—Gassmann and Schenkel write to *Fortschritte a. d. Geb. der Roent.* ii, describing four cases of lupus which developed circumscribed ulcers after the usual Roentgen treatment, requiring transplantation in two cases, and in one a peculiar progressive gangrene appeared four weeks after treatment, when the region was almost entirely healed over, commencing in the center and not invading the outer limit for four months. Study of the ulcerations showed a remarkable thickening of the intima of the vessels, even in the capillaries, but most pronounced in veins and arteries, narrowing the lumen. The intima was dotted with numerous vacuoles generally filled with a reticular mass of delicate fibers. The membrana elastica and in the larger vessels also the externa, were split up into a tangle of irregular fibers, some projecting into the intima. The muscularis was also dotted with numerous vacuoles, and some of the fibers were compressed by the vacuoles and degenerated. This new phenomenon explains the injury from the Roentgen treatment in certain cases, and the slow process of the necrosis, as the deep blood-vessels still contain blood notwithstanding their commencing degeneration. The only successful treatment would be prompt and radical extermination of all the tissue-containing vessels affected with degenerative processes.

Fractures of the Skull.—According to *Muench. Med. Woch.*, Dec. 12, 1899, Habart operates at once on all complicated fractures of the skull,excising all scars in the region of the motor centers, and preventing further irritation by inserting a celluloid plate, which in every case has healed in place without reaction. Epilepsy has become very rare among patients thus treated. In a recent series the frontal or parietal bone had been fractured by a kick from a horse; splinters driven into the dura or brain; wound soiled with horse manure and hairs; coma; collapse. The iodoform tampon was used for ten days, and then the celluloid plate, with rapid and complete recovery in each of the three cases. In a case of paralysis of the lower extremities, bladder and rectum, after a fall from a third story and fracture of the tenth to twelfth dorsal vertebræ, the operation two years later cured the paralysis of bladder and rectum. The patient is progressively improving and can now walk a few minutes at a time. The operation consisted in resecting the arches and spinous processes of the fractured vertebræ, and removing the thickened portion of the cord, pachymeningitis hemorrhagica and sheets of bony deposits, with scissors or curette, which allowed the compression myelitis to heal. The lost bone was substituted by a celluloid plate, 10 by 4 cm.

Deafness and Children of Deaf-Mutes.—Recently, before the Johns Hopkins Scientific Association in Baltimore, Md., Dr. William K. Brooks spoke on inherited deafness, and controverted a report of Prof. Alexander Graham Bell, who said that while it is commonly believed that most of the deafness is found in the children of deaf-mutes, it is, in fact, found oftener in the children of hearing parents who have deaf relatives. He attributed much of the deafness to the hearing of deaf-mutes, and said that when the parents are normal, the rate of deaf-mute children is 1 in 10,000, while 1 child in 10 of deaf-mute parents is a deaf-mute. He said that only 1.5 per cent. of the children born to deaf-mute parents will be deaf unless they have deaf-mute relatives, while 33 per cent. of those having deaf-mute relatives will be deaf. Twenty years ago, Dr. B. made this assertion in a report for an English scientific society, on the conditions necessary for inherited deafness. The lapse of time has confirmed him in this belief. Moreover, a larger proportion of children from hearing parents having deaf relatives will be deaf than those of deaf-mute parents. The most dangerous marriage of all is one that is consanguineous, where a deaf-mute with a deaf relative marries a deaf relative.

Our Army Surgeons.—The *Army and Navy Journal*, January 6, in an editorial under the above heading urges the passage of the bill to increase the medical department of the army. It reviews the duties of the army surgeon as a sanitary officer and as a physician and surgeon and concludes as follows:

> We are coming nearer every year to the true appreciation of the larger part of the surgeon's labors. We are more clearly seeing that the hand that wields the alleviating scalpel, or administers the soothing potion, may strike as nobly for victory as the colossal figure striding up and down the firing line. During the epidemics of fever in the Spanish War, our surgeons worked day and night, debilitating their systems until in many cases they themselves fell victims to the disease. These were sacrifices of patriotism not the less noble because made without the stimulus of momentary excitement and for the salvation of others. Perhaps it would not be altogether unfortunate if the bill should cause some debate in Congress, to the end that the champions of our army surgeons might place before the country the real service they have done and the greater service a wise provision now will enable them to perform in the greater days to come.
>
> No training so nearly simulates the soldier's as that of the medical profession. The doctor must hold himself at all times in readiness for the call of duty, as the soldier does, and must, like the soldier, accept without complaint or hesitation the risks to life and health attending the discharge of duty. It is not alone on the field of battle that the medical man runs these risks. They come to him in the course of an ordinary medical practice; he must often go where he will permit no one else to go, because of the danger of infection from deadly disease. The record of army surgeons, from the days of Napoleon's Baron Larrey until now, has been one that honors their profession and dignifies humanity.

The Gallinger Antivivisection Bill.—Mr. Gallinger introduced the following bill in the Senate of the United States, Dec. 6, 1899 (S. 34), which was read twice and referred to the Committee of the District of Columbia:

A BILL FOR THE FURTHER PREVENTION OF CRUELTY TO ANIMALS IN THE DISTRICT OF COLUMBIA.

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled, That hereafter no person shall perform on a living vertebrate animal any experiment calculated to give pain to such animal, except subject to the restrictions hereinafter prescribed. Any person performing or taking part in performing any experiment calculated to give pain in contravention of this Act shall be guilty of an offense against this Act, and shall, if it be the first offense, be liable to a penalty not exceeding one hundred and fifty dollars, and if it be the second or any subsequent offense, shall be liable, at the discretion of the court by which he is tried, to a penalty not exceeding three hundred dollars, or to imprisonment for a period not exceeding six months.

Section 2.—That the following restrictions are imposed by this Act with respect to the performance on any living vertebrate animal of an experiment calculated to give pain to such animal; that is to say:

a. The experiment must be performed with a view to the advancement by new discovery of physiological knowledge or of knowledge which will be useful for saving or prolonging life or alleviating suffering; and

b. The experiment must be performed by a person holding such license from the Commissioners of the District of Columbia as in this Act mentioned, or by a duly authorized officer of the Government of the United States, or of the District of Columbia; and

c. The animal must, during the whole of the experiment, be completely under the influence of ether or chloroform sufficiently to prevent the animal from feeling pain, excepting only that in so-called inoculation experiments or tests of drugs or medicines, the animal need not be anesthetized nor killed afterwards, nor in tests of surgical procedure need animals be kept completely anesthetized during the process of recovery from the surgical operation. Otherwise than this the animal must be kept from pain during all experiments; and

d. The animal must, if the pain is likely to continue after the effect of the anesthetic has ceased, or if any serious injury has been inflicted on the animal, be killed before it recovers from the influence of the anesthetic which has been administered; and

e. No experiment shall be made upon any living creature, calculated to give pain to such creature, in any of the public schools of the District of Columbia; provided as follows, that is to say:

1. Experiments may be performed under the foregoing provisions as to the use of anesthetics by a person giving illustrations of lectures in medical schools, hospitals, or colleges, on such certificate being given, as in this Act hereafter mentioned, that the proposed experiments are absolutely necessary for the due instruction of the persons to whom such lectures are given, with a view to their acquiring physiological knowledge or knowledge which will be useful to them for saving or prolonging life or alleviating suffering; and

2. The substance known as urari or curare shall not, for

the purposes of this Act, be deemed to be an anesthetic; and

3. Notwithstanding anything in this Act contained, no experiment calculated to give pain shall be performed on a dog or cat, except upon such certificate being given, as in this Act mentioned, stating, in addition to the statements hereinbefore required to be made in such certificate, that for reasons specified in the certificate the object of the experiment will be necessarily frustrated unless it is performed on an animal similar in constitution and habits to a cat or dog, and no other animal is available for such experiment; and an experiment calculated to give pain shall not be performed on any horse, ass, or mule, except on such certificate being given, as in this Act mentioned, that the object of the experiment will be necessarily frustrated unless it is performed on a horse, ass, or mule, and that no other animal is available for such purpose; and

4. Any exhibition to the general public, whether admission be on payment of money or gratuitous, of experiments on living animals calculated to give pain shall be illegal.

Any person performing or aiding in performing such experiment shall be deemed to be guilty of an offense against this Act, and shall, if it be the first offense, be liable to a penalty not exceeding one hundred and fifty dollars, and if it be the second or any subsequent offense, shall be liable at the discretion of the court by which he is tried, to a penalty not exceeding three hundred dollars, or to imprisonment not exceeding six months; and any person publishing any notice of any such intended exhibition by advertisement in a newspaper placard, or otherwise, shall be liable to a penalty not exceeding ten dollars.

A person punished for an offense under this section shall not for the same offense be punishable under any other section of this Act.

Section 3.—That the Commissioners of the District may insert, as a condition of granting any license, a provision in such license that the place in which any such experiment is to be performed by the licensee is to be registered in such manner as the said Commissioners may from time to time by any general or special order direct: *Provided*, That every place for the performance of experiments for the purpose of instruction shall be approved by the said Commissioners, and shall be registered in such manner as the said Commissioners may from time to time by any general or special order direct.

Section 4.—That the Commissioners of the District, upon application as hereinafter prescribed, may license any person whom they may think qualified to hold a license to perform experiments under this Act: *Provided only*, That a license shall not be granted to any person under the age of twenty-five years, unless he be a graduate from a medical college, duly authorized to practice medicine in the District of Columbia.

Section 5.—That the Commissioners of the District may direct any person performing experiments under this Act from time to time to make reports to them of the methods employed and the results of such experiments, in such form and with such details as the said Commissioners may require.

Section 6.—That the President of the United States shall cause all places where experiments on living vertebrate animals are carried on, in the District of Columbia, to be from time to time visited and inspected without previous notice for the purpose of securing compliance with the provisions of this Act: and to that end shall appoint four inspectors. who shall serve without compensation, and who shall have authority to visit and inspect the places aforesaid, and who shall report to the President of the United States from time to time the results of their observations therein, which shall be made public by him.

Section 7.—That any application for a license under this Act, and for a certificate to be given as in this Act mentioned must be signed by three physicians duly licensed to practice and actually engaged in practicing medicine in the District of Columbia, and also by a professor of physiology, medicine, anatomy, medical jurisprudence, materia medica, or surgery in the medical department of any duly established reliable school or college in the District of Columbia: *Provided*, That when any person applying for a certificate under this Act is himself one of the persons authorized to sign such certificate, the signature of some other of such persons shall be substituted for the signature of the applicant.

A certificate under this section may be given for such time or for such series of experiments as the persons signing the certificate may think expedient.

A copy of any certificate under this section shall be forwarded by the applicant to the Commissioners of the District, but shall not be available until one week after a copy has been so forwarded.

The Commissioners of the District may at any time disallow or suspend any certificate given under this section.

Section 8.—That the powers conferred by this act of granting a license or giving a certificate for the performance of an experiment on living animals may be exercised by an order in writing, under the hand of any judge of a court of record having criminal jurisdiction in the District, in a case where such judge is satisfied that it is essential for the purpose of justice in a criminal case to make such experiment.

Dental Anomalies in Hereditary Syphilis.—Galippe recently exhibited some casts of teeth, proving that the "Hutchinson types" may be encountered in persons absolutely free from any syphilitic taint.

Queries and Minor Notes.

PHYSICIANS' TRIP TO PARIS.

BALTIMORE, MD., Dec. 30, 1899.

To The Editor.—It is reported that 300 Western physicians have chartered the ***City of Rome*** for a voyage to Paris, with the object of attending the International Medical Congress and the exposition. Could you inform me who is the proper person to address concerning this plan? Yours cordially,

J. C. HEMMETER, M.D.

ANSWER.—Write to J. W. Pettit, Ottawa, Ill., member of the Committee of Arrangements for the Illinois State Medical Society, or Dr. J. W. Cokenower, Des Moines, Iowa, secretary of the Iowa State Medical Society.

ASEPTIC OR ANTISEPTIC.

NORWICH, N. Y., Jan. 2, 1900.

To the Editor.—A collapsible tube, previously sterilized, is filled with an antiseptic ointment and immediately hermetically sealed. The peculiar office of this container is to protect its contents against the invasion of the atmosphere with its attendant micro-organisms. May a tube thus used be correctly termed antiseptic? We have been for many months—and with the best intention in the world advertising one of our preparations as "An Antiseptic Dressing in an Antiseptic Container." Now a prominent physician calls us down—says the tube is aseptic, not antiseptic. Will you kindly set us right? Very truly yours,

N. P. Co.

ANSWER:—According to the accepted definition of the terms "antiseptic" and "aseptic," it would appear that the phrase, "An Antiseptic Dressing in an Antiseptic Container, would be verbally correct. Foster, in his Medical Dictionary, defines the former as "Preventing or checking putrefaction or septic infection," which might as well apply to any germ-proof receptacle as to a chemical reagent. At the same time we could not correctly say of the vessel that it is "aseptic," a term defined as "free from putrefaction and its causes," unless it has been externally as well as internally disinfected and remained in that state. In the choice of words it would seem that only "antiseptic" can be properly used. Surgically there has lately come into use an application of these terms that is not exactly in accord with the above definition, and this may cause confusion. "Antisepsis" is thus sometimes used simply as meaning the destruction or counteraction of sepsis as opposed to "asepsis" in its proper sense. It really means more—it means protection of aseptic substances from sepsis, as well as its destruction, and in this sense its application to a germ-proof container is correct.

PRACTICE IN FRANCE

AKRON, OHIO, Jan. 6, 1900.

To the Editor.—In your issue of Dec. 30, 1899, you write editorially of "Practice in France." I would like to know the laws regulating practice there, more fully than put forth in your article. Will you kindly give me the steps necessary for an American graduate to secure the right to practice in France for the benefit of English-speaking people attending the exposition.

Respectfully yours, G. M. I.

ANSWER.—To practice medicine in France the possession of a diploma from a French faculty (Paris, Montpelier, Nancy, Bordeaux, Lyons, Lille, or Toulouse) is requisite, and it must have been obtained in the same way as by the French students, that is, the preliminary studies and the full professional curriculum must have been passed. It is possible, we believe, for foreigners to obtain a French diploma, not entitling them to practice, by showing qualifications and paying a heavy fee, but this is purely honorary, and conveys no professional rights.

The Public Service.

ARMY CHANGES.

Movements of Army Medical Officers under orders from the Adjutant-General's Office, War Department, Washington, D. C., Dec. 22-27, 1899, inclusive:

[illegible] L. Armstrong, major and surgeon, Vols., from the Division of Cuba to Fort Slocum, N. Y., to accompany recruits on the transport Sumner, sailing on or about Jan. 15, 1900, for Manila, P. I., where he will report for duty with the 8th Army Corps.

Walter Cox, lieutenant and asst.-surgeon, U. S. A., from Fort Reno, Okla., to the Department of California.

Benjamin J. Edger, Jr., lieutenant and asst.-surgeon, U. S. A., previous orders to California revoked; he will report for duty to the superintendent U. S. Military Academy, West Point, N. Y.

James B. [illegible], major and surgeon, Vols., leave of absence extended.

Richard W. Johnson, major and surgeon, U. S. A., from duty at Chicago, Ill., to the Department of California.

Edward Lyon, Jr., acting asst.-surgeon, relieved from further duty in the Division of Cuba, to report to the surgeon-general, Washington, D. C., for orders.

G. A. McHenry, acting asst.-surgeon, leave of absence granted.

Edward L. Munson, captain and asst.-surgeon, U. S. A., to Philadelphia, Pa., in connection with the construction of new hospital tents at the clothing depot, Schuylkill arsenal.

Jefferson D. Poindexter, captain and asst.-surgeon, U. S. A., from San Francisco, Cal., to Fort Reno, Okla.

Henry I. Raymond, major and surgeon, Vols., relieved from further duty in the Department of the Pacific and 8th Army Corps, to be assigned as attending surgeon and examiner of recruits at Chicago, Ill.

George B. Story, acting asst.-surgeon, from Fort Canby, Wash., to the Department of California.

NAVY CHANGES.

Changes in the Medical Corps of the U. S. Navy for the week ending Dec. 30, 1899:

Surgeon H. E. Ames, order of December 20 modified; ordered to duty in connection with fitting out the *Kearsarge*, Newport News, Va.

Asst.-Surgeon E. J. Grow, detached from the *Massachusetts* and ordered to the *Iris*.

Medical Inspector M. H. Simons, ordered to Cleveland, Ohio, for recruiting duty.

MARINE-HOSPITAL CHANGES.

Official list of the changes of station and duties of commissioned and non-commissioned officers of the U. S. Marine-Hospital Service for the 7 days ending Dec. 28, 1899.

Surgeon H. W. Sawtelle, granted leave of absence for 30 days.

Surgeon W. P. McIntosh, granted leave of absence for 5 days.

P. A. Surgeon J. C. Perry, to proceed to Amoy, China, for special temporary duty.

P. A. Surgeon M. J. Rosenau, to proceed to Baltimore, Md., for special temporary duty.

P. A. Surgeon A. R. Thomas, to proceed to New York City and report to Surgeon L. L. Williams (Immigration Depot) for special temporary duty; to proceed to Rotterdam, Netherlands, for duty.

Asst.-Surgeon L. E. Cofer, granted leave of absence for one month.

Asst.-Surgeon S. R. Tabb, granted leave of absence for 15 days.

Acting Asst.-Surgeon Francis Duffy, granted leave of absence for 7 days.

HEALTH REPORTS.

The following cases of smallpox, yellow fever, cholera and plague, have been reported to the Surgeon-General, U. S. Marine-Hospital Service, during the week ended Dec. 29, 1899.

SMALLPOX—UNITED STATES.

Colorado: Leadville, December 14, 1 case.

District of Columbia: Washington, December 16 to 23, 2 cases.

[illegible] December 16 to 23, 6 cases.

Kentucky: Louisville, December 14 to 21, 1 case.

Massachusetts: Boston, December 16 to 23, 3 cases; Lowell, December 16 to 23, 1 case.

Michigan: Detroit, December 2 to 9, 8 cases.

[illegible] August 15 to December 20, 150 cases, 4 deaths.

[illegible] December 16 to 23, 1 case.

[illegible] December 16 to 23, 4 cases.

Virginia: Norfolk (vicinity of) December 16 to 23, 1 death; Portsmouth, December 16 to 23, 1 death.

[illegible]

Canada: Ontario, October 30 to December 16, 122 cases; Quebec, [illegible]

[illegible] 1 death.

[illegible] 1 death.

[illegible]

[illegible] 21, 1 death.

Spain: Carunna, November 25 to December 2, 4 cases, 2 deaths.

[illegible]

[illegible]

[illegible]

Mexico: Vera Cruz, December 14 to 21, 2 deaths.

[illegible]

Straits Settlement: Singapore, October 21 to 28, 2 deaths.

[illegible]

China: Hinchwang, November 2, disease abating.

CHANGE OF ADDRESS.

Burkholder, S. G., from 3135 Vernon Ave. to 1816 Michigan Ave. Chicago.

[illegible]

Caldwell, W. S., from Calcutta, India, to Naples, Italy; care of [illegible]

Capehart, P. W., from Kittrele to Charlotte, N. C.

[illegible]

Dargatz, G. G., from 440 10th to Shupert Bldg., Kansas City, Mo.

Eckman, B. F., from Mount Carmel, to Georgetown Ky.

Jessen, J. H., from South Omaha to Lexington, Neb.

Knauf, F. P., from 318 Ogden Ave. to 188 Warren, Chicago.

Killey, P. H., from Kyle to Vivian, W. Va.

McGovern, A. C., from St. James to Shorburn, Minn.

Parsons, S. F., from 580 W. Madison to 522 Congress, Chicago.

Reasoner, R. W., from Morrisonville, Ill., to Colorado Springs, Colo.

THE JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION

is published weekly, at 61 Market Street, Chicago, Ill. The subscription price is five dollars per annum in advance. Postage in the United States, Canada and Mexico, free; foreign postage, $2.50. Subscriptions may commence at any time. Volumes begin with the first issue of January and of July.

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The Journal of the American Medical Association

Vol. XXXIV CHICAGO, ILLINOIS, JANUARY 20, 1900. No. 3.

Address.

INFLUENCE OF THE MEDICAL PRACTITIONER ON MEDICAL PROGRESS.

BY JOSEPH D. BRYANT, M.D.

NEW YORK CITY.

It may seem strange, in an atmosphere as dense as is this of ours with medical phrase, that I choose to address you on any topic of medical education. But surely there can be no sentiment so dominant here as this one, except, let us hope, that of love for those for whose happiness we are responsible, and for Him to whom we owe the privilege of existence.

Medical education is commonly understood to mean the education gained from attendance at medical schools, rather than that born of the conscientious thought and labor of medical practice. Possibly it would be better if no mention were made at this time of medical schools as factors in medical attainment, as then the attention would be directed more definitely to the main object in view—the practice of medicine and of manly attributes as the means of the establishment of medical advance. A marked distinction should be made between these two means of medical attainment, the same, in fact, as is made between the engineering integrity of an underlying support in architecture and the symmetry and gravity of the burden that it sustains. The importance which this and kindred societies hold in the field of labor and advance is hardly realized unless it be made the subject of special thought.

The real significance of the labors of organized bodies of medical men rests in the outcome for the benefit of others, derived from wisely conducted interchange of ideas, based on an intelligent experience, and supplemented, but not submerged, by the goodfellowship begotten of a mutual participation in unceasing war waged against an insidious, tireless and finally successful foe—disease—and its dread sequel—death. The beginning of medical knowledge was coincident with the outcome of the first effort for the relief of suffering presumptively of the human kind. The first effort was the beacon of experience, and with the ending of the effort experience began. The germ of medical education had its birth at this time, and Experience attended at the delivery, and the importance of the harvest was determined by the degree of appreciation of the result by all concerned, but more especially on the part of the quasi-medical attendant.

Thus we find that the initial units of medical endeavor and that of medical experience and of medical education were born almost simultaneously, and thereby was founded a new world of labor and experience, and established. I think we may say, the world's trinity of physical well-being, a trinity charged with the material welfare of human beings, and next in significance to the Great Trinity controlling their spiritual comfort and security. These primal results were the products of the efforts, perhaps of but a single individual, or, at all events, of individuals acting with spontaneous desires for the accomplishment of a similar purpose, the securement of the physical comfort and welfare of human animation. However this may have been, the result was the same, as no established advance in methods of relief could have taken place except as the outcome of a conference of the participants, in which the experiences of each were combined for the betterment of the methods of all.

Medical endeavor, and therefore medical knowledge, are the direct products of the sympathetic efforts bestowed by our kind for the relief of the injuries arising because of the contentious nature of our earlier ancestry. Sympathizing friends and fellow-soldiers attended to each other's hurts at that time, employing simple waters and common herbs for their purpose. No thought of vulgar recompense or of venal plan entered into the proposition nor followed successful efforts of relief. The act was not entirely foreign to that of the brute of to-day, who patiently licks the wounds of his kind. There can be no record of the first case thus treated, since its antiquity is coincident almost with creation itself and with the endowment of God's creatures, from birds to man, with the emotion of sympathy, a sentiment the handmaid of need, and wisely bestowed on all forms of animated creation possessed of the emotions of jealousy and anger.

Although sympathetic friends and comrades planted the first seeds of medical attainment, the germination and growth thereof were hastened by the further efforts of those who, stimulated by primary success or prompted by generous impulse, regarded themselves as specially fitted for the art of healing their kind. And if, perchance, any one of them was possessed of special knowledge—empirical, of course—of the effects of remedies, then indeed was he the most bountifully equipped for the labor, and correspondingly respected in his sphere.

In this manner the treatment of tangible afflictions, usually the result of injuries, was carried on. However, the unaccountable presence of internal disease, and especially the bewildering characteristics of epidemics, clothed their appearance with the garb of the supernatural, when the wisest men of the times, the priests, then accredited with a special knowledge of strange, supernatural and subtle agencies, were consulted. It is recorded that the priests by their prayers and exorcisms instilled hope into the afflicted, and in many instances effected apparently marvelous cures. How strange the fact that in this day of boasted intelligence similar methods of treatment should clasp hands and greet familiarly those heading the chapters of the earliest history of human events. The so-called Christian therapeutics of to-day are more anomalous than were those of the earliest periods of our race. However, during that time, the invocations of the priests in behalf of their

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*Delivered before the N. Y. State Medical Association, New York City, 1899 patients were not always followed by relief, and finally, fearing the effects of the loss of reputation, the uses of diet and drugs were called to their aid. Hence, we owe to the priests of that time our first knowledge of the beneficent effect of diet and of the internal administration of drugs. To them also belongs the credit of much of the systematized beginning of the study and treatment of disease.

The healing art, as fostered and practiced by the priests of India, achieved noted triumphs thousands of years ago. The Vedas, the oldest literature of the Indians, a part of Sanscrit lore, give information concerning the training of doctors. At this time Charaka gave pertinent advice to the young regarding their proper fitness for the practice of medicine, but added that which concerns us the more to-day, the best means of imparting medical knowledge. He stated that the study of medical writings, the personal teaching of medical instructors and association with other physicians, were the best means of acquiring a knowledge of medicine. He expressed himself also wisely when he added the following advice: "The man who has nothing but a theoretical training and is unskilled in the details of treatment, knows not what to do when he comes to a patient and behaves himself as pitiably as a coward on the battlefield. On the other hand, a doctor who is only practical does not win the esteem of the best men." These words, written more than two thousand five hundred years ago, are of greater relevancy at this day of advance and opportunity than at the time of their utterance. They speak not only of the wise forethought of their author, but also of the unchangeable interdependency in all fields of attempt between preparation and action,and in this of ours between theory and practice.

If the attention be now directed but briefly to the records of Egypt, we find in this storehouse of ancient civilization evidences of much earlier and greater attainments in medicine and surgery than in India. In fact, in Egypt one finds evidences of prehistoric surgery, therefore, as yet of unmeasured antiquity so far as time record is concerned. However, the fact of their existence denotes the presence in their time of the fellow sympathy that prompted the efforts of relief. The papyrus Ebers, written 1552 years B. C., is a compilation of remedies and of the methods of treatment of disease, some of which are described as being ancient even at that period. It appears, too, that the Egyptians had given to anatomy a systematic consideration—of its kind—so long ago as 5241 years B. C.

Accounts of the established existence of medicine and surgery and of their application to the suffering, are noted in the pages of the Holy Writ. It is recorded of King Asa, who, "in his disease sought not to the Lord but to the physicians. And Asa slept with his fathers." Whether or not this ancient utterance was then intended to express the sarcasm that often prompts its modern recital, I will not attempt to indicate.

Another instance may be properly quoted. "And if men strive together and one smites another with a stone or with his fist and he dies not . . . then shall he that smote him pay for the loss of his time and shall cause him to be thoroughly healed." In other and in modern practical expression, he shall forfeit damages and pay the doctor's bill! Surely this is an illustration of altruistic character, and better fitted to our sense of appreciation than is the preceding one.

The familiar and oft-quoted experience of the good Samaritan and the beneficent effects of his applications to the sufferer by the wayside speak like of the benefits of materialistic and of sympathetic therapeutics. The dual associations of medicine and surgery, of suffering and pity, and of physical distress and human compassion, are of an antiquity co-equal with that of the application of human reason to the woes of physical and mental misfortune.

Thus it is apparent that human sympathy first prompted medical effort; that human sympathy and special fitness established the beginning of medical practice; that religion headed the outcome, adopted and fostered the practice, and because of the erudition of its exponents recorded the results, thus laying a foundation for medical scientific effort. With the records of experience well kept and of ever increasing importance, the steps to organized medical instruction, singly imparted by mentor to pupil, or through the combined efforts of the adherents of the peculiar school of the time, were promptly taken.

Medicine was soon divorced from religion, and then practiced as an independent profession with great repute, especially in Egypt, where it took rank equal to that of the priestly one. The schools of medicine of the earliest times were not constituted as at the present. They were of an hereditary organization, sustained by the wisdom of the accumulated records of the experience of the forefathers, falling to the sons, who likewise added their experience and passed them along for the information of and amplification by their offspring, the next generation of physicians. The famous so-called schools of Cnidos and Cos were thus established and perpetuated. Hippocrates received his early education at the latter school. Surely, this plan of education constituted proprietary instruction in the strictest sense of the term. Soon physicians could gain their professional education in the temples along with those engaged in the attainment of the other learned professions, such as religion, law, mathematics and astronomy. Here we note the beginning of the university system of education of the present time.

But enough has been said already, it seems to me, to show conclusively the fact that medical education, at least up to the time of the development of physiology, chemistry, pathology and the still later co-ordinate branches of medical science, owed not only its birth but also its upbringing and final firm establishment to the value and perpetuation of the personal experiences of the crude medical endeavor of the first half of the recorded centuries of human existence.

The thirst for medical knowledge has extended from its points of inception in divers directions and in ever expanding circles, along the lines of intelligent appreciation and human sympathy, interrupted now and then for a time by the exigencies of national conflict or decay, and by individual complacency or contention, to the present time, bearing an ever increasing resemblance to that familiar picture painted on the placid surface of the lake by a falling pebble, as expressed by Pope:

> The small pebble stirs the peaceful lake,
> The circle round, a circle straight succeeds,
> Another still, and still another spreads.

The advent of newer methods of observation, based on the application to medical research of the advances in collateral things, and the greater acumen, the product of increased opportunity and appreciation, rapidly supplanted the assumption of empiricism with the rational conclusions of unerring scientific investigation. The hidden mysteries of the heretofore subtle agencies of disease are now being rapidly solved by the application to their presence of Nature's similar agencies.

The previous conflicts waged by man against disease in self-defense, are now changed to the substantial victories of aggressive action. Terror, woe and sadness, the heritages of earlier disease devastations, are supplanted by confidence, joy and gladness—confidence in the power of man to prevent, joy in the realization of the outcome, and gladness in the knowledge that misery and death are being pushed apace to the rear. Man's relation to the earthly order of things forbids that this conflict shall cease or that he shall be victorious. Nor need we hope for any change in this regard until, perhaps, the discovery and isolation of the bacillus of old age shall establish a rivalry between human longevity and infinite time.

The facts of substantial merit that have thus far been attained in the field of medical endeavor are the accumulated product of the efforts of those who have engaged in the practice or the study of medicine. The practice of medicine has achieved the more because it has demonstrated not only the trustworthiness of its own dogmas, but also the soundness of the faith of the student. In view of these facts, it requires no emphasis of statement to remind you of the importance of your own individual efforts in these matters, nor of the fruit thus far borne by those of our antecedents, who were prompted in their striving rather more to do good, than to gain riches or favor.

As already stated regarding the significance of an organized body of medical men, it relates not only to the scientific combat of disease, but to the cultivation of that sentiment of goodfellowship which gains firmest root in the breasts of companions in arms. A numerous, able and well-trained membership, possessed of proper *esprit,* is as essential to the successful conduct of a medical, as of a military organization. The success and standing attending the efforts of organized professional or business action depends entirely on the measure and character of the labor performed. The relation of these characteristics to each other should be mutual and interdependent, thus producing the maximum amount of high attainment. Those who have had special experience in a given line of action or of thought, and are known to be careful and conscientious observers, and equally careful and conscientious in the statement of facts, should be encouraged when needful, and secured when feasible, to express their well considered knowledge through the channels of established organization. On all such occasions as these the luster of personal attainment is shed through and upon the channels of its utterance.

The sacrifice of time in pointless discussion is pernicious, as it constitutes not only an abuse of opportunity and intelligence, but fosters romance and ostentation. No one is wise enough to speak profitably, without preparation, on a topic thoroughly presented, unless it be one of special interest to himself. Therefore, the reputation of all and the station and dignity of professions, demand that the participants in discussion shall be fitted by experience and preparation to consider the subjects on trial. Any other course than this dilutes facts with fancy, and unmans emphasis with puerility. Discussion conducted solely along the lines of friendly acquiescence or of gracious complacency, is the better suited to the graces of a feminine tea than to stern duty of combating disease, or of surmounting the difficulties of human opposition or those of Nature's bequests.

Scientific papers should emanate from sources which can add something to the store of knowledge, something that refutes or verifies an old, or that proposes or sustains a new, proposition. The presentation of a dissertation only because invited to do so, or for any other reason or excuse, in the absence of the possession of facts of importance, is making a convenience of other people's desires and perpetuating the display of personal vanity. In other words, the successful outcome of the discussion on an important topic requires that the participants be afforded the time and opportunity to enable them to express concise, intelligent and up-to-date facts and opinions regarding it.

The adoption of measures of this kind in connection with the consideration of living topics of common or of special interest, produces vitalized definite products. Any other course is one likely to refresh the memories with moribund facts at the expense of greater opportunities. Mann said: "Every addition to true knowledge is an addition to human power." It may be said with equal force, misguided efforts rob human possibility of important opportunities. The proper *esprit* is essential to success in every undertaking. Neither individual nor organized effort can attain the eminence of true merit without persistent labor for the common purpose. The domination of the church in general affairs and in medicine during much of its past history demonstrates forcibly the power of *esprit de corps* in the attainment of successful determinations.

The principles of action which lead to the success of individual effort apply with equal force to that of organized numbers in their efforts. And, by the same token, the creations of those animated only by effeminate complacency, are as unstable and unabiding as are images of sand. It is well in all instances of individual construction for common purposes to recall the wise saying: "No chain is stronger than its weakest link." The being enrolled in the support of a cause, or the maintenance of a purpose, medical or otherwise, constitutes a visible asset of the endeavor, but the fact alone that assets are present, even in ponderous dimensions, does not establish the success nor maintain the worth of the outcome of effort. The question is, are the assets available, are they productive, are their products of high comparative value, and how are they esteemed in the open markets of exchange of the professional and business worlds?

In the event of failure of high appreciation of the products of one's labor, it is then both becoming and wise to pause and ascertain the reasons of the failure, and in doing so it should not be forgotten that the admission of defeat or of the liability of it, constitutes the strongest incentive to the accomplishment of a purpose. A nature possessed of a kind of courage that impels one frankly to admit a fault, to acknowledge a failure or to confess ignorance will not submit to abasement. The same courageous manhood that commanded the acknowledgement will quickly lead to victory. It is not in the natural order of things that the worth of the contributions to human welfare and advancement of a person or an aggregation of persons, shall eclipse the good that follows in the same realm of endeavor, of all other of mankind. These contributions at the best can but point the way, and in so doing the beacon of experience serves as a guide of light to the greater and broader attainment of those who follow. A profession having in charge the physical welfare and comfort of human beings contributes very much indeed to the happiness and prosperity of the people. No adequate means of estimating the worth of these services has yet been determined, nor will it ever be known. Although the influences of environment, of custom and of demand regulate the standard of vulgar remuneration, there can be no true measure placed on the sentimentally, and are [illegible] of medical care. How important then it is that those who devote their lives sincerely to the fulfilment of so sacred a trust, shall shun the pitfalls of venal practices, and of all contentions in which the public has no sympathy and which are antagonistic to the sacred precept: "As ye would that men should do to you, do ye also to them."

It seems to have been ordained as a duty that each shall labor faithfully for the welfare of others, and as an earnest of which we are commanded, "Thou shalt love thy neighbor as thyself." If the product of any human effort whatsoever be available to meet the wise needs of comfort or thrift, then surely has their author, dutifully or not, added something to the beneficent contents of the storehouse of well-being. Impotent indeed is he who has neither the opportunity, the ability, nor the inclination to contribute anything for the betterment of those around him, nor to the advancement of a cause of which he is a part. Fortunately nothing in this world is made in vain; nothing is lost. And although the good that one does may live after him, his ashes and those of the worthless serve alike to fit the soil for, we hope, a fruit of higher development.

Let us briefly measure our time, as members of this Association, with that of those who made it possible for each of us to regard himself as a reputable member of an honorable profession. The sympathy that stimulated the first efforts of relief is far more potent to-day than during the midnight era of unrecorded time. The means of the attainment of knowledge are now prolific and ever increasing. The ignorance, the contention and the bigotry which dwarfed and suppressed advance in earlier time are now supplanted by established learning, by honest debate and by thoughtful appreciation. Are we fully cognizant of the bountiful age in which we are living; and are we doing our parts as individuals and as an organization in a manner best intended to meet the approbation of those whom we now serve and those who are to follow?

It may not be amiss if each of us pause occasionally in our life's labor and indulge in introspection, inquiring: Can I not add yet more than I am now doing to the medical armamentarium for promoting human comfort and longevity? Are the intellectual products of my opportunities amply dedicated to the services of general human relief, or are they too often perverted to the advantages of individual gain? In other words, am I practising medicine as a consistent member of an honorable profession, or as a thrifty agent exploiting a business proposition? Is the sympathy which gave birth to my profession as keen and unselfish in my enlightened breast as in the breast of the pagan of the earlier time? Meditations of this character are healthy, mental exercises, and will beget promptings which, if heeded, will increase self-respect and exalt the profession of our choice. Those of us who for any reason are unable to contribute to the store of knowledge should be earnest in the determination to meet the demands of duty along other channels of human requirements, cheering ourselves with the thought that,

> Knowledge is the hill that few may hope to climb.
> Duty is the path that all may tread.

Aloes in Varicose Ulcers.

After the ulcer has been freed from pus by sublimate, horizontal position and elastic compression it has been Collin's experience (*Journ. des Mal. Cut.*, August, 1899) that lightly moistening the surface with tincture of aloes will heal it up rapidly.

Original Articles.

SURGICAL TREATMENT OF PERFORATION OF THE BOWEL IN TYPHOID FEVER.*

WITH A TABLE OF 158 CASES.

BY W. W. KEEN, M.D., LL.D.

PHILADELPHIA.

In the brief limits allowed to this paper, among so many others, it is impossible to discuss more than the treatment of perforation of the bowel in typhoid fever. The diagnosis of this serious complication, which is equally, if not more, important, must, unfortunately, be omitted. What I have to say may, perhaps, be best stated in answer to four questions.

1. *Shall we operate at all?* This question can now be answered absolutely in the affirmative. Thirteen years ago, when Prof. James C. Wilson and I first discussed the advisability of operation in a case of apparent typhoid perforation, not a single case had been operated on in America, and only one in Europe, by Mikulicz, and of this we were ignorant. Then, the question was debatable; now, experience has given us a positive solution.

In my book on the "Surgical Complications and Sequels of Typhoid Fever," published early in 1898, I published a table by Dr. Thompson S. Westcott, in which he collected for me 83 cases of operation, of which 67 died and 16 recovered, a recovery rate of 19.3 per cent. Appended to this paper is a continuation of that table up to the present time, compiled by Dr. Martin B. Tinker, containing 75 additional cases, of which 54 died and 21 recovered[1], a recovery rate of 28 per cent., a gain over the rate of the first 83 cases of over 40 per cent. The recovery rate of the entire 158 cases is 23.41 per cent. The list includes cases operated on many hours and often many days after perforation presumably took place. If all physicians were alive to the fact that the healing process after operation during typhoid progresses just as well as if there were no typhoid and were alive to the good results of operation, and especially if they called the surgeon promptly, I do not doubt in the least that the recovery rate would be 30 per cent., or possibly even one in three. Twenty-eight per cent. is within hailing distance. In somber contrast to this is the estimate of Murchison, that the recovery rate in unoperated cases is only 5 per cent., and Fitz states that 83.4 per cent. die within the first week, 37.3 per cent. even within the first day.

The papers of Cushing and Finney and my book in America, and the papers of Platt, of Monod and Vanverts, and of Gesselewitsch and Wanach in Great Britain, France and Russia, respectively, have, evidently, borne good fruit.[2] From 1884, when the first operation was done, to January, 1898, 14 years, only 83 cases were reported. Two years have added 75—158 in all. Of the whole number, 97 are reported by American surgeons—including Canada—21 by British and 15 by Russian surgeons.

2. *In what cases shall we operate?* To this I would

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*Read in the discussion on Typhoid Fever, at the meeting of the N. Y. State Medical Association, held in New York City, Oct. 25-26, 1899. A number of cases have been added since the paper was read.

[1] I count Case 95 as an operative recovery. Possibly Case 154, which survived nine days, might be so classed, but to be on the safe side I classed it as a death.

[2] References to these papers will be found in the table of cases. I must express my obligations to Dr. Finney for advance sheets of a paper on the same subject, soon to appear in the Johns Hopkins Hospital Reports, vol. viii.

answer, practically every case of perforation, unless the condition is such that recovery is evidently hopeless. The better the general condition, the better the prospect of cure, and perforation occurs quite as often in mild cases as in severe, and possibly even more frequently. One case was operated on twice (87) with a fatal result; one case (90) three times, and yet recovered. The operation has been followed, as is possible after any abdominal section, by intestinal obstruction. Cushing's case (90) and Finney's (107) were operated on for such a post-operative obstruction, and both recovered. C. B. Porter's patient (132) died of an unrelieved obstruction; possibly a second operation might have averted death. Finney's remarkable one (68) of seven later complications, yet happily resulting in recovery, encourages us never to despair.

No *age* is a barrier, yet, as the subjoined table—derived from the entire series of 158 cases—shows, age apparently has considerable influence on the recovery rate:

TABLE OF RECOVERIES AND DEATHS WITH REFERENCE TO AGE.

Age.	Recovered.	Died.	Recovery Per cent.
Under 15	7	6	53.84
15 to 25	4	39	9.30
26 to 35	10	33	23.26
Over 35	6	14	30

This shows that from 15 to 25 is the most unfavorable time to operate, while the most favorable are over 35, and especially under 15.

Again, *sex* seems to have considerable influence on the mortality rate, so far as can be judged from 158 cases. In my table the sex is mentioned in 125 cases, of which 106 were males and 19 females—84.8 per cent. of males. This preponderance of males would be even greater were military and naval surgeons alive to the possibilities of saving life in this perilous condition. I have been informed of a considerable number of such cases dying without operation during our late war with Spain. Of the males 85 died and 21 recovered, a recovery rate of 18.1; 11 females died and 8 recovered, a recovery rate of 42.1 per cent. In other words, while the number of operations in males has been over five times as many as in females, the recovery rate of females has been over twice that of males.

Again, I have analyzed the recovery rate in the various *weeks of the disease*. The third week gives, as is well known, the largest number of cases of perforation, the second following close upon it. As is seen by the subjoined table, the mortality rate of these two weeks is by far the worst, yet even these two weeks yield a recovery rate of over 16 per cent., more than three times that of unoperated cases, and in the fourth week this recovery rate is doubled.

TABLE OF RECOVERIES AND DEATHS WITH REFERENCE TO THE WEEK OF THE FEVER.

	Recovered.	Died.	Recovery per cent.
First week	2	1	
Second week	5	22	18.57
Third week	8	42	16
Fourth week	4	8	33.3
Fifth week	1	5	
Sixth week	4	2	
Seventh week	2	3	
Eighth week		1	
Ninth week		1	
Eleventh week	1		

The numbers in other weeks, not rated, are too small to make the percentages of value.

3. *When shall we operate?* Next to the first question, which I regard as settled, this is the most important to be considered. As exception has been taken, especially by Cushing and Taylor, to my views as set forth in my book, I may be permitted to quote precisely what I wrote: "First, the time of operation should be wisely chosen. The best time is not during the immediate primary shock which lasts during the first few hours. Happily, in fact, it is very rarely the case that operation can be done within several hours after perforation, since, the case being under the care of a physician, it requires time to obtain a consultation with the surgeon, and, when the diagnosis has been reached, still further time must elapse before suitable preparations for operation can be made. The table on page 227 [of my book] shows that the *second twelve hours after perforation, all things considered, has been the most favorable up to this time.* Abbe well says that it is essential that 'the surgeon should never be so hasty in getting at his work that he enters upon it handicapped by poor assistants, poor light, poor arrangements for irrigation and sponging, or inadequate plans for restoration from shock.' *The earlier the moment at which the operation can be done after the immediate shock of the perforation, provided, of course, there has been any, as is sometimes not the case, the better it will be for the patient. Every hour then counts, since the infection of the peritoneum becomes more diffuse and more intense*[3]."

Looking carefully at what I said, it is hardly just, it seems to me, for Cushing to say: "it is hard to understand Dr. Keen's advocating delay until symptoms of shock have passed away and *his preference of the second twelve hours* for operating, when one appreciates that extravasation, perhaps of virulent organisms, is with all probability continually taking place while we are waiting." Taylor says: "I believe, to be successful, the abdomen should be opened at the earliest possible moment after the diagnosis is made and that no delay whatever should be permitted for reaction, or, indeed, for any purpose whatever," and again, "I do not believe it wise to wait for reaction, as Dr. Keen suggests, for the shock and lowered temperature is due to the large amount of septic material in the abdominal cavity and to the resulting purulent peritonitis, and not to the shock of perforation of the bowel. The fact that the greatest number of recoveries occurred when the operations have been performed within the second twelve hours only carries out this contention. They are, as a rule, the cases where the perforation is small and the onset of the peritonitis slow."

I think that what I wrote may be fairly summarized in two rules: 1, operation should be done as soon as possible after perforation; 2, but no prudent surgeon would operate in perforation any more than in any other condition during profound shock. I did not state that I "*preferred* the second twelve hours," but only that "*all things considered*, this has been the most favorable *up to this time*."

Let us appeal again to the facts. In the subjoined table I have made a more minute analysis of the influence of the time of operation on the rate of recovery than in my book, and, on consulting it, we see that the recovery rate in the first four hours is 25 per cent.; from four to eight hours, 8.33 per cent.; and for all cases operated on within the first eight hours the average is 15 per cent. In the third four hours, from eight to twelve, the recovery rate is 25 per cent., which is still below the recovery rate of operations done from eight to twenty-

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[3] The italics are used here to call attention to my position.

TABLE OF 158 CASES OF OPERATION FOR PERFORATION IN TYPHOID FEVER, PREPARED BY DR. MARTIN B. TINKER.[5]

No.	Operator and reference.	Sex and age.	Location and character of lesion.	Day of the disease.	Interval between perforation and operation.	Operation.	Result.	Remarks.
84	Abbe, R. Personal communication.	M. 29	Two perforations of ileum; one 8 in. from ileo-cecal valve, the other 14 in. from valve.	During 2nd week of a relapse.	7 hours.	Median celiotomy, abdominal cavity filled with greenish turbid extravasation and all small intestine injected, suture of openings, saline irrigation, glass drainage tube into pelvis. Upper opening in bowel reopened and stitched into wound with rubber tube draining it for relief of intestinal contents.	D	Patient a soldier from Cuba exhausted by long camp illness and hardships. Died 11 hours after operation.
85	Abbe, R. Personal communication.	M. 30	Perforation 1½ feet from ileo-cecal valve.	Typho-malarial fever for 8 wks.	12 hours.	Abdominal cavity fouled by intestinal contents and general peritonitis, suture of perforation, irrigation; drainage from pelvis by glass tube and gauze.	D after 3½ days	Patient a soldier from Cuba exhausted before operation. Died 3½ days after operation.
86	Anderson, A. R. Handford & Anderson, Brit. M. J., 1898, ii, 220.	M. 27	Within 3 feet of cecum; hole size of a bean.	Probably 33d day.	22½ hours.	Incision 4 inches long below umbilicus in median line; gas and feculent matter escaped; intestines congested and covered with lymph, perforation closed with silk Lembert sutures; intestine pulled out loop by loop and wiped with sponges saturated in biniodid sol. 1:2000; abdomen closed without drainage.	R	Renal complications delayed recovery. Wound healed several weeks at time of report.
87	Beach, FitzA. Beach, Boston Med. and Surg. Jour., 1898, cxxxix, 389.	M. 15	Short distance from cecum.	During 3d week.		Incision 8 inches in median line, escape of gas and fecal fluid; flakes of fibrin on intestines; feces pouring from ulcer which was closed by Lembert sutures at right angles to axis of intestine; flushing with hot boiled water; hot salt solution left in abdomen, which was closed without drainage; operation lasted 30 minutes; 8 days later reopened wound, evacuated pint of fecal fluid coming from ulcer near cecum; closed perforation with Lembert sutures, flushed with hot water; gauze drainage.	D	Condition fair after first operation, then several bloody stools, stitch abscesses. At 2nd operation former suture found in good condition, gradually failed and died same afternoon. Necropsy showed large necrotic area in cecum, many ulcers lower 3 feet of ileum.
88	Beckett, W. W. So. California Prac., 1899, xiv, 111.	F. 22	Loop of small intestine in Douglas cul-de-sac; opening small.	22d day.	24 hours.	Abdominal cavity distended with gas; general peritonitis; perforation closed with Lembert sutures; flushing with normal salt solution; gauze drainage.	D	Death from general peritonitis 24 hours after the operation.
89	Bigger, E. C., and Campbell, R. Brit. Med. Jour., 1899, i, 89.	M. 36	Two feet from cecum, ½ inch from mesenteric attachment; about size of a pea.	About first of 3d week.	10½ hours.	On opening abdomen gas and yellowish fluid escaped; intestines injected and covered with patches of lymph; perforation closed with 2 rows Lembert sutures; coils of intestine and pelvis sponged clean; irrigation with boiled water; glass drainage tube from lower part of abdomen.	D	Died during 4th day after operation.
90	Cushing, H. W. Johns Hopkins Bull., 1898, ix, 267.	M. 9	Two operations; first, perforation about 2 mm. in diameter; about 25 cm. from cecum in free surface of bowel; 2nd, perforation few cm. beyond first perforation; thinned Peyer's patches seen at first operation.	1st perforation end of 2nd week; 2nd perforation 14 days later.	4 hours.	1st operation. Median laparotomy below umbilicus; sero-purulent fluid in peritoneal cavity; serosa injected, particularly in right iliac fossa; fibrinous deposit in ileum; feces flowing from perforation, which was closed by circular suture, fine silk; irrigation with salt solution; gauze drainage. Second laparotomy 12 days later; no cause for symptoms of apparent perforation found; closure with drainage. Third laparotomy 2 days later for intestinal obstruction; no peritonitis; obstruction from kink in adherent omentum; second perforation at site of kink found and sutured with single purse-string suture of fine silk; gauze drainage. Operation lasted 20 minutes.	R	Patient rallied well after first operation but fecal fistula developed on 2nd day, discharged for few days. After 2nd operation condition not materially affected. After 3d operation distention, peristaltic cramps, serious condition; typical typhoidal condition for 10 days, convalescence tedious, abscesses over back and shoulders incised, broke down and slow healing, but ultimate recovery.
91	Cushing, H. W. Johns Hopkins Bull., 1898, ix, 267.	M. 18	First loop of ileum 3 large ragged holes about 1.5 cm. in diameter.	Fifth week.	Probably 36 hours or more (personal).	Cocain anesthesia; incision through right linea semilunaris; rush of gas followed by escape of stinking fluid like pea soup stools; bowels bluish, distended, covered with lymph and fecal extravasation; suture of perforations with Halsted matress sutures; cleansing abdominal cavity and irrigation with salt solution; drainage of pelvis and at seat of suture.	D	Rallied somewhat under stimulants and salt infusion but died 4 hours later.
92	Cushing, H. W. Johns Hopkins Bull., 1898, ix, 267.	M. 31	About 10 cm. above cecum.	Fourth week after prolonged abdominal symptoms.	Possibly 24 hours (personal).	Incision through right rectus; escape of gas and sero-purulent fluid on opening abdomen; serosa injected, ileum distended and covered with fibrinous lymph; perforation and thin patch turned in with Halsted sutures; wiping, irrigating, drainage of pelvis and site of suture. Operation lasted 30 minutes.	D	Stood operation fairly well, but died 8 hours later, apparently of acute general toxemia.
93	Cushing, H. W. Personal.	M. 25	8 inches (20.4 cm.) above cecum.		5½ hours.	Perforation and two thin Peyer's patches inverted and sutured; operation under cocain anesthesia.	D	General peritonitis; death 3 days later second operation.
94	Cutler, E. G. & J. W. Eliot, Per. Med. Rec. 517, Mass. Hosp. Rec.[6]	M. 19	Ileum 4 feet above cecum.	Last of 2nd or beginning of 3d week.	4 hours.	On opening abdomen considerable slightly cloudy serous fluid in abdominal cavity; some serous flakes on intestines; gut folded longitudinally and sutured by two rows of Lembert sutures; small wick of gauze.	R	Relapse of fever 7th day after operation lasting about 16 days; good recovery; man now perfectly well.
95	Dalton. Med. Rev., St. Louis, 1898, xxxvii, 392. Proceedings of the St. Louis Med. Soc.	...	...	14th or 15th day.	...	...	R[5]	Urgent symptoms (collapse, pain, rapid pulse, etc.), disappeared after operation; patient had regular course of typhoid fever and died from the fever on 34th day. Necropsy showed wound nicely healed.
96	Dalton. Med. Rev., St. Louis, 1898, xxxvii, 392. Proceedings of the St. Louis Med. Soc.		2 perforations 6 or 8 inches above ileo-cecal valve and 2 feet above.			Perforation nearest ileo-cecal valve was closed; second perforation overlooked.	D	Died from shock; second perforation found at necropsy.

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[5] Cases 1 to 83 will be found in my book on "The Surgical Complications and Sequels of Typhoid Fever," Philadelphia, 1898. The following remarks as to cases in the additional table may be proper: No. 95 is marked as a recovery, as he recovered from the operation and died on the thirty-fourth day from the fever. Nos. 111, 113, 114, 115, 140, 141 and 143 are only of value as determining the recovery rate. Nos. 118, 153 and 155, though somewhat doubtful, are reasonably certain to have been cases of typhoid perforation.

[6] To be published in Boston Medical and Surgical Journal.

No.	Operator and reference.	Age and sex.	Location and character of ileum.	Day of the disease.	Interval between perforation and operation.	Operation.	Result.	Remarks.
97	Dalziel, T. K. Personal to Prof. Wm. Osler. Courtesy of Prof. J. M. T. Finney of Johns Hopkins University.				26 hours.	Median incision; irrigation of peritoneal cavity; parts gently dried; drainage.	D	In extremis at time of operation.
98	Dalziel, T. K. Personal to Prof. Wm. Osler. Courtesy of Prof. J. M. T. Finney of Johns Hopkins University.					Median incision; irrigation of peritoneal cavity; parts gently dried; drainage.	D	In extremis at time of operation.
99	Dalziel, T. K. Personal to Prof. Wm. Osler. Courtesy of Prof. J. M. T. Finney of Johns Hopkins University.	M. 24	3 perforations, in last 18 inches of bowel; general plastic effusion.	End of 2nd week.	16 hours.	Median incision; irrigation of peritoneal cavity; parts gently dried; drainage.	D	
100	Dalziel, T. K. Personal to Prof. Wm. Osler. Courtesy of Prof. J. M. T. Finney of Johns Hopkins University.	M. 16		End of 2nd week.	13 hours.	Median incision; irrigation of peritoneal cavity; parts gently dried; drainage.	D	Would probably have had a good chance but for hemorrhage the day after operation.
101	Dalziel, T. K. Personal to Prof. Wm. Osler. Courtesy of Prof. J. M. T. Finney of Johns Hopkins University.				36 hours.	Median incision; irrigation of peritoneal cavity; parts gently dried; drainage.	D	In extremis at time of operation.
102	Dalziel, T. K. Personal to Prof. Wm. Osler. Courtesy of Prof. J. M. T. Finney of Johns Hopkins University.	F. 1[illegible]		Probably in 4th week.	11 hours.	Median incision; irrigation of peritoneal cavity; parts gently dried; drainage.	R	Mild attack, condition good; day after operation felt well and complained of hunger; wound sound on 16th day, except where drainage tubes removed; general condition excellent.
103	Deaver, J. B. Transactions Col. Phys., Phila., 1898, 3 s., xx, 9.	M. 27	Not located.	About middle or end of second week.	Perforation took place after dinner. Operation next morning; probably 12-18 hrs.	Free gas and pus, on opening abdomen; appendix congested and removed; no attempt to locate perforation; thorough irrigation and drainage.	R	Second attack of typhoid; diagnosis confirmed by Widal reaction; first attack 10 yrs. before. Fever ran typical severe course; several hemorrhages; ulceration of appendix.
104	Deaver, H. C. Transactions Col. Phys., Phila., 1898, 3 s., xx, 9. Report by J. B. Deaver.	M. 36	Pin hole perforation in ileum.	In the 3rd week.	36 hours.	Pus found in peritoneal cavity.	D	Death during 3rd day after diagnosis of perforation.
105	Deaver, J. B. Annals of Surgery, Phila., 1898, xxviii, 1[illegible]4.	F. 23	7 inches from ileo-cecal valve, opposite mesentery.	21st day.	15½ hours.	Median incision; pus and gas escaped; perforation closed with silk sutures; flushing with sterile warm water; glass drainage tube inserted; operation lasted 17 minutes.	D	Died on 3rd day after operation; necropsy showed general peritonitis, many ulcers; sutures holding well, no other perforation.
106	Finney, J. M. T. Personal. To appear in Johns Hopkins Hospital Reports.	M. 12	About 2 feet (61 cm.) from ileo-cecal valve.	During 2nd or 3d week.	About 3 days.	Incision in right iliac region; escape of gas, pus, and fecal matter; intestines distended, covered with lymph, chocolate color; thorough irrigation with warm salt solution; perforation sutured.	D	Entered hospital in extremis. Death before recovery from anesthetic. Widal reaction; numerous ulcers, some nearly ready to perforate.
107	Finney, J. M. T. Personal. To appear in Johns Hopkins Hospital Reports.	M. 26	Ragged perforation about 4 mm. in diameter, about 50 cm. from ileo-cecal valve.	During 3rd week.	20 hours.	Right lateral 4 in. incision; escape of odorless sero-purulent fluid; intestines congested and distended; perforation closed with two rows mattress sutures; wiping with gauze and irrigation with salt solution; no drainage; operation lasted about 1 hour. Second operation for intestinal obstruction on 22d day.	R	Condition excellent after operation; stitch abscess; fecal fistula which closed spontaneously. At second operation fecal fistula reopened but after a week interrupted convalescence and perfect recovery.
108	Gray, F. D. N. Y. Med. Record, 1899, lv, [illegible], case ix.	M. 11	Lower part of ileum.	During 6th to 8th week of walking typhoid.	48 hours.	Incision over appendix; appendix entirely normal; fecal matter exuding from ulcer had produced intense general peritonitis; closed perforation with deep sutures and 2d row Lembert sutures; cleansed with hydrogen dioxid and normal salt solution; 3 gauze drains.	D	Rallied and lived 3 days; necropsy showed suture successful and numerous healed typhoid ulcers.
109	Hennert. Med. Rev. St. Louis, 1898, xxxv[illegible], [illegible]. Rep. by Lutz in Proc. of St. Louis Med. Soc.		Perforation in Meckel's diverticulum.			Closure of perforation and drainage.	D	
110	Jackson, Thos. W. N. Y. Med. Record, 1899, lvi, 519.	M. 29	In small intestine; ¼ inch in diameter.	Wk. after entering hosp. about end of 2d week.	About 3 days.	Incision over cecum; abscess in right inguinal region; foul, fecal-smelling fluid in abdominal cavity; adhesions between intestines; flushing with normal salt solution; gauze drainage; incision left open and packed.	D	Died in about an hour.

No.	Operator and reference.	Age & sex	Location and character of lesion.	Day of the disease.	Interval between perforation and operation.	Operation.	Result	Remarks.
111	Kropowski: Gesselewitsch, St. Petersb. Med. Woch., 1898, n. f. 15, xxiii, 23.		. . . .	.		. . . .	R	Gesselewitsch states that the case was reported to the Russian Medical Society.
112	Lund, F. B. Personal to Prof. J. M. T. Finney of Johns Hopkins Univ.	M. 38	Punched out perforation ¼ inch (6 mm.) in diameter, 8 inches (20.3 cm.) from ileo-cecal valve.	During 3rd week.	12 hours.	Incision in right iliac region; intestine injected, distended, covered with lymph flakes; abdominal cavity full of sero-purulent fluid; clotted blood and feces in pelvis; perforation closed with fine silk mattress sutures; thorough flushing with salt solution; drainage with glass tubes and gauze from pelvis, l. hypochondrium, subhepatic region; operation lasted 30 minutes.	D	Died from general peritonitis 48 hours later. No other perforations; ulcers and other lesions of enteric fever; perforation firmly closed.
113 114 115	Lutz. Med. Rev., St. Louis, 1898, xxxvii, 392. Proc. St. Louis Med. Soc.		. . . .	. .	.	Lutz stated in discussion reported in Proceedings of St. Louis Med. Soc. that he had operated 3 times for perforation occurring during typhoid fever.	R R D	2 recoveries; 1 death.
116	Margarucci. Bull. d. Societa, Lancisiana d. osp. di Roma, 1898, xviii, 319.	F. 50	In the ileum a short distance from the cecum.	Probably during 2nd wk. (about 10 d. after entering hospital)	16 hours.	Abdomen opened below the umbilicus; escape of yellowish fluid containing fibrinous flocculi; loops of small intestine much congested; about 30 c.c. of ileum thinned by ulceration was resected and joined by end-to-end anastomosis; thorough cleansing of abdominal cavity and irrigation; gauze drainage from the pelvis, lumbar fossæ and site of operation; operation lasted 50 minutes.	D	Patient rested quietly during night after operation; but died the middle of the next day.
117	Martin, E. University Med. Mag., 1899, xi, 502.	M. 12	Lower part of ileum, probably not far from the ileo-cecal valve.	About the latter part of 3rd wk.	33 hours.	Incision in linea alba below umbilicus; escape of pus on opening peritoneum; intestines glued together by fibrinous exudate; perforation sutured with catgut Lembert sutures; peritoneal cavity wiped with gauze sponges, flushed with saline solution, drained with glass tubes; pelvis drained with gauze; oper. lasted ½ hr	D	Partial recovery under hypodermoclysis and stimulating enemata; fecal vomiting recurred, death 16 hours after operation.
118	Martin, E. Univ. Med. Mag., 1899, xi, 502.	. .	Ileum.	. . . . . .	Perfor'n had probably existed several days.	Operation consisted in opening large abscess containing feces, pus and gas; exudate limited by plastic peritonitis.	R	Patient recovered with fecal fistula
119	Moore, J. E. Northwestern Lancet, 1898, xviii, 135.	F. 30	About 1½ feet above ileo-cecal valve near mesenteric attachment; opening had punched out appearance.	Third week.	4 to 6 hours.	Median incision; perforation found within 2 minutes and closed with fine silk Czerny-Lembert sutures; some time required to wash out abdomen, which was full of liquid feces, by large quantities of salt solution.	D	Death about 14 hours after operation.
120	Moynihan. Brit. M. J., 1899, i, 1097. Proceedings Leeds & W. Riding Med. Chir. Soc.	M. 16	. . . .	About last of 3rd or beginning of 4th week.	About 24 hours.	Median incision below umbilicus; escape of turbid fluid containing lymph flakes; intense peritonitis; perforation found at once and closed with three Halsted sutures; flushing with hot sterile salt solution; gauze drainage.	D	Survived 8 days, during which time violent vomiting and diarrhea.
121	Munro, J. C. Personal to Prof. J. M. T. Finney of Johns Hopkins Univ.	M. 30	In a loop of ileum.	During 4th week.	4 hours.	Right lateral incision: feces escaping from perforation, which was closed by 2 rows of sutures; irrigation with normal salt solution; drainage with gauze and glass tube; operation lasted 30 minutes.	D	Condition excellent until about 40 hours after operation, then sudden collapse, cyanosis, high pulse; death 8 hrs. later. Necropsy showed mild peritonitis; but nothing to account for sudden death.
122	Munro, John C. Reported by Burrell and Bottomley, Boston City Hosp. Rep. 1898, 126.	M. Adult.	Not found.	About the 11th day.	3 days.	Incision halfway between umbilicus and right ant. sup. spine; well walled-off cavity size of fist filled with pus opened; condition critical and impossible to search for perforation; drainage.	D	Death in 10 hours.
123	Netschaieff and Troianoff. Ietropicerousskoi Kirourgie, 1897, ii, 406, in Presse Medicale, 1898, May 18, 271.	M. 30	Ileum.	Had been in hospital 10 days.	. . . . . .	On opening abdomen, peritonitis with effusion found; fecal matter in abdominal cavity; perforated part of intestine resected.	D	
124	Netschaieff and Troianoff. Ietropicerousskoi Kirourgie, 1897, ii, 406, in Presse Medicale, 1898, May 18, 271.	M. 28	About 21 cm. above the ileo-cecal valve.	. . . .	About 17 hours.	Four cm. of intestine at seat of perforation resected; abdominal wall not sutured until 8 days after operation; until then wound packed with sterile gauze.	R	Complete recovery.
125	Pearson, A. E. Brit. M. J., 1899, i, 1097. Proc. Leeds & W. Riding Med. Chir.	M. 14	. . . .	16th day of disease.	9 days	Abdomen opened in left iliac region and about a pint of fecal-smelling pus evacuated; drainage tubes inserted.	R	Satisfactory progress for 11 days, then relapse lasting 2 weeks, followed by perfect recovery.
126	Pick, T. P. Report by Rolleston, Brit. M. J. 1898, i, 1328.	M. 21	Perforation of appendix near cecum.	. . . . .	. . . . . .	Appendix resected, stump invaginated into cecum, peritoneum washed out, tube left in for drainage.	D	Rallied temporarily, but died on 2d d. after operation, probably from grave constitutional symptoms; Widal reaction: had worked within 5 days of death.
127	Platt, J. E. Lancet, 1899 i, 505, and Brit. Med. Jour., 1899, i, 345.	M. 37	In a loop of ileum near pelvic brim; opposite mesenteric attachment; 1½ inches in length.	About 11th day.	About 22 hours.	Incision 4 inches long in right semilunar line; escape of gas and feculent fluid on opening peritoneum; opening inverted and sutured with continuous silk sutures; difficult to return intestines because of distention; irrigation with hot saline solution; drainage tube passed down toward pelvis; oper. lasted 50 min.	R	Convalescence complicated by relapse; after which rapid progress to recovery. Left hospital 64 days after operation

No.	Operator and reference.	Age and sex.	Location and character of lesion	Day of the Disease.	Interval between perforation and operation.	Operation.	Result	Remarks.
128	Platt, J. E. Lancet, 1899, i, 505, and Brit. Med. Jour., 1899, i, 345.	M. 17	Peforation of the ileum 9 in. from cecum.	About 27th day.	18 hours	Incision as in preceding case; gas and feces in abdomen; intestines much distended; perforation closed with difficulty with Lembert sutures because of cutting out; flushing with hot saline solution; drainage of pelvis; operation lasted 40 minutes	D	Rallied from operation, but died about 9 hours later; necropsy showed general peritonitis.
129	Platt, J. E. Lancet, 1899, i, 505, and Brit. Med. Jour., 1899, i, 345	M. 22	About 9 inches from ileo-cecal valve.	About 18th day.	19 hours.	Incision as above; gas and feculent fluid in adbomen; edges of opening inverted and Lembert sutures inserted; flushing with warm saline solution; drainage from pelvis; oper. lasted 45 min.	D	Died about 12 hours after operation; necropsy showed peritonitis limited to pelvis and right iliac region.
130	Platt, J. E. Personal.	M. 26	3½ inches from the ileo-cecal valve.	.	About 36 hours.	Incision in linea alba; peritoneum slightly inflamed but no free gas, feces or fluid found at time of operation. A short search revealed no evidence of perforation and abdomen closed.	D	Death 15 hours after operation. Necropsy: perforation in a coil of intestine in the pelvis; numerous adhesions limiting peritonitis chiefly to right side of pelvis
131	Platt, J. E. Personal.	M. 25	Perforation oval in shape, the long diameter being in the transverse direction of the gut.	.	About 96 hours.	Incision in linea alba; large amount of fecal matter in pelvis; one large perforation sutured; a second perforation in loop of bowel adherent to pelvis could not be closed because bound down by firm adhesions.	D	Death 7 hours after operation. Necropsy: General peritonitis; pus and feces in pelvis; numerous large sloughing ulcers in small intestine, extending upward 4 feet from cecum; appendix uninvolved; one ulcer at hepatic flexure; sutures firm.
132	Porter, C. B. Personal letter.	M. 19	Six inches (15.2 cm.) from cecum	14 days after first malaise.	11 hours.	Incision through right rectus; turbid serum in pelvis, no fecal matter; 2 or 3 places near perforation seemed about to perforate; adjacent intestinal coils covered with fibrin; perforation closed by double row Lembert sutures, transverse to long axis of bowel; serum wiped out with gauze sponges; 2 wicks of gauze to seat of suture.	D	Patient made good recovery from operation: some vomiting for two days after operation; on third day pulse became weak and rapid; temperature rose; fecal vomiting and death. Necropsy showed intestinal obstruction due to solid feces at site of suture; no peritonitis; would probably have recovered except for obstruction.
133	Porter, C. A. Personal letter	F. 35	Perforation with ragged edges ½ inch, 7 inches (17.8 cm.) from cecum.	About the 13th day.	5 hours (delayed by religious rites).	Incision through right rectus muscle; turbid fluid in pelvis and lower abdomen; perforated area excised and closed with Lembert sutures; another ulcer 4 inches from cecum about to perforate and a few sutures inserted; pelvis wiped; flushing with hydrogen dioxid and normal saline solution; gauze wick to line of suture; operation lasted 45 minutes.	D	After-operation condition poor; infusion normal saline solution; strychnia, etc., repeated twice in 12 hours; condition became worse, and death the next day. Necropsy showed general peritoneal cavity apparently normal; some injection in pelvis.
134	Powers, Chas. A. Personal letter	M. [illegible]	About 15 inches (38.1 cm.) from cecum.		18 hours.	Median incision; excision of edges of ulcer; suture of intestinal wound; peritonitis apparently limited to right side of abdomen; collapse prevented as thorough irrigation and cleansing as was desired; drainage to seat of suture.	D	Death 4 days later from general progressive peritonitis.
135	Price, J. Canada Lancet, 1897, xxx, 85	F. 26	Large ragged perforation in ileum.	Ill 2 wks. before admission to hos.	.	On opening abdomen general adhesions found in region of ileum and right groin; perforation trimmed and sutured; irrigation drainage with gauze and glass tube.	R	For 2 days after operation temperature high, pulse rapid and feeble.
136	Richards and Goodall. Med. supplement to Rep. Statistical Com., Metropolitan Asylums Bd., London, 1898	F. 8	Perforation ¼ inch (6 mm.) in diameter, 30 inches (75 cm.) from ileo-cecal valve.	End of 4th week.	12 hours.	Median incision; escape of turbid serum on opening peritoneum; intestines distended, ecchymosed, patches of lymph adherent; perforation closed by interrupted continuous suture; irrigation with warm water; drainage; operation lasted 1 hour.	D	Patient lived nearly 4 days. Necropsy showed general peritonitis and a second perforation caused by suture passing through adjoining ulcer.
137	Ryan, C. Australasian Med. Gaz. 1899, xviii, 54	M. 38	18 inches from cecum; about size of a pea; on free surface of bowel.	During 3d week.	6 hours.	On opening abdominal cavity escape of gas; small intestine distended and congested; covered with flakes of adherent lymph; offensive, turbid fluid with fecal odor in pelvis; ulcer closed by double row Lembert sutures; intestines washed and abdominal cavity and pelvis flushed with hot sterile water; abdomen closed without drainage.	D	During anesthesia vomited matter entered the air passages; death resulted from broncho pneumonia 36 hours after operation. Necropsy showed extensive areas of collapse in lungs; perforation firmly closed; no peritonitis.
138	Sapuppo, M. E. Bull. et mem. de la Soc. Anat., Paris, 1899, lxxiv, 443.	M. 23	In ileum 74 cm. above ileo-cecal valve, 3 mm. in diameter.	About the 8th day.	About 14 hours.	Incision in the right flank; on opening abdomen purulent, odorless fluid escaped; perforation readily found and sutured; irrigation with boiled water.	D	Death a few minutes after operation; necropsy confirmed diagnosis of typhoid, intestine deeply ulcerated but no other perforations.
139	Senn, N. Personal letter	M. 50		During 3rd week.	4 days.	Celiotomy; perforation and large intraperitoneal abscess found; perforation sutured.	D	Recovered from operation and did well fifth day; hemorrhage from another ulcer caused death.
140 141	Senn, N. Personal letter			. .	.	Operated for typhoid perforation in two cases.	R D	One recovery and one death.
142	Taylor, H. M. Va. Med. Semi-Monthly, iii, 1898-'99, 719	M.	About 12 inches above cecum, circular, punched-out opening.	3 days after fever from relapse of 10 days after fever of 6 weeks.	15 hours.	Incision over cecal region; sero-purulent fluid escaped on opening peritoneum; perforation readily found and closed with deep mattress and Lembert sutures; intestines wiped and thorough irrigation with hot saline solution; multiple gauze drainage; operation lasted 37 minutes.	R	Convalescence uneventful.
143	Taylor, H. M. Va. Med. Semi-Monthly, iii, 1898-'99, 719.	M.	. . . .	. . .	Several days.	. . . .	D	Lived but a few hours after operation.
144	Taylor, H. M. Maryland Med. Jour., 1899, xlii, 101.	M. Young adult.	Lower part of ileum, about 12 in. (30.5 cm.) from ileo-cecal valve; 2 perforations on free margin of bowel about 4 in. (10.2 cm.) apart.	Had been sick 6 wks.	About 4 hours.	Median incision; escape of bile-colored serum on opening peritoneum; perforation closed by deep and superficial sutures; wiping and prolonged irrigation of intestines; gauze drainage; operation lasted about 50 minutes.	D	Death about 9 hours after operation; thought to be due to acute suppression of urine. Patient had specific urethritis when taken with fever.

No.	Operator and reference.	Age and sex.	Location and character of lesion.	Day of the disease.	Interval between perforation and operation.	Operation.	Result.	Remarks.
145	Taylor, W. J. Therapeutic Gaz., June 15, 1899	M. 34	About 10 in from ileo-cecal valve. Size lead pencil.	About 18th day.	About 4 hours.	Celiotomy; ulcer invaginated and 2 rows fine silk sutures inserted; abdominal cavity washed with sterile salt solution; operation lasted 20 minutes.	D	Death before abdominal wall was sutured. Patient was in very low condition at time of operation.
146	Taylor, W. J. Therapeutic Gaz., June 15, 1899	M. 47	About 8 inches from cecum; pin-head opening.	24th day.	1½ hours.	Celiotomy; on opening peritoneal cavity gas and serous fluid escaped; marked general peritonitis; ulcer invaginated and 2 rows silk sutures inserted; abdomen flushed with normal salt solution; drainage introduced and wound closed.	D	Death in 24 hours from septic peritonitis.
147	Tiffany and Gamble Personal to Prof. J. M. T. Finney.	M. 26	Perforation 5 mm in diameter, edges sharply marked; 8 in (20 4 cm.) above ileo-cecal valve.	In 3d week.	36 hours.	Abdomen contained fluid but no feces seen; general peritonitis; perforation sutured; intestines and abdominal cavity wiped; abdominal wound left open, packed with gauze.	D	Condition very bad after operation, rallied somewhat, but died 12 hours later.
148	Thurston, E. O Hawkins and Thurston, Lancet 1899, ii, 1004	F 11	Perforation in anterior cecal wall, ½ inch in diameter, surrounded by indurated tissue.	41st day.	About 15 hours.	Median, 4-inch incision below umbilicus; on opening peritoneum escape of large amount of sero-purulent fluid with faint fecal odor; margin of perforation excised; closed by Lembert sutures; thorough irrigation of abdominal cavity with sterilized water, mopping with marine sponges especially pelvis and lumbar regions; drainage tubes from pelvis and right loin; gauze drain passed upward; operation lasted 25 minutes.	R	Day after operation condition good; escape of considerable purulent fluid for several days. On fifth day after operation right parotid bubo developed and abscess of buttock at site of injection of saline solution; 21st day, double otitis media; 24th day effusion into left knee; 60th day relapse lasting 14 days. Widal test positive; spleen enlarged. A year after illness patient fat and well.
149	Van Duyn, J. Personal.	M. 43	8 inches from cecum; size and outline of a small bean	19 days after confined to bed; ill several days before.	9 hours.	Median incision; on opening peritoneum escape of gas and thin yellow feces; lymph on intestines and mesentery in vicinity of perforation; closure of perforation with 2 rows of sutures; abdomen cleansed and closed without drainage.	D	Death 55 hours after operation from peritonitis.
150	Wanach R. Rep by Gosselewitsch M. St. Petersburger med. Woch., 1898, xxiii, n. f. 15, 21.	M. 24	Two perforations, 21 6 cm. and 44 6 cm. from cecum.	About end of 2d week.	18 hours.	Median incision from umbilicus to symphysis; escape of sero-purulent fluid on opening abdomen; peritoneum injected; fibrinous deposits on intestine; perforations closed with Czerny-Lembert suture; numerous antiseptic tampons inserted in all directions; wound left open.	D	Patient in very low condition after operation; stimulants and infusion of salt solution unavailing. Death 13 hours after operation, disease of very severe type, at necropsy very numerous intestinal ulcers, abscesses of spleen and mesenteric glands, ulcer of larynx, etc., were found.
151	Willard, De Forest. Annals of Surg., 1899, xxix, 503.	M.	4 in (10 2 cm.) above ileo-cecal valve; just large enough to admit grooved director.	15th day.	Between 5 and 6 hours.	Incision in right semilunar line; escape of ill smelling, greenish-yellow serum and feces; ileum greatly congested, several thin ulcerated areas; perforation closed by interrupted Lembert and second continuous sutures; irrigation with hot sterile water; large glass drainage tube inserted	D	Death almost immediately after operation.
152	v. Winiwarter. Rep. A. Polis, Ann. Soc. Med. Chir. de Liege, 1897, xxxvi, 266.	M. 18	3 perforations found in small intestine near cecum.	. . . .	About 2 days	Median incision; escape of sero-purulent fluid with feces; lymph flakes adherent and appearance of septic peritonitis; perforations sutured; operation hastily completed by tamponing abdominal cavity because of patient's bad condition.	D	Death 18 hours after operation, necropsy confirmed diagnosis of typhoid fever.
153	Wladisslew, C. W. Rep. by Gesselowitsch, St. Petersb med. Woch. 1898 xxiii, n. f. 15, 21.		. . . . . .	.	.	Perforation not found at operation, but fecal fistula developed a few days later.	R	Recovery
154	Woodward, S. B Boston Med. and Surg. Jour., 1898, cxxxix, 544.	M. 18	Small intestine; opposite mesentery; size of a pea.	About the end of 2d week.	About 9½ hours.	Median 3-inch incision; 6 inches of intestine thickened, red, coated with lymph; whitish fluid and feces in abdominal cavity; edges of perforation excised and closed with double row Lembert sutures; flushing with normal salt solution; suture without drainage.	D	Patient nearly moribund at operation, free stimulation, oxygen inhalation, elevated foot of bed, etc.; lived 9 days in typhoid state; no symptoms of peritonitis; wound gangrenous at time of death; abdominal cavity uninflamed except slightly in region of sutures.
155	Champlin, S. H. Personal com. "The Plexus," v. 5, 164.	M. 10	Perforation not found.	During 6th week.	3 days.	Incision; turbid fecal fluid; cavity entered, formed by firm peritoneal adhesions, left of median line, below McBurney's point; tube and gauze drainage.	R	Recovery; bacteriologic examination demonstrated, typhoid bacilli, colon bacilli and various monococci. Widal reaction positive.
156	Champlin, S. H. Personal com "The Plexus," v. 5, 164.	M. 22	Perforation of ileum, about 30 cm. from ileo-cecal valve	14th day.	. . .	Median incision; fecal fluid in abdominal cavity; intestines and omentum much inflamed; perforation closed by transverse continuous suture and omental graft stitched over; toilet of the peritoneum and drainage.	D	Reacted well, but was taken with vomiting and persistent cough, and died 3 days after operation. Necropsy showed suture unchanged, peritonitis limited to pelvis about perforation; hypostatic congestion of lungs; purulent infiltration right side chest and abdomen; Peyer's patches all thickened; Widal reaction positive. Bacteriologic examination showed muscles infiltrated with streptococci.
157	Champlin, S. H. Personal com. "The Plexus," v. 5, 164.	M.	Perforation 20 cm. from ileo-cecal valve.	At the end of 1 month.	. . .	Operative treatment as in preceding case.	D	In spite of free stimulation patient did not react and died 10 hours after operation
158	Saleeby, N. M. Philadelphia Medical Jour., 1899, iv, 270.	M.	Pin-hole perforation in thickened and inflamed Peyer's patch, 18 in. from ileo-cecal valve.	13th day.	About 24 hours.	Incision 3¾ in. along outer border of rectus abdominis below umbilicus; escape of straw-colored serous fluid; longitudinal infold of intestinal wall and continuous silk suture, reinforced by continuous catgut suture; 2 other thinned areas sutured; intestines wiped; gauze drainage from both iliac fossæ and from Douglas' pouch; operation lasted 1 hour.	R	Slight nausea and vomiting during first day after operation, but no pain nor tenderness; nutrient enemata and free stimulation; recovery from operation was uneventful. Fever lasted 25 days and relapse 16 days, but eventually perfect recovery.

four hours, which is 29.09 per cent.; or in the second twelve hours, which is 30.76 per cent.; after twenty-four hours the recovery rate falls to 13.63 per cent.

TABLE SHOWING RECOVERY RATE OF OPERATION ACCORDING TO THE NUMBER OF HOURS AFTER PERFORATION OCCURRED.[4]

	Died.	Recovered.	Percentage of recoveries.			
Under 4 hours	6	2	25	19.44	15	25.33
4 to 8 hours	11	1	8.33			
8 to 12 hours	12	4	25		29.09	
12 to 18 hours	17	8	32	30.76		
18 to 24 hours	10	4	28.57			
Over 24 hours	38	6	13.63			
Not given	27	12	30.74			
Total	121	37	23.41			

These figures, so far as the number of cases justify us in drawing a conclusion, certainly carry out the statement which I first made. It should be modified, however to read that during the first eight hours, the chances of recovery are only about one-half of that which obtains during the rest of the first twenty-four hours.

It is to be remembered that most of the operations done under four, or even eight, hours must have been in hospitals, for in a private case it is practically impossible to summon the physician and then the surgeon, make preparations and do the operation in so short a period after the perforation has occurred. Moreover, the patients operated on in hospitals have not only facilities which do not exist in any private house, even the best, but they would have the services of men on the hospital staffs, on the whole more skilled than many of those who operated on other cases, yet the mortality rate is almost twice as great in the first eight hours as in the next sixteen.

I am convinced that this is due to shock. If there be no shock or it is only slight, no surgeon would allow the contents of the intestine to flow into the abdominal cavity for a moment longer than is possible, but if there be shock and, especially grave shock, I believe it to be the duty of the surgeon to wait for a reasonable time for at least a partial recovery from that serious condition. I can not agree with Taylor when he states that the shock is due to sepsis and not to the perforation. Thus Fitz states that of 80 cases, the onset of the symptoms was *sudden* in 56, while in 15 they were gradual or latent, and in 5 there were none. Finney says: "where marked symptoms of shock and collapse were present at the time of operation, the prognosis was distinctly influenced for the worse," and again, "the signs upon which most dependence is to be placed are sudden pain in the abdomen with symptoms of collapse accompanied by an abrupt fall in the temperature, it may be even several degrees." All that we know of shock, it seems to me, corroborates this view. How many of us have seen the serious shock produced by a finger pinched in a door, or other similar accident in which the element of sepsis can not possibly enter. Look at the records of perforation in gastric ulcer and see in how many such cases, similar to those of typhoid perforation, the patients fall down in collapse. It is the pain of the perforation and extravasation and not the sepsis which produces the initial shock. The first moment possible after this has subsided is the time to operate. Were it due to sepsis, then the initial shock should be slight and should steadily increase with the increasing sepsis; but as a matter of fact the initial shock is the greatest and is followed by more or less subsidence of shock.

Taylor's view that the shock is due to the size of the opening, and, therefore, to the rapidity of extravasation, while theoretically true, is scarcely substantiated by a reference to the tables. This point not having been in mind when the tables were made, the size of the opening is not noted in each individual case, but I find 54 cases in which the size is stated. I have tabulated those as "large" openings that were larger than a lead pencil (about a quarter of an inch) and as "small," of lead-pencil size or less. I find that in 25 cases with large or multiple openings, the deaths were 19 and the recoveries 6, a recovery rate of 24 per cent.; in 29 cases of small openings, the deaths were 20 and the recoveries 10, an operative recovery rate of 33 per cent., or 9 per cent. more.

It is possible that larger statistics by changing the facts will change my views to some extent, but I doubt if operations done during the presence of severe shock will ever prove as successful as those undertaken as quickly as possible after primary shock has passed away.

On the one side is the shock, on the other the increasing infection of the peritoneum. He will be the best surgeon, as he is the best sailor, who avoids both Scylla and Charybdis.

To avoid both of these dangers, if possible, Cushing has proposed to operate in what he terms the "preperforative" stage. Should it ever prove possible accurately to diagnosticate the preperforative stage, that, unquestionably, will be the most favorable time for operation. I quite agree with Finney in his belief that so far as operative technique is concerned—with the exception of one point to be alluded to a little farther on—we have probably progressed nearly as far as we ever shall. Our future increased success will depend far more on our accuracy of early diagnosis, and especially if it should prove possible accurately to diagnosticate an impending rather than an actual perforation. I would urge most strenuously, therefore, that, as in appendicitis, the surgeon should be called in at the earliest moment when any abdominal symptoms indicate possible perforation. Preparations can then be made beforehand and, should the symptoms call for it, an exploratory operation should be done after the fashion proposed by Finney. These, I think, are the two most distinct advances that we have made in the last two years in the treatment of typhoid perforation; viz., the possible diagnosis of an impending perforation, followed by immediate operation and exploratory operation under cocain.

4. *How shall we operate?* As already indicated, the most important recent advance in the technique is the use of cocain instead of a general anesthetic. This was first used by Cushing in two cases. In a personal letter to me he reinforces his suggestion and says: "I think local anesthesia is a great step in advance. I shall never use general narcosis again in typhoid." To this Finney adds the suggestion "that in any case in which the diagnosis is obscure and there is reason to suspect the existence of a perforation, a small incision be made under cocain anesthesia [illegible] and that cultures be taken from the abdominal cavity. . . . This exploratory incision would be followed by very little disturbance to the patient and very slight risk. If the presence of a septic peritonitis is determined, this incision can be enlarged and the operation for the relief of the perforation and peritonitis can at once be car-

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[4] Cases operated on "8" hours, "12" hours, etc., after perforation are included, respectively, under "4 to 8 hours," "8 to 12 hours," etc.

[illegible] Still more, if we can diagnose the preperforative stage and operate before shock and sepsis, we shall have made an important further step in advance.

A very brief summary will be sufficient to indicate the [illegible]. The incision would be best made in the right linea semilunaris, or through the rectus muscle. If such a general peritonitis be present that this will not reach, so thoroughly to cleanse the abdominal cavity, a second incision may be made in the left iliac fossa.

The perforation should be sought: 1, in the ileum; 2, in the adjacent cecum and appendix, and 3, in the sigmoid, where it occasionally occurs. One case of perforation in Meckel's diverticulum (109) has been reported. When found, the perforation should be sutured without paring the edges, which is both a loss of time and tissue, and also involves possible hemorrhage, to arrest which more time must be consumed. All of the thinned area should be included in the suture. The occasional wide extent of this area is well shown in Plate V in my book. The suture should not be continuous, but Halsted's mattress suture. If a second row of sutures is deemed necessary, this may be continuous, as it saves time. The amount of inversion of the bowel must not be such as seriously to impair the lumen of the gut. Should the perforation be very extensive, or should two or more adjacent perforations render it necessary, a resection and anastomosis of the bowel may be made. Of 7 cases of resection, 3 (31, 40 and 124) recovered. Should there be found other points of impending perforation, these should be sutured as a preventive measure. Some patients who apparently should have recovered have been lost by a later perforation; 2 died from subsequent hemorrhage (100, 139). In 5 the appendix was removed without a recovery.

The cleansing of the peritoneal cavity is one of the most important steps in the operation. Unless this is thoroughly carried out the operation will certainly prove futile. Whether it shall be done by flushing or wiping or both must be decided by each operator at the time.

Drainage in most cases will be necessary, but I quite agree with Finney that "many cases in which we have heretofore been accustomed to drain would recover more promptly without it. . . . If the inflammatory process has not been of too long standing and the peritoneal cavity can be at all satisfactorily cleansed, it will be better to fill the cavity with salt solution and close the wound." Of seven cases not drained, two recovered.

Speed in operation is an important factor in recovery, as would naturally be supposed in cases which are so unfavorable in consequence of the existing fever and its concomitant exhaustion. Only one case (107) in which the operation lasted an hour or over was followed by recovery. A number have been done in from seventeen to thirty minutes. On the other hand, in our anxiety to complete the operation quickly, we must never sacrifice thoroughness, both of closure of the perforation and of cleansing the peritoneal cavity.

One criticism by Cushing, of a statement in my book, I feel is just. I said: "I can scarcely think that we would ever be justified in reopening the abdomen. . . . Possibly a very exceptional case might justify such a procedure, but a typhoid patient rarely escapes with his life even after one operation and could not be expected to survive a second. The same remark would apply to any new perforation which might occur. Such cases must, unfortunately, be left to their fate." The experience in Cushing's first case in which three operations were done and yet recovery followed, and the extraordinary vitality exhibited in Finney's third case "who, subsequent to the operation, suffered two relapses, one of great severity, a suppurating otitis media, a left sided pleurisy, a right sided femoral phlebitis, a severe neuritis of both legs and the painful toes so common after the cold bath treatment," and his fifth case, "who, on the twenty-second day was again operated upon for relief from obstruction of the bowels," show that we ought never to despair of any case.

CONCLUSION.

My views on the operative treatment of typhoid perforation may be summarized, therefore, as follows:

1. The surgeon should be called in consultation the moment that any abdominal symptoms indicative of possible perforation are observed.

2. If it be possible to determine the existence of the preperforative stage, exploratory operation should be done under cocain anesthesia before perforation, shock and sepsis have occurred.

3. After perforation has occurred, operation should be done at the earliest possible moment, provided:

4. That we wait till the primary shock, if any be present, has subsided.

5. In a case of suspected, but doubtful perforation, a small exploratory opening should be made under cocain to determine the existence of a perforation, and if hospital facilities for a blood count and for immediate bacteriologic observation exist, their aid should be invoked.

6. The operation should be done quickly, but thoroughly and in accordance with the technique already indicated.

7. The profession at large must be aroused to the possibility of a cure in nearly, if not quite, one-third of the cases of perforation, provided speedy surgical aid is invoked.

THE PHYSICIAN IN HAWAII.

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LOS ANGELES, CAL.

As disease and death have prevailed among all people, from the earliest period, so physicians have always been a necessary evil. Since the day Adam got rheumatism cooling off too quickly after his day's work, and Eve became subject to nervous headaches, worrying over the meals and the children, the doctors have been with us, and, unless they meet with better success in discovering "elixirs" in the future than they have in the past, bid fair to stay by us forever. The Indian medicine-man was a unique character, and a person of some prominence among his tribesmen. Like the average practitioner in some little town, he could afford to dress better than his fellows. So in Africa, and every other country, the doctor is a distinguished individual, because from the very nature of his subject, no one except another doctor can say that he doesn't know a great deal about medicine.

In those early ages physicians acquired that wise, masterful look, and the silent tongue, which have remained with them to this day. The Asiatic patient extended his hand to the living X-ray, who took his pulse, and thereby gazed through his anatomy, viewing his beating heart, enlarged liver and other delinquencies, as clearly as if they lay on the table at his touch. The modern patient comes to the physician in much the same way, expecting him, by some unexplained, supernatural method, to see through his tongue into his stomach; to be able to count the microbes as they frolic in his lung tissue; and the smaller the doctor, the more he panders to this false reverence. The Hawaiians had physicians, and plenty of them. They were called *kahunas,* and belonged to about a dozen different schools. At this time it was very generally believed by the Hawaiians that all diseases were directly brought about by evil spirits. No doubt some of them were. They also thought that the *kahunas,* who professed to be able to communicate with the gods concerned in any particular case, were the ones to propitiate these gods. This was good reasoning based on false premises. With the same notion people often go to the quack, believing, because he says so, that he can propitiate the 501 different organisms working their destruction. If a chief became very sick. offerings were made in the temples, and sometimes human sacrifices. In ordinary cases the *kahuna* was called in, and he forthwith set about to concilitate the god whose feelings had been hurt. Professor Alexander says that "certain vegetable remedies were used, but their efficacy depended entirely upon the good will of the spirits."

ROYAL PALM AVENUE TO QUEEN'S HOSPITAL, HONOLULU.

This school, called *kahuna lapaau,* corresponds to one of our latter-day systems, the efficacy of whose remedies depends entirely on the amount of faith the patient is able to place in them. I knew a child that ate at one sitting a bottleful of aconite pills. As the child could exercise no faith, one way or the other, the medicine didn't give it even indigestion. With faith not too much triturated, the child might have died of collapse. This is why the system is so popular among mothers. They know by experience that their faith and the doctor's pills will work wonders, but that pills alone, no matter how many or of what sort, may be eaten with impunity. They have never tried faith alone, or they would dispense with the pills. The *kahuna,* like the modern doctor, was something of a hand at prognosis. That is, he could foretell certain approaching events. I knew a doctor who, about twenty minutes before the death of his patient, would take out his watch, turn to the sorrowing friends, and say, "He can not live over an hour." The Hawaiians went by omens, however. If a patient had a "bilious" attack they often put him on a pile of hot stones, covered with wet leaves, and left him there, enveloped in layers of *kapa.* Under the influence of the combined action of damp climate and lithic heat the man perspired, after which he was dipped into salt water—into the sea—where he cooled off. If he did not improve, he was fed with baked squid. If the man still failed to get better, the doctor did not give up. He asked for a consultation, calling in a medium that had "familiar spirits;" a man who knew a spirit that was able to expel the one that was causing the trouble. There were *kahunas* who employed departed spirits, others who acted under the influence of a "wind," or spirit, and indulged in tricks similar to table-rapping. There were the *kahunas* who, instead of helping people out of sickness prayed them to death by various methods. Actuated through motives of revenge or gain, the *kahuna* selected his victim, then secured some of his personal property, like a bit of finger-nail, or some hair, and began a series of offerings and incantations. It is suspected by those who know, that a little poison came in opportunely. Very likely, and, acting on such emotional, superstitious people as the Hawaiians are, it is easy to understand how the consciousness of a powerful, malevolent, unpersonated design on their lives might finally cause death. Appetite and digestion would become impaired, the secretions disturbed, sleep lost, functional troubles ensue, followed by a nervous breakdown. We have seen the same picture in America, the patient imagining that he is afflicted with some fatal disease. Kahunaism is practiced by the Hawaiians to-day, but to a lessening extent, and largely under cover. Yet it places, in the foreign physician's way, the greatest obstacle to successful work among the natives, and is the cause of much suffering and many deaths. Occasionally a death occurring as a result of malpractice will come to public notice, and the *kahuna* be imprisoned or fined for the offense. While this protects society somewhat, and has a good moral effect, it can not remove the superstition. Only education can do that. Many a broken arm or leg is taken to the *kahuna,* who bandages it up with *koali,* the convolvulus vine common all about. In this way the saddest kinds of deformities result. Very often, indeed, the carefully applied splints and bandages will be taken off the instant the doctor rides away, and in their place *koali* applied. Every two years the government inquires of its physicians concerning kahunaism in their districts, and the following answer, copied from one of the late reports, corresponds to the larger number: "The practice of *kahunas* in this district is, I am confident, quietly carried on. The Hawaiians will not expose them, and investigation only elicits falsehoods and assertions of ignorance. Nearly every group has its family *kahuna,* and Honolulu furnishes the shrewd ones upon occasion. I have frequently met with the evidence of the presence of these mystery workers, and, in the circle about the sick bed, easily noted the one "with power; yet under no inducement will they give any knowledge of the proximity of any such." But their power is most certainly waning, as it must have begun to do the day Christian teachings took root. Superstition is the hardest of all evils to eradicate. It is not out of us yet, especially medical superstition, and, strange as the statement may appear, seems compatible with a fair degree of education. Read over the "testimonials" found in any patent medicine pamphlet, written by ministers, who consider themselves orthodox religiously. Count the number of deaths resulting from the practice of "Christian Science" in the most civilized country in the world. Go back to the little country town with its traveling dentist; its nostrum vendor, in the glare of his torchlight, handing out bottles of panacea at one dollar a bottle: its London or Berlin "specialists" lodged at the hotel, and its glib-tongued peddler selling electric belts and lead rings to teacher and tailor alike. When we consider all this, we must acknowledge that the Hawaiian, just emerged from his primitiveness, is grasping truths quite as fast as he can assimilate them. During his reign, Kalakaua, who was at heart inclined to the superstitions of his fathers, granted to *kahunas* the right to practice their machinations, much to the prejudice of respectable physicians, and to the cause of morality generally.

Fortunately for a people addicted to injurious customs, and living in a tropical country, whatever waves of sickness reached here came at rather long intervals, and were not so persistent as one might expect. In 1805, Kamehameha I.'s army was attacked with a disease known as *mai okuu,* literally, a sickness that makes one let go. It let a great many go, and was probably either cholera or the bubonic plague. According to a native writer, as many as 400 died during one day in one place. This lasted three months, and in all likelihood came from China. The next episode in this line was a rather short-lived epidemic of la grippe, followed in 1848-49 by measles, introduced from Mexico. The soil was new, and the disease took hold with alarming rapidity, proving, to the susceptible population, a malady of great fatality. In some districts there were not enough well persons to provide food for those who were ill. One-tenth of the people died. Also, on the heels of this scourge came whooping-cough, taking away most of the children under one year old, after which a general influenza prevailed, greatly enervating the most of the convalescent population. In May, 1853, smallpox arrived from the Coast. The Board of Health took active measures to check its spread, and thought they had, but in July it broke out afresh. Of 6405 persons who had it, 2485 died, costing the government $30,000. Since 1850 the population has decreased by 11,027 persons. This same disease was introduced in 1871 by some whalers, and again in 1872, but the authorities were able to check both epidemics. The last smallpox epidemic occurred in 1881, having been brought from China, and 282 persons died. As a result of these periods of disaster, the legislature passed a law making vaccination compulsory. This is effectually carried out by the government physicians, who are required to visit the schools each year. Annually, in his district, each physician vaccinates all those who can not show the desired scar. The law reads: "Parents and guardians are required to take their children to the vaccinating officer within six months after their birth."

The most recent scare Honolulu has had was that of 1895, when cholera was introduced by the *Belgic,* from Yokahama. She had on board 500 steerage passengers, three of whom died on the way out; she was twelve days making the trip. When the ship entered Honolulu harbor, August 9, one passenger was found suffering with cholera. He died next day. The immigrants were placed on the quarantine island, and steps taken by the Board of Health to prevent dissemination of the disease. The city was divided into ten sanitary districts, each being inspected by a physician. The water-supply was at once attended to, squads of men were set to work cleaning yards and streets, the use of fish and the assembling of crowds were forbidden, fumigation and disinfection rigorously carried on, a cholera hospital was established, and a bulletin issued twice daily. A house-to-house canvass was made, and premises thoroughly cleaned. Travelers and freight from island to island required a special permit, while several of the foreign steamships refused to carry Hawaiian mails. In thirty days the epidemic was at an end, having cost $61,697.55, and sixty-five deaths. Great credit is due the Board of Health for the methods it employed, and for the energy with which it employed them, stamping out, in so short a time, such a formidable disease. W. O. Smith, president of the Board of Health, is a "missionary," whose efficient efforts at that time saved a good many of the "antis" from going where they pre-eminently belonged.

The Hawaiian Board, which has been a safeguard to the country more times than one, was organized in 1850, with Dr. Rooke, Queen Emma's father, as president. Nine years after, Kamehameha IV and Queen Emma

Natives Preparing Paiai—Cooked Taro—the National Food.

founded the Queen's Hospital, canvassing the Honolulu people for subscriptions. Later, generous endowments were left. Since then the Malulani Hospital, Maui; Cottage Hospital, Kaola, Kauai, and hospitals at Waimea, Kauai, and Hilo, have been established. These are provided with a physician, who is the medical superintendent; nurses, attendants, and all the necessary equipments of a dispensary. Here any sick natives may come and be cured free of charge. In these hospitals are found Caucasians, natives, Chinese, Portuguese, Japanese, Gilbert Islanders, negroes, and stray individuals from all countries, affected with almost every disease. The matron and nurses at the Malulani Hospital, one of the largest outside of Honolulu, are Franciscan Sisters, whose skilful care has the testimony of many a discharged patient. The Board of Health employs some twenty-six physicians, called "government physicians," who preside over the hospitals, asylums, jails, leper asylum, leper-receiving station, and the various districts of the islands, receiving from $720 to $2100 a year. This

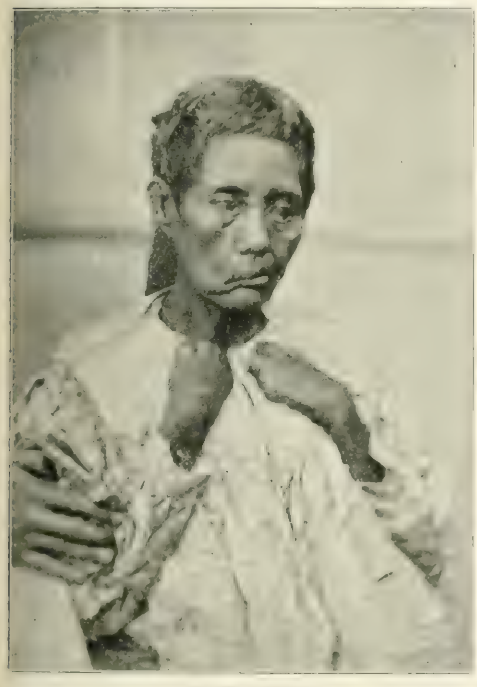
Native Homes.

is given as a sort of bonus to provide the residents of the sparsely settled districts with private medical attention. The physician, besides treating all indigent persons, more particularly Hawaiians, without charge, examines leper suspects, who are sent to the receiving station at his order; inspects all schools in his district once each year, for "evidences of infectious and contagious diseases," vaccinating these, and furnishing the government with monthly, quarterly, biennial and hospital reports, in which are recorded the names of the patients treated, disease, number cured or benefited, and those who have died. Each school child must be given a certificate of examination and vaccination. Calls must be answered at any time, while the physician furnishes everything except medicine. Conscientiously held, the position is far from being a sinecure. But where work is duty it has its satisfactory side. At the ports, physicians have extra duties. In Honolulu the city physician dispenses drugs for a very large number of natives. Besides his salary, the government physician has whatever plantation work there may be in his district, for which he is paid a small stipend. For $600 a year he may have to attend to all the medical wants of 2000 or more creatures who are often sick. The plantations are obliged to provide medical attendance for their "shipped" labor, and many times the physician is called into court to testify that Mr. Number 862 is quite able to go to work; or that Mr. Number 900 has little the matter with him. If there be foreign residents in the district, they employ and pay the physician. It is the government's purpose to adjust the salaries of its physicians to the amount of labor they perform, and the revenue they derive from outside practice, and this is generally done. A large number of American doctors have applied for positions under the Board, but I can not see what satisfaction or benefit it would be to them to go there, unless they need the climatic change, or would derive satisfaction from the performance of this kind of missionary work. That is its greatest reward. Indeed, without this spirit, I doubt whether a man is qualified to enter the service. A man who is not a humanitarian will find the work disagreeable and unbearably irksome, because it is with members of a class that pays no attention to his directions; a class most unesthetic in every way, and one which, unless he be in a hospital, will give him no clinical satisfaction, as the course of the various diseases he treats can not be closely followed. It is, however, a good field for the study of skin diseases, particularly leprosy.

The natives are not able to get along without certain drugs, for which they call very often: *paakai* or Epsom salts; *hualo*, pills; and *aila*, castor-oil. The way they will swallow the latter, and pour it down the throats of their poor babies, is no less than amazing. A native will come into the reception room, and sit down; or not come in at all, but sit on the steps, or squat on the lawn in front of the house, and wait. He does not mind waiting, in the least. After a time he will cough, or grunt, and when you come out, say, touching the spot indicated, "pilikia." He is not a satisfactory patient, for he will evade a direct answer until you are ready to give up in despair. *Eha opu*, pain in the stomach; *eha kino*, pain in the body, etc., are all the history he will furnish. Sometimes he will prescribe for himself, asking for calomel or a special ointment, or his favorite "pain-killer," being very particular as to quantity, color consistence, and smell of the article given. A few days ago a native came for some oil, and would not go until he got a quart bottle full; a bottle that had not been opened. He wanted it for himself, his family and neighbor's family. He had come twenty miles for it, over sand dunes and lava beds; and he got it. Occasionally the doctor is called away to a native house, always in great haste, as the patient is reported to be on the eve of dissolution. Sometimes it is true, but oftener he has a slight ailment like toothache or rheumatism. The friends do not seem to be able to discriminate between the cases that require haste, and those which do not. If the doctor is to come, he might as well run. I went three miles one dark night to see a patient who had hurriedly summoned me by telephone. When I reached her, she was out in the yard talking to some neighbors. She received me, gave me a chair, then told me incidentally that she had felt a pain in her side for three months. If the patient has been sick for a long time, when he arrives, the doctor may find a dozen friends in the room, some of them weeping.

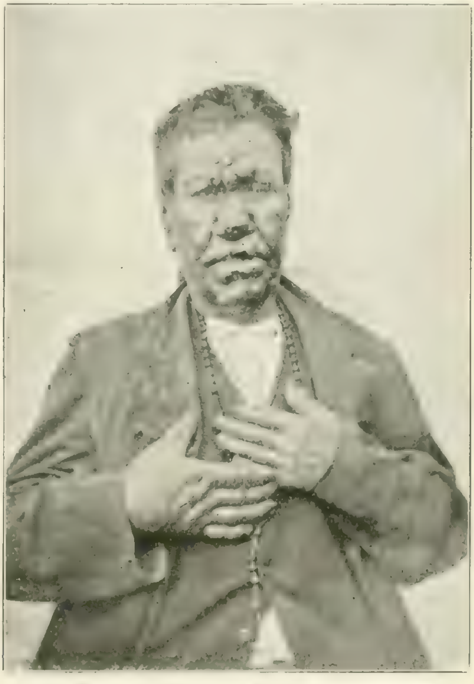
THE CHINESE CONSUL AND FAMILY.

When the patient has died, a well-attended funeral takes place, with several choice wailers; and then the house is vacated for a few weeks. It is the same if a death occurs in the hospital; nearly all the natives in the other wards will leave. For the same reason they object to autopsies being held on the bodies of those at their disposal. Their home remedies and methods of treating disease are much like those common to ignorant people the world over. *Lomilomi*, a scientific massage, is practiced by men and women alike, and is conducive to rest and comfort. After a long, weary tramp, or a horseback ride; after a fall, or when the muscles are sore and stiff from any cause, an hour or less of this friction, when every muscle is rubbed, and pressed, and squeezed, will make a new person of you, and send you to sleep. Jarvis writes: "However wearied he may be, fatigue soon leaves him, each muscle is kneaded, each joint cracked, and the whole corporation thumped, pounded and squeezed until every old ache and chafe is fairly driven out of it." They bind up sores with macerated herbs, burn out warts, bathe in the river for measles, make their sickrooms dark and close, and walk about just as long as they can. One day Dr. Smith, brother of the attorney-general, told me he had met a native with a dislocated right shoulder, and that he would try to persuade the man to let us do something for him. After a considerable time the doctor was successful, and we went down to the house. The man was the husband of a former governess, and when we reached the house, everyone was sitting out-of-doors, on the ground, bare-foot and happy. Placing the man under the influence of an anesthetic we worked for several hours, but could not correct the trouble. The accident had occurred a month or two previously, and shows the nature of a physician's duties in Hawaii.



NERVE LEPROSY.

I shall never forget the unselfish interest taken by Dr. Smith, whose life was at last sacrificed for the people whom his father, also a physician, came to uplift. Here as elsewhere, one must not be impatient of results. I was called to a native house one night to attend the birth of a child. A rather pretty girl, not over 16 years of age, lying on a mat on the floor, proved to be the mother. A wrinkled old crone, with an unenviable *kahuna* record, sat near by. I ordered the girl placed on the bed, left some other directions, and promised to come back in the morning. When I returned I found the girl again on the mat, and no one within call. As I had quietly slipped in without knocking, I caught the girl with a letter in her hand. It was blotted with tears, which flowed down her cheeks, and her sobs filled the room. When my presence became known, she calmed down, and told me the whole story. She had been betrayed by a young white man of good family, who lived in Honolulu, and coming here to this little hut under the *kahuna's* care she had escaped the inquiries she dreaded. Her lover had promised to marry her after a time, but now that the baby was born, he had sent her money, and told her he could not marry her, as his parents objected on account of his youth. She didn't know what to do. My heart was strangely touched: "Come to my house," I said, "and we shall arrange the matter." That day she was placed in a room, where she had an uneventful convalescence. I wrote to her father and mother, relating the details, of which they knew nothing; wrote to the foolish boy, as I would want some one to write to my son if he ever went so far wrong, and then talked to her. She could not nurse the baby, so one of her aunts took the child. Natives are always ready to adopt other people's children, and loan their own. After she had entirely recovered we saw little of her, but she sought her own people. Later she left us, and in a week had married a half white who met her a few days before the event. She never came near us again, and the only time I saw her was when she called me to see her sick baby, which she had taken back. She had nothing to say about the past, and I forbore saying anything, but I thought to myself that my effort at reforming native girls was rather a failure.



TUBERCULAR LEPROSY.

The government physician's patients are the foreign residents, the half white, a few independent natives, Portuguese and scattering Asiatics, in his district, which may include, like my own does, some 6000 or 7000 persons. By far the larger number of Portuguese, Chinese and Japanese patients are laborers on the sugar plantations. These are distributed among collections of houses, or "camps," numbered for convenience, and furnished with a cook-house at which the men get their meals. Generally the races are separated. The houses are rough board dwellings, white-washed, and partitioned off, with fifteen or sixteen bunks, one above the other, in each apartment. Although the overseers endeavor to have these quarters kept clean, they can not well do it so long as the tenements are held by such a people. The floors are never swept; refuse and a mass of vegetable matter pickled in tubs by Japanese add their smells to the rest, and make the place one from which the physician is glad to escape early. But he must make his "rounds" one or twice a week, attended by a police officer, a Chinese and a Japanese interpreter, visiting all the sick, and prescribing for them; sending the "shammers" to work. It is very difficult to get the Chinese to take your medicine. They have no faith in it, and the custom is to see that each patient takes a dose before the doctor goes. A Chinese sick man may generally be recognized by the congested patches of skin about his neck and back, pinched red for counter-irritation, I suppose. The Japanese cut one or more small patches of hair from the heads and shave the spot, wearing a red blanket over their shoulders to distinguish them. Both apply a peculiar reddish ointment to cuts and sores.

THE PRESENT STATUS OF SURGICAL TUBERCULOSIS.*

A REPORT OF THREE CASES, WITH EXHIBITION OF PATHOLOGIC SPECIMENS.

BY RALPH ELMERGREEN, M.D.
MILWAUKEE, WIS.

The promises of science relative to the causal treatment of tuberculosis have so far remained unfulfilled. The German scientific minds, once carried away by the wildest millennial dreams, now stand humbled on the threshold of great discoveries and bow to defeat. But defeat is godsend here, for it is the only path which can lead to revolutionary discoveries in science.

Koch reasoned well, and with that indomitable will so characteristic of our Teuton colleagues, he followed up his reasoning in the laboratory with an indefatigable energy that still baffles our greatest bacteriologists. A glycerite of dead tubercle bacilli was his reward. Whence came defeat?

The question suggests the answer. If by flawless reasoning and logical deduction we arrive at error, it is time to suspect our premises.

Every exact science calls for a working hypothesis universal in application and immutable as time. Without such a hypothesis there can be no material progress. To illustrate: The atomic theory rescued chemistry from empiricism, mysticism, fraud and death, and placed it on a pedestal that made the discovery of the X-ray possible. Kepler's laws brought forth system from chaos, and reduced astronomy to an exact science. What working hypothesis is responsible for tuberculin and serum-therapy? The laws of immunity. What are these laws? We do not know.

Once establish a working hypothesis, universal in application, bearing on immunity, and your vague ideas of toxins, toxalbumins, antitoxins, etc., will resolve themselves into simple corollaries, and progress will be possible.

The germ theory is the hypothesis governing all infective and infectious diseases. The theory appeals to every sane mind; it is demonstrable and as universal in its application as the Newtonian theory, and while the latter can only be demonstrated by results, the germ theory admits of rational demonstration. I accept this theory in its naked entirety, without any reservation whatever, as the hypothesis of infective and infectious diseases in general, and of tuberculosis in particular. The doubts raised by speculative theorists as to the causal correlation of germs, germ products, and disease, meet with my unqualified disapproval. But I see error, failure and disaster in the utilization of the germ theory as the hypothesis of scientific treatment. The hypothesis governing disease can *not* serve as the hypothesis of rational and scientific cure. Knowing the toxins, it does not naturally follow that the exhibition of the antitoxins is scientific treatment. The mutual relationship of toxins to antitoxins, or germs to "devirginized" pabulum, is not that of mineral or vegetable poison to mineral or vegetable antidote. Hence I repeat it, it is time we look to our premises and cease groping in the dark for want of a hypothesis. In 1882 Robert Koch discovered the tubercle bacillus. Have we multiplied our talents by one iota since?

The diffidence with which I approach my convictions and essay the great scientific truth of the absolute necessity of a hypothesis of immunity is born of a deference to my superiors and not of any misgivings I may hold as to my position.

A scientific hypothesis, literally and abstractly correct, compassing the chaotic and apparently contradictory phases of immunity as demonstrated by the accumulated data covering a period of more than seventeen years, still remains the unsolved problem of science. Who will solve it? We have the falling apple; where is the Newton?

It is not absolutely necessary that this causal theory be rationally demonstrable, but it is necessary that the universality of such theory should be shown by results.

With these restrictions as our basis, we can not accept the exhaustion theory, nor the antidotal theory, nor even the tolerance theory, as a safe hypothesis of immunity, but in the absence of a scientific theory, we, as logical and scientific reasoners, are constrained to shelve the legion products of German minds and discourage their methods.

What then is the present status of the treatment of surgical tuberculosis? We have no treatment consequent on Koch's discovery, and our only resources are preventive medicine and the knife. Posterity will chiefly profit by the former, for it takes half a lifetime to teach the laity a simple truth, while we must make the best of the latter supplemented by the restorative and hygienic measures of our fathers.

Under my heading—Surgical Tuberculosis—the conservative surgeon can only consider the bones, joints, lymph-glands, skin, mucous membrane, alimentary canal and genito-urinary organs. Tuberculosis of the lungs, which may be either secondary or primary, and causes 75 per cent. of the deaths due to tuberculosis, we unfortunately must relegate to the domain of medicine, as Dr. Murphy's theories can justly only be considered in the light of a surgical experiment.

Tuberculosis of the kidneys, lymph-glands, prostate gland, mammæ, alimentary canal, ovaries, peritoneum, skin and mucous membrane, calls for early removal of the diseased foci, and, if found necessary, and it can be done, removal of the entire organ. The theory that the removal of tuberculous foci or tuberculous organs would hasten the dissemination and aggravation of the tuberculous process in some other organ or part of the body is not borne out by facts. The surgeon should lose no valuable time in any experimental attempts to save the diseased parts, but pin his hope to the scalpel alone. In abdominal tuberculosis, celiotomy per se has a salutary effect, even if, owing to anatomic reasons, it is not expedient to remove all the tuberculous foci. Any delay or conservatism on the surgeon's part, to courageously cope with the disease, is inexcusable, if not criminal. The same may be said of tuberculous glands. You have no alternative. Remove them if systemic infection is threatened. Once your diagnosis is established beyond doubt, rest not until these repositories of tubercle bacilli have been removed. Be liberal in sacrificing healthy connective tissue and overlook not the smallest focus of infection. Reject all injections, cauterizations, and put your trust in the scalpel.

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*Read before the Wisconsin State Medical Society, 1896.

This brings us to tuberculosis of the bones and joints. What treatment shall we pursue here? If there is no systemic infection and the chronic rapid pulse is absent, put the parts at absolute surgical rest, and close not an eye while you wait for results and trust in the inherent resistance of the patient to the ubiquitous germ. Incidentally I would like to mention that the pulse is the safest index we have as to the active or passive presence of the germ, and I regret that so little attention is paid to the careful taking of the pulse at all hours. Months, often years, before we are enabled to diagnose tuberculosis by physical signs or by the microscope, the rapid pulse should put us on our guard. In tuberculosis of the bones and joints, the inherent resistance of the patient reaches its maximum. Apparently hopeless cases often come out well if the parts are kept at rest, for which iodoform injections later claim the credit.

If in tuberculous disease of the bones and joint systemic infection is threatened, operate at once. Lose no valuable time with parenchymatous injections of iodoform, chlorid of zinc, balsam of Peru, nor experiment with the venous constriction (Bier's) method. If the case is of an epiphyseal origin—and 90 per cent. of these cases are, the joint becoming infected secondarily—cut down to the bone, freely exposing all the diseased parts, and remove all foci under the direction of the eye. Do not trust to chance nor to your tactile sense in this. Be careful in sterilizing the skin preparatory to operating, to prevent pyogenic infection of the tubercular area. In operating on cases of epiphyseal tuberculosis, guard against opening the joint unless it is absolutely necessary that you should do so. Be thorough in your work, and sacrifice time and tissue to gain your ends. Use only dry dressings and allow the wound to heal by granulation and contraction or recession. Arthrectomy and excision should never be considered where the soft parts show manifest indication of disease. Amputate early in all such cases.

TUBERCULOSIS OF THE SKIN.

CASE 1.—N. B., a laborer, married, aged 38 years, and father of two healthy children, comes from a sound family and has always enjoyed very good health. A year ago he accidentally cut his hand with a piece of rusty sheet-iron. Fearing blood-poisoning, he had a friend of his suck the wound for about ten minutes. The wound healed without suppuration. Some time later—exact time not known—he noticed a small sore at the edge of the freshly-healed wound. He gave little attention to it until the sore began to look angry and caused him inconvenience. He consulted his family physician and was advised to keep the wound clean and apply an antiseptic salve which the doctor prescribed. Two weeks later the patient consulted me. I made no definite diagnosis, but told him that it looked like a case of incipient lupus I had seen in a hospital, and advised excision or thorough curettement. The patient did not agree with me, and drifted around begging for a "salve cure" for about a month, when he returned to have me excise the nodulous ulcer. I operated under local anesthesia, using Esmarch's bandage to keep a clean vision of the diseased parts. I freely sacrificed healthy connective tissue, and was rewarded by a complete cure.

The wound healed by granulation and contraction, leaving an ugly scar. The microscope confirmed my fears. Later I learned that the friend who sucked the wound, died with pulmonary phthisis. Natural inference is palpable. I fear that these cases of local infection of the mucous membrane and skin are more common than we are prepared to admit, and that the source of infection can often be traced if we care to take the pains. The prognosis is always good if excision is practiced before there is any involvement of the lymph-glands and channels. Let us do away with such differential terms as lupus, scrofuloderma, etc., and put all this under the heading of tuberculosis of the integument.

TUBERCULAR LYMPHADENITIS: EXCISION OF GLANDS.

CASE 2.—Mrs. L. S., aged 35 years, married, mother of two anemic and sick-looking children, presented the following family history: Two brothers and two sisters succumbed to pulmonary phthisis; also an aunt—mother's sister—died with an obscure lingering sickness. The husband is tuberculous in appearance. As a child the patient was scrofulous—I have no objection to this term when used by the laity, as it stands for a correct and complete clinical picture. For the last three years the cervical glands have been visibly enlarged, and became periodically painful. She grew listless, irritable, anemic, and suffered much with constipation, alternating with paroxysmal attacks of diarrhea. Later she had night sweats and a slight elevation of temperature in the afternoon. Her pulse was accelerated, beating between 90 and 100 per minute. It became an effort for her to climb a stairway of a few steps.

I advised immediate removal of all diseased glands. It was a two-hours operation, for every care had to be exercised not to injure any vital anatomic structure. The glands were removed in one mass, with liberal shreds of healthy connective tissue. Two of the lower glands showed imminent signs of suppuration. These we cauterized after excision and allowed to heal by granulation and recession. The S-incision was sutured. The patient improved immediately, is well to-day, and the most careful examination a month ago—two years after the operation—disclosed no return of physical or rational tubercular symptoms.

TUBERCULOSIS OF THE EPIPHYSIS OF THE FEMUR RESEMBLING SARCOMA; ARTHRECTOMY; AMPUTATION.

CASE 3.—This patient was a youth of 16 years; blond, slim, tall, slightly stooped, and narrow-chested. He had an uncommonly expressive countenance, large eyes, long lashes, and a glossy, fair complexion. He was precocious, warm-hearted and boyish in his affection. Here you had a picture of hereditary phthisis, still the family history was negative. There was no tuberculosis on either maternal or paternal side, nor were any of his remote blood-relatives so affected.

I reluctantly took charge of the case after he had been sick several months. He was, in the very beginning, treated for traumatism of the left knee; later, for several months, for mono-articular rheumatism of the left knee-joint. This is what I found when I took charge of the patient (I copy from my records): Patient very much emaciated, pale, pulse 120 per minute, temperature 102 F., no cough, no pains in lungs, respiration normal; patient was extremely weak. The left knee-joint was badly swollen, with the tibia flexed on the femur. The joint was freely movable, but not without causing intense pain. It measured five and one-half inches more in circumference than its partner. The knee when at rest gave him severe jerking pains at irregular intervals. He suffered intensely with day and night sweats. The outer side of the knee, including the external condyle, felt healthy to the touch, and so did the patella, though it was fixed. Examination of the inner side of the joint disclosed an alarming condition of the soft parts. The integument had a glossy, white appearance. The condyle could not be outlined. Hard pressure was painful to the patient.

I diagnosed tuberculosis—epiphyseal, without or with secondary infection of the joint, and advised early operation. The disease had made too much progress to permit the consideration of the injection of iodoform emulsion.

The dangers from systemic infection were imminent, and I feared a general deposition of miliary foci along the lymph-channels in the lungs. These fears, however, were only founded on my general knowledge of such cases, and not in any way on any subjective symptoms.

Dr. Louis Nolte concurred in my diagnosis and assisted me in scooping out the tubercular detritus. The disease had made extensive inroads on the soft parts, cartilage and periosteum, and we conscientiously removed all diseased foci, rubbed the large cavity with iodoform, and awaited healing by granulation and contraction.

The patient improved somewhat after the operation and the wound looked encouraging, rapidly filling with what we took for physiologic granulations. However, we were doomed to disappointment. The granulations grew excessive, the venous bleeding became uncontrollable, and the outer side of the knee became involved. It was plain to us that something more had to be done to give the patient a chance for life. We made a few iodoform injections in the outer side of the diseased joint with a view of abating pain; in this we were partially successful. The limb became edematous from venous obstruction, and rapidly grew worse, assuming monstrous proportions. A few days later I amputated the limb at the middle third of the thigh—a few inches from the diseased parts. The amputation was bloodless, and the patient evinced no symptoms of shock. He expressed himself as feeling well a few hours after the operation, and slept well the following night. Everything looked favorable; his temperature fell to normal—the first time in months—he was hopeful and cheerful. His pulse, however, remained high. His appetite improved, and he apparently gained rapidly.

On the seventh day after the operation we removed the dressing and found complete union without even as much as a wet stitch. We were rewarded by a beautiful symmetric stump with the cicatrix well toward the back. A week later the patient began to cough, and a physical examination of the chest disclosed râles—mucous, small and large, all over the lungs. In fact, we had all the symptoms of diffuse bronchitis. The temperature fluctuated between normal and 99.6 F.; the pulse between 110 and 135; the cough was painful, paroxysmal and distressing. The left lung broke down rapidly and the patient died quietly five weeks after the last operation, from miliary tuberculosis of the lungs, hastened by an attack of acute bronchitis.

It is needless for me to add that the microscope confirmed the correctness of our diagnosis, while the macroscopic examination of the amputated limb strongly suggested the possibility of sarcoma, and even at this time it is very difficult for me to reconcile the presence of so much new growth with a tubercular process. The disease evidently began in the periosteum of the epiphysis. The early clinical history points to traumatism as the initiative cause in determining the seat of the disease by exposing a place of little or no resistance to tubercular invasion.

ECTOPIA LENTIS: A REPORT.*

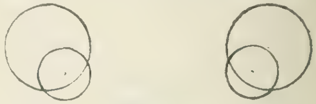
BY C. P. PINCKARD, M.D.

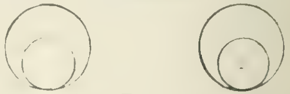
Professor of Ophthalmology, Post-Graduate Medical School; Attending Ophthalmologist Michael Reese Hospital Dispensary; Fellow Chicago Academy of Medicine, etc.

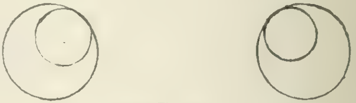
CHICAGO.

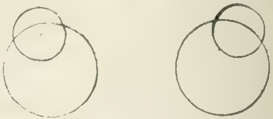
In 1893 I had the opportunity of examining two cases of dislocated lenses and of reporting them to this Society[1]. Briefly, they were as follows:

Mr. J. E., aged 32, had always had poor vision, which examination showed to be in the right eye, $+9.50 = .1$; left eye, $9 \smile +1.50c.$ ax. $100° = .5$. Examination with the ophthalmoscope revealed both lenses dislocated downward and inward about 2 mm. below the pupillary center. In addition, both lenses showed spicules of opacity.


J. E., AGE 32.


ROSE E., AGE 30.


JANE E., AGE 10.


RACHEL, AGE 5.

Miss Rose E., sister of the above, had vision in th right eye, $-27 = .2$; left eye, $-30 = .1$. She was wearing -22 in both eyes. In her case both lenses were dislocated directly downward, but not far enough for th edges to be out of the line of vision. The high myopi was due to the fact that the lenses were much more convex than normal.

At the time of this examination it was stated tha Mr. E. had a daughter, aged 4, who was very "nea sighted," but I was unable to examine her.

In August, 1899, Miss Rose E. came to see me, bringing two nieces, the daughters of J. E., because the could not see well. On examination the following conditions were found: Jane, aged 10, vision in the righ eye, $-16 = .2$; left eye, $-18 = .2$. The ophthalmoscop showed both lenses dislocated upward and inward, but the borders still in the line of vision. Both lenses were free of opacities. In Rachel, aged 5, it was impossible o get vision, as the child was exceedingly shy and lackng mentally. With the ophthalmoscope both lenses were seen to be dislocated upward and outward, but out of the ine of vision, and the refraction was highly hyperopic. There is another child, Tom, aged 6, whose vision is aid to be all right.

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* Read before the Chicago Ophthalmological and Otological Socie

[1] Med. Standard, Chicago, February, 1894, p. 33.

These four are only one of many series that have been reported as showing the effects of heredity on the deelopment of the eye. It is impossible for us to explain he peculiarity that causes the unequal length of the suspensory ligaments, nor why it should be too long above n one case and below in another. If we may assume, as has been done in several reported series, that the poor ision of the mother was due to dislocated lenses, we have here three generations with the same anomaly.

To return to the first two cases, it was pointed out in he report made in 1894, that the dangers of such a condition lay in the possibility of the lens becoming loosened rom its attachment to the ciliary processes by the trophy and rupture of the suspensory ligament; and n the liability of such lenses to become cataractous, owng to the poor nourishment.

It will be remembered that it was stated in the report hat the lenses of J. E.'s eyes showed spicules of opacity. Since 1893 this opacity has gradually increased, so that oth lenses are now opaque. This perhaps would not be f much importance to him, as the lenses were out of the ine of vision, were it not that the other possibility, that s, the rupture of the suspensory ligament, has also aken place in the left, the useful eye.

Strange to say, the zonule ruptured below, that is, n the short side, leaving the attachment to the ciliary rocesses only a narrow band to the upper and temporal ortion. When the zonule gave way below, the lens was rawn up by the tension of the unruptured upper portion, so that the opaque mass was placed in the line of ision and the sight was reduced to perception of light. Mr. E. discovered, however, that if he bent his head far o the left or far back, the opaque lens floated out f the visual line, and he could see again as well as ever. But soon after assuming the normal position, the lens gain came back behind the pupil and the vision was educed to perception of light. Besides the terrible anoyance of such a condition, a great danger threatens his patient's eyes, from the irritation set up by the oating lens, through pressure on the ciliary processes. lready he has had several attacks of pain, lachrymation nd redness, showing that a cyclitis is developing, which may destroy not only the left eye, but also the right.

In 1893, Miss Rose's eyes showed the lenses disloated downward, but the edges still in the line of vision, nd the refraction highly myopic. About 1895 she ound that she could see much better without her glasses han with them, and in 1896 she consulted an oculist in nother city, who prescribed +8.50 for both eyes, and he has worn these ever since; that is from being highly yopic, she became highly hyperopic. I examined her es again in August, 1899, and found that the zonules f both eyes had ruptured above, allowing the lenses to nk out of the visual line, that is, the long side of the onule ruptured in this case instead of the short side, s in her brother's. The rupture, however, is not as yet ery extensive apparently, so that there seems little daner from pressure on the ciliary processes. Nor is there ny effect like a "trap-door," as in her brother's case. lso, these lenses, free of opacity in 1893, now show many lines of opacity extending from the periphery toward the center.

The question of treatment in Mr. J. E.'s case is a simple one. The lens must be removed; but the operation is a very difficult one, and there is great danger of doing damage to the eye. The difficulty lies in getting hold of the lens in order to extract it. Being loose, it is sure to float out of sight if not fixed behind the pupil before the eye is opened, or the patient placed lying on his stomach, so that the lens will float into the pupil, the operator working from below. I am inclined to use the Agnew bident for fixation, and hope to report a successful extraction in the near future.

It is only fair to assume that the lenses in Miss Rose's eyes will slowly become more and more separated from the ciliary processes, and I am in doubt as to what course to advise. Extraction at present would be much easier than when luxation is more advanced, yet if I could be sure that no further luxation would take place, I certainly should not advise operative interference. For a time at least, they will be carefully watched for evidences of further rupture.

The outcome of these two cases being so characteristic of certain changes in the zonule, warns us to be careful as to our prognosis in the case of the children. So far as could be seen at the time of examination, neither of the children's eyes showed any evidence of stretching or rupture of the zonule beyond what one would expect from the luxated lenses.

EXTENSION MASSAGE OF THE OSSICLES WITH A NEW AURAL MASSEUR.*

BY HAMILTON STILLSON, M.D.

SEATTLE, WASH.

The fibrous bands thrown across the middle ear in hyperplastic otitis media form for the aurist a "pons asinorum." When a sclerotic case presents itself we usually break to the patient the interesting intelligence that nothing can be done for him. Politzer[1] says: "adhesive inflammation of the middle ear does not admit of a restitution of the function of hearing." Gruber[2] says: "the prognosis in plastic inflammation of the middle ear is upon the whole unfavorable." Dench[3] assures us: "the usual course is steadily progressive."

Yet it is the busines of the aurist to benefit such cases. And it has always seemed to the writer that the various operative procedures suggested and practiced by various aurists for the relief of these cases were futile because irrational. Certainly all aurists agree that ankylosis of the foot plate of the stapes with the bony wall of the fenestra ovalis is inoperable. Logically an ankylosis between any two of the ossicula would also be inoperable—or rather let us say that any operation to succeed would look to the entire removal of the offending ossicula. Such an operation "proves too much." It is much more rational to endeavor to absorb the ankylosis while saving intact the natural structures.

Such effort is made in the use of the instrument described in this paper. It is constructed as follows: A soft iron "core" is wrapped in a coil of insulated wire and enclosed in a cylinder. Near each end of the core is placed a metal diaphragm which has air-tight packing between the edge of the diaphragm and the cylinder.

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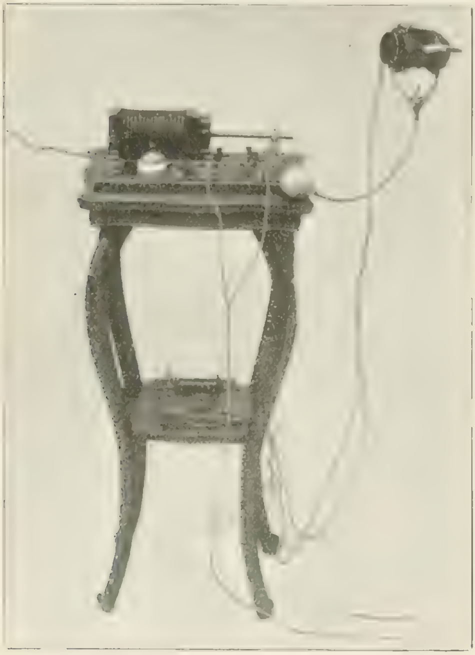
*Presented to the Section on Laryngology and Otology, at the Fiftieth Annual Meeting of the American Medical Association, held at Columbus, Ohio, June 6-9, 1899.

[1] Diseases of the Ear, p. 354.

[2] Diseases of the Ear, p. 401.

[3] Diseases of the Ear, p. 280.

The ends of the cylinder are sealed, leaving an air-chamber between the diaphragms and the ends of the cylinder. There are thus produced three air-chambers, the central one, the one between the diaphragms, enclosing the magnet, and one at each end of the cylinder between the diaphragms and the ends of the cylinder. Leading from the central one is a tube which ends in an ear nozzle. Manifestly, if an interrupted current of electricity be sent through the coil, the diaphragms will be alternately attracted and released. Since both are attracted at the same time, the air in the central chamber will be compressed from both diaphragms and forced outward through the ear nozzle. When the current is released, both diaphragms will spring back into place, compressing the hitherto rarefied air in outer air-chambers and rarefying the air in the central chamber. This to-and-fro movement in the diaphragm thus causes a pumping or churning of the air in the ear nozzle. The rapidity of the movement will depend on the rapidity of the vibrations or interruptions in the current, and the length and strength of the stroke will depend on the size and tension of the diaphragms. To regulate the rapidity of the interruptions to the current, an interrupter is thrown into the circuit, consisting of a soft iron core wrapped with insulated wire and having a vibrator at each end. On one of the vibrators is a projecting rod with a movable weight. The rate of its vibrations will thus depend on the position of the weight on the rod, slow when the weight is near the outer end of the rod and fast when near the magnet. For a battery, a few dry cells suffice. The regular Westinghouse alternating current with a suitable "transformer" offers a most excellent current.



There remains one very important part of the apparatus yet to be described, and that is the means of putting the ankyloses or adhesive bands on stretch while such ankyloses are being vibrated. Connected with the air-chambers, and hence with the air in the ear nozzle, is a stout rubber bulb which is compressed just previous to the nozzle being inserted into the external auditory meatus; and when the nozzle is thus inserted into the meatus, hermetically closing the meatus, the bulb is released, thus sucking the membrana tympani more or less forcibly outward. Any vibrations of the air in the external meatus would then vibrate the membrane and the ossicula and the ankyloses and the adhesive bands *while they were already on tension.* This is one of the distinctive features of the instrument and one of its principal advantages. In all the many forms of instruments known to the writer that are used to create vibrations in the membrana tympani and its ossicula, none of them do more than to vibrate the membrane to and fro. But the membrane, if it be flaccid, can flap to and fro without vibrating the ossicula in the least. The instrument above described first puts the offending sclerosed tissues on the stretch and then more or less rapidly jerks them loose, so to speak. If, as sometimes appears desirable, the tension should be inward instead of outward, the operator has only to compress the bulb after inserting the nozzle, instead of releasing it as described above. The membrana will thus be pushed inward, where it may be vibrated. In all cases of ankylosis of the ossicula, this latter procedure is to be occasionally used.

I have used this instrument for the last ten years, modifying it in some particulars from time to time, and in its present form it is giving most excellent results. Tinnitus not due to congestion is often quickly relieved. The hearing distance in suitable cases increases steadily, and in cases of recent standing a few applications sometimes suffice to restore the hearing. Other indications besides the scleroses mentioned have to be met by suitable treatment in conjunction with the use of the instrument, and in old and very chronic cases the applications have to be repeated for a long time. But by properly selecting the cases for its application, and by persistently and intelligently applying it, the instrument will be found very beneficial in a hitherto almost hopeless class of cases.

SARCOMA OF FACE AND TEMPORAL REGION.

EXCISION HEMORRHAGE CONTROLLED BY TEMPORARY CLOSURE OF THE COMMON CAROTID ARTERY BY MEANS OF A COMPRESS AND LIGATURE.*

BY JOSEPH H. BRANHAM, M.D.
BALTIMORE.

Peter R., colored, aged 32, single, was admitted to the National Temperance Hospital of Baltimore, September 20, 1898. His family history is unimportant, none of his ancestors, so far as can be learned, having suffered from malignant growth.

He had had the usual diseases of children. When 14 years of age, he noticed a swelling on the left side of the lower jaw; does not remember that he had received an injury on this part of the face. This gradually grew until he was 19 years of age, when it was nearly as large as a man's fist. At this time he entered the City Hospital of Baltimore and had the left part of the interior maxilla, from the symphysis, to the upper part of the ramus, removed—the operation was done by the late Prof. O. J.

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*Presented to the Section on Surgery and Anatomy, at the Fiftieth Annual Meeting of the American Medical Association, held at Columbus, Ohio, June 6-9, 1899.

Coskery. I assisted in the case. Six years later he returned to the City Hospital and had a small growth removed from his left superior maxilla.

He entered the hospital for the third operation in the spring of 1894, and in June of that year I removed the left superior maxilla, together with part of the palate bone and the pterygoid process of the sphenoid. After this operation, he states that he remained well, till less than a year ago. While riding an unruly horse, he was struck violently on the left side of his face by its head. After this the large external growth which occupies the zygomatic and temporal regions began to grow. Several months later he was struck under the eye by a base ball and the smaller lump below the orbit appeared. At the time of operation the growth or growths, as there seemed to be two, were of large size, measuring about six inches from above downward and nearly the same from side to side. The external larger growth was firm and elastic, while the inner smaller one was soft. Just below the larger was a firm hard mass the size of a hen's egg, which was the stump of the inferior maxilla, surrounded by thickened periosteum.

Operation was performed September 12, 1898. The parts were carefully prepared by shaving, scrubbing and the usual antiseptic measures. Chloroform was given. The first stage of the operation consisted in cutting down on the common carotid artery, opposite the lower end of the larynx.

The inner border of the sternocleidomastoid was used as the guide. The upper part of the incision was carried outward to avoid the anterior jugular vein, which was large and crossed toward the mastoid process above; the artery was easily isolated, and a large catgut ligature was passed behind it by means of an aneurysm needle. A small sterile compress was pressed on the anterior surface and the circulation controlled by drawing the double ligature against the compress; this device, which was managed by an assistant, worked with entire satisfaction. A long incision was now made from the upper to the lower border of the growth and a shorter one from the middle of this below, to the inner angle of the orbit. The large external mass was now dissected out. It involved the entire temporal fossa, replacing the temporal muscle. It had destroyed the zygoma, part of the malar, and the external angular process of the frontal bone. It involved the tissues of the cheek, invading the mucous membrane of the mouth. Most of the tumor consisted of firm, elastic, flesh-colored tissue, but near its center a considerable and calcareous degeneration was noted. The smaller growth was separated throughout from the larger, by a capsule. It projected from beneath the orbit and extended far back beneath the base of the skull into the sphenomaxillary and sphenopalatine fossa. In removing this part of the growth the hemorrhage was profuse, but was readily controlled by gauze pressure. The hemorrhage during the rest of the operation was slight and was simply oozing.

The deeper part of the wound was packed with sterile gauze, and the usual antiseptic dressing applied after suturing the wound. The subsequent history of the case was remarkable for the rapid convalescence: He was shocked at first, but rallied rapidly after several hypodermic injections of strychnine and the application of hot-water bottles. The wound was dressed on the third day. The patient was up on the fifth day and was out of the hospital on the eighth.

The various specimens removed from this patient at the several operations have been pronounced by the examining pathologist to be spindle-celled sarcoma. The growths in the lower and upper jaw were evidently from different sources, and could not be recurrences, while the three later tumors probably were local recurrences. The mass under the eye seems to have been independent, and was probably a new growth unconnected with any of the preceding foci.

My reason for thinking that this was so, was that the mass was encapsulated and high up; that it came on rapidly after injury and began 3½ years after the removal of the upper jaw.

This patient's history presents many points of interest, illustrating the tendency of malignant growths to recur in the same parts—local recurrence—and in neighboring or remote parts of the body, which can only be explained by a predisposing tendency to this disease, or by accepting the theory of the infectious nature of malignant disease.

The most important thing in connection with the case was the manner of controlling the hemorrhage during the operation; the size and position of the growth made excessive hemorrhage inevitable on attempting its removal.

The great danger of excessive hemorrhage adding to the shock, indeed probably causing some of the dangerous symptoms usually attributed to that condition, and also, by lessening the tissue resistance, predisposing to the various forms of septic infection, makes the conservation of the blood in important operations a matter of the greatest moment.

The device used in this case worked with such absolute satisfaction that I believe it will be often employed in similar cases.

The only hemorrhage of moment occurred when the operation was extended far back under the base of the skull near the median line, when the blood-supply was almost equally from the opposite side. The short duration of the shock and the marvelously rapid recovery of the patient show the great advantage gained by the blood-saving method employed. The incision necessary to close the artery when made and closed without infection adds very little to the gravity of the operation.

The great danger of secondary changes in the brain which cause serious symptoms in about 33 per cent. of cases, and almost as large a percentage of deaths after ligation of the common carotid artery makes that operation one never to be used if it can be possibly avoided.

Will temporary closure of the artery cause such results? On the answer to this question will depend its employment in such a case as I have reported. Only its use in a large number of cases can decide this fact.

In old people or in those suffering from premature sclerosis of the arteries from any cause, I would not employ the operation because even temporary closure of the artery in such conditions might lead to thrombus in the cerebral vessels and precipitate softening of the brain, or the brittle coats of the vessel might break with similar results from embolus, or be followed by aneurysm from the injured arterial walls; employed in young people with healthy arteries and with the necessary care, so that the wound is kept surgically clean and the coats of the vessel are not impaired by drawing the ligature too tight, I feel sure that these dangers, if present at all, are extremely slight. That temporary closure of an artery has no tendency to cause the formation of clots in its caliber when walls are not broken has been demonstrated by the experiments of many surgeons—Murphy Johnson and others. The only other danger then is the injury of the vessel wall, which can be avoided by the use of a large-sized ligature and compress, applied so as not to bend the vessel or pull it out of its normal position. (I used a large catgut ligature soaked in sterile water and applied double), and the possible effect of the temporary cutting off of the cerebral circulation, I am sure is very slight, if it exists at all.

On the other hand, the advantages of this method are very great. In addition to prevention of excessive hemorrhage by putting the local circulation under our control, it enables us to make a more careful and thorough dissection, decreasing the danger of leaving infected parts and thus not only decreasing the immense danger of the operation, but by lessening the probability of local recurrence, also diminishing the remote dangers.

CITY MILK ROUTES AND THEIR RELATION TO INFECTIOUS DISEASES.*

BY ERNEST WENDE, M.D.
BUFFALO, N. Y.

We are no longer in a land of conjectures and surmises in dealing with city milk routes and their relation to infectious disease. They concern the municipality. No matter how efficient its sanitary arrangements, the urban population can not be kept free from the poison of communicable disease so long as supplied with infected milk from the rural districts. They concern the municipal health officer in particular, and from the point of view of epidemiology are important.

We possess evidence perfectly understood, gained by experience, bearing potentialities for evil which are unbounded in the dissemination of the virus of diphtheria, scarlet and typhoid fever. Numerous records of such epidemics are at hand in which the spread of infection was definitely traced to the dairy and its surroundings, contracted from the mouth, nose, throat, skin, and discharges of those in attendance, recently convalescent or scarcely recovered. Thus the materies morbi, which is very tenacious of life, clings to the hands and clothes of the careless, who in turn pollute the water and then cause it to be lodged in the cracks, crevices, seams, and inequalities of the walls, floors, and surfaces of the insanitary milk-house, storage box, cans, and bottles, there to thrive and multiply for the transmission to do infinite mischief and the slaughter of the innocent. Notable among these outbreaks we may mention the 95 described and tabulated by Hart of England, of which 48 were typhoid fever, 32 scarlet fever, and 15 diphtheria, and the 90 collected and tabulated by Freeman of this country, of which 53 were typhoid fever, 26 scarlet fever, and 11 diphtheria.

To confirm, as well as for the purpose of supplementing, these numerous instances of the spread of infection by an improper milk-supply, 5 outbreaks, parallel in relationship, of which 3 were typhoid fever and 2 scarlet fever, that occurred in the city of Buffalo since 1893, may be profitably cited. It was in the fall of this year that we encountered our first visitation of a contagious disease traceable to and rapidly extending through the instrumentality of a milk dealer's route. Here, likewise, the seeds of infection were brought to the persons unfortunate enough to come in contact with the contaminated milk from a remote center, and at the first opportunity these individuals infected others, and so the evil spread. It was occasionally observed that a group of scarlet-fever cases existed in such association that it was seemingly apparent, according to every reasonable expectation, that they all depended on a like source of infection. An investigation was at once instituted, which revealed the fact that 57 children of 26 separate and distinct families had succumbed to scarlet fever, all of whom had procured their milk from the same milkman, whose milk-house, equipments, health and family were all scrutinized with the result of finding two cases in his immediate household.

Inasmuch as nothing could be discovered of an insanitary or causative nature with his own outfit, environment, and mode of handling, the inquiry was further carried to the source of milk production—the dairy farm—with the sequence of detecting two cases of scarlet fever in the desquamating period, occurring in a child aged 7 and in a young man of 19 years. The latter, who still had large flakes of cuticle peeling from the extremities, must be credited with his share of the misfortune, for devastation followed the wake of his labor. He, before being thoroughly restored, ignorant of the danger caused by the stray particles of shed epidermis thickly peopled with the infective bacteria or their spores, did the milking, washed the cans and transported the commodity to the depot for shipment, to be received and distributed to the unsuspicious consumer by the city milk dealer.

Here, then, the first demonstrable milk epidemic of scarlet fever in our midst showed a typical case. The interesting and subjunctive corollary deduced from the research is convincing: 1. All the facts brought out by a persistent investigation of the epidemic pointed to the milk-supply. 2. The cases appeared almost simultaneously, extending rapidly and especially attacking those who partook freely of the lacteal fluid. 3. Only the homes located on a certain milk route were invaded and those frequently having the best hygienic environments. 4. Happily, the wane of the epidemic was equally abrupt following the discontinuance of the mischievous product.

Briefly, this is the unvarnished tale concerning our first recognized outbreak of scarlet fever caused by a contagious poison emanating from a doubtful milk-supply. However, it shed much light on the milk dealer's route as a channel for the dissemination of disease and served as a stimulus as well to yet more carefully scrutinize and guard the milk traffic. The most important practical result of this inquiry was the devising and maintaining of a register of contagious diseases in connection with their occurrence on these thoroughfares.

It is scarcely an exaggeration to say that the assigning of all acute infectious diseases that arise in a municipality to the milkman is an act consistent with the maintenance of health. It means a system feasible for daily surveillance and effective in the protection against frequent infection of the milk-consuming denizens. Such a register is worthy of more than a passing notice. It stands as a silent guardian, watchful of the integrity of milk, the health and happiness of the home. No department of health can be considered efficient, much less complete, without it. This armamentarium, when once adopted, will be the last to be dispensed with, for few things accomplish so much that are apparently so simple. Chemical analysis has a place, bacteriologic tests another, but the register takes the place of all in its importance and possibilities. We may fairly attribute to this innovation the detection of the four subsequent epidemics, in their incipiency. It made immediate investigation and the prevention of the further spread possible. We can not be too thankful for this result and we ought not to neglect its obvious lessons. In city milk routes much remains to be done in order to bring the sanitary conditions to a level with our knowledge. We can not plead ignorance: apathy and indifference are the foes most to be dreaded.

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*Presented to the Section on State Medicine, at the Fiftieth Annual Meeting of the American Medical Association, held at Columbus, Ohio, June 6-9, 1899.

On Sept. 4, 1894, we were assured by the records of the register that nineteen cases of typhoid fever had developed with wonderful rapidity in families served by a milkman living in a sparsely settled section of the northern part of city. The Health Department forthwith instituted an investigation which showed the startling result that the wife of the milkman, surrounded by unfavorable conditions, was ill with the fever, however, on the borderland of recovery. She was still being nursed and cared for by the husband, who, likewise, was handling the milk and washing the cans in a most objectionable manner, with water procured from an old cistern that had, during the preceding year, been the subject of several sanitary complaints. Another powerful factor that made the transmission of the disease, through the medium of the milk, eminently capable, was the fact that the patient was not isolated but cooped up in a small stuffy chamber joining the kitchen, in direct communication with the milk-room. It is hardly necessary to state that the sale of milk was interdicted, the cistern ordered abandoned, disinfected and filled, and everything pertaining to the dairy and the premises in general placed in a sanitary condition. By this and other procedures, the spread of the disease was checked, no further case occurring on the route.

On Aug. 21, 1895, the Department again, through the intervention of the register, discovered eighteen cases of typhoid fever intimately associated with the milk route of a dairyman located on the outskirts of the city. An inquiry into the causes and circumstances of the outbreak revealed that his premises were not what they should be by reason of defective drainage and a badly constructed, ill-ventilated and unclean milk-house, conditions, as might be expected, most favorable for the reception and multiplication of the typhoid bacillus. The peculiar interest connected with these cases was that the wife of an employee had propagated the infection that had contaminated the milk through the agency of her husband, who, at night, not only acted as nurse but fulfilled all the other necessary household duties, and who, during the day, handled and delivered the needed product to the confiding consumers, without changing his clothing for days, or taking any precaution whatever. The sick wife was immediately removed to the hospital and the insanitary conditions so promptly changed that, by August 30, just nine days after the discovery of the first, no further cases were reported.

Again, on March 9, 1896, the register indicated the existence of fourteen patients affected with typhoid, on the route of a milkman residing in the western portion of the city. Here we acquired the information that the milk-room was in the rear of the first floor of the building which he occupied. Several months previous, a case of typhoid developed on the floor above, in a separate family, and ran its full course. These cases undoubtedly arose in consequence of the insanitary conditions prevalent in and about the building, and for like reason the contagion remained active until finding expression in the dairyman's route. A quick subsidence of the epidemic followed the suppression of the milk, thorough cleansing and disinfection.

On Feb. 27, 1899, in consequence of the rapid development of scarlet fever—some twenty cases within four days—an investigation was made and the source of the trouble traced to a dairy farm near Clarence, N. Y., twenty miles from the city, from where the milk-supply was received. It was ascertained that, at this place, four persons were infected with scarlet fever, one of whom, a convalescent, was, through ignorance of the danger and possibility of his acts, engaged in milking the cows, handling the cans and other utensils. Action was at once taken to prevent further injury through the milk, with the result of arresting the further development of cases by March 15, when but four cases were reported. No further cases were then reported until April 4, 1899, when we received reports of two additional, these being the last.

No better illustration could be found to demonstrate the condition liable to develop in any section in the present state of affairs, nor to demonstrate the value of this, the sanitary tell-tale or milk register.

In addition to the tell-tale register of infectious, contagious endemics indigenous to the dairy, it is unlawful to serve bottled milk to a household where contagious disease exists, or to remove from such a dwelling any bottle or receptacle which has been, or is to be, used for the purpose of receiving or storing milk, or to bottle or prepare for delivery any part of the milk-supply while on the delivery wagon or at any place other than the milk-house.

The recognition of the fact that every community has an interest in the health and well-being of its individual members, and that concerted action is necessary in order to obtain practical results, therefore, makes universal care and steady perseverance imperatively requisite to prevent the occurrence of epidemics.

Of late, the sphere of protection has been enormously enlarged, and there is much ground for hope that, by methods similar to those of the diagnostic register, which positively gives the cue for the early detection and suppression of contagious outbreaks current on the milk-dealer's highways, further immunity may be attained against disease propagated by impure milk.

In conclusion, the Department of Health in Buffalo has, from time to time, adopted, under my direction, a scrutiny, incomplete as it may be, briefly as follows: A record is kept of the conditions that prevail at each dairy supplying the city with milk. This information is obtained solely by inquiry, but has been found generally reliable. It includes data of the size, health, tuberculin examination of the herds, character of the water, food, health of employees, methods of milking, cooling, cleansing, transportation, in fact all factors bearing on the purity and protection of the milk. Additionally, circulars are caused to be sent, bearing on the possibilities and the like of the business. When conditions at the dairy appear prejudicial to the public health, from any cause, investigation is made and correction requested. In the absence of authority beyond the municipal limits, when action for any cause appears necessary for insanitary reasons, for failure to comply with the department's request, the product of such a dairy is interdicted at the city line, and the dealer to whom it is consigned, notified, until such time as the offense is removed.

With this mode of procedure and its results, any city can exercise a large influence on dairies supplying it, exclude milk from known tuberculous herds and obtain sanitary protection beyond its own field of authority.

DISCUSSION

DR. A. WALTER SUITER, Herkimer, N. Y.—I regard the subject as quite covered by my friend, Dr. Wende. The interesting effort in [illegible] [illegible] [illegible] intelligently designed is a great innovation. Without doubt, when the plan of registration is generally understood and practiced, it will bring about material progress in the matter of the early discovery of epidemic outbreaks of infectious disease in cities and towns. It occurs to me that there is a great opportunity for more effective work along this line of sanitary administration; that often where careful precautions are taken in some respects, certain other precautions might be observed to make the service more complete and beneficial, and I was very much pleased to note in the Doctor's paper that he has not only required the registration of the source of supply and the route, but he also makes the point that all utensils, bottles and other materials that are used in the distribution of the milk shall also be registered, in order that the search for the origin of the outbreak may be made with the utmost accuracy. That is one of the most important recommendations of his paper, and is unquestionably one of the best points in the system he has inaugurated. Following this, the best means can be taken to prevent the dissemination of the infectious elements and the consequent continuation of the outbreaks.

Dr. Grosse—I would like to ask the Doctor about how much authority he has in controlling the milkman's premises outside the city precincts.

Dr. H. Z. Gill, Topeka, Kan.—We had considerable to do with that question during the last year in our work on the tate Board of Health. In visiting the dairies within a radius of three, four or five miles of Topeka, and some inside the corporation, we found that there was a condition that was anything but desirable; and that the city authorities had taken no cognizance of the condition at all, and the only examination that was made of the milk was to find out the amount of cream that milk contained, which plan was utterly insufficient to demonstrate whether the milk was as it should be. After having ascertained the condition of these dairies, I made a somewhat lengthy report to the city council. That report was referred to the committee on hygiene, and together with the Board of Health of the city, we formulated an ordinance. As to the control of the dairies outside of the city, the ordinance states that if the proprietors refuse to be inspected or investigated by the register or food inspector, their licenses shall be withheld. So we control them in that way, and we think we have the matter in such shape that we can compel inspection and thus control the conditions of the dairies within as many miles as we choose to go out and investigate them. But that work had to be started and carried on through the State Board of Health; otherwise it would not have been done. And all health officers must understand the importance of the conditions of the dairies that supply the cities with milk.

Dr. E. Wende, Buffalo, N. Y.—Not having the requisite authority to inspect and supervise the dairies that supply the consumers in Buffalo with milk, we have devised our own plans for preventing the sale of any suspicious article within the confines of the city, by a speedy and effectual disposition in interdicting it at the city line or at the depot. I regret that this action on the part of our municipality should be necessary, owing to the inadequate protection given us by the State Board of Health, which is largely advisory and not mandatory. I hope that, in the State of Ohio, the powers of the State Board of Health exceeds those of New York. This plan has operated exceedingly well with the Department in compelling the producer to submit to inspections by our municipal health officials, however, at times reluctantly.

Dr. B. Stanton, Cincinnati, Ohio—The Ohio State Board of Health, unfortunately, has no jurisdiction as to matters of that kind, but here we have just the same power that they are exercising in Buffalo. The cities of this state, the towns, and incorporated villages have health boards, and they have control of the milk distribution, and in nearly all of the cities dairymen are required to register. Should they refuse the health authorities permission to inspect their dairies, or to regulate them as if they were in the corporate limits, all a board of health has to do is to refuse to grant a license to that dairy. It is a matter just as easily controlled in Ohio as in Buffalo. It is just as easy to control dairies outside the city, or outside of the county, or outside of the state, as it is to control those in the corporate limits, in this manner.

Dr. E. Wende—I think the importance of this registration can not be overestimated. The city and state now annually spend large sums of money for the analysis of milk. This expenditure would be more judicious were it applied to prevention rather than detection of merely a commercial fraud, which means only the protection of the pocket against a little water. My practice and aim has been the prevention of infection, the insuring of sanitary protection, and in this way disarming its bearing on contagious disease, and thus far I have succeeded in doing so most satisfactorily. The milk route registration and its relation to contagious disease is of far more avail to prevent infectious diseases than you have any idea of. It does more than all the bacteriologic and chemical examinations together, while it has the practical feature of costing almost nothing.

Another thing which I have observed in many cities, although not in Columbus, for I have not looked into the matter here, is that but very little supervision of the milk industry is given, and that not of the character nor amount that its importance deserves. In this respect, Buffalo is in advance, and we are very proud of the purity of the milk-supply and the way it is maintained. All that has been accomplished has been done in the past six or eight years. Up to that time we had cow barns in the city, in connection with milk dairies, which are now removed. This was only accomplished after a fight and opposition, as you can imagine. Under our system, no man can go into the milk business now unless he gets a permit from the Department of Health, and a license from the mayor. This license is not issued until the rules of the Department of Health are complied with, and the conditions what they should be. Formerly we found milk-houses in all sorts of bad sanitation; some even located over sewers, with their milk-cooling boxes plumbed without any trap, vent or proper plumbing safeguards, or the milk boxes themselves placed near an old privy vault or near a stable, and what not. Now, on the contrary, there is a uniformity of requirement; milk boxes have to be lined with metal; raised off the ground; and not placed against the wall; and have to be properly trapped and vented, etc. The milk-house itself has to be in a separate building without connection with a stable or any influencing building. These are some of the features that have been corrected, and one of the ways in which we have diminished the danger to Buffalo from infectious disease.

One feature of excellence which we have introduced is that whenever an infectious disease occurs in the city, the dealer supplying the family is ascertained and the case charged up against his particular milk route. This is done whether he is guilty of causing it or not. The physicians report all cases of contagious disease immediately, by telephone, and not by postal card three or four days later, as was formerly the case here, and is yet customary in many cities. A note is immediately made of this reported case, and an inspector is sent to the place; one of his first and most important duties is to ask, and ascertain and report on, "Who is your milkman?" With that report we keep our register and the case is charged as stated, against that particular milkman.

In case of an outbreak of contagious disease, if there is anything wrong with the milk, the spread of the disease occurs along that route with peculiarly wonderful rapidity. Ten or eleven cases may be reported in one day, an equal number the next, and so on. By our method, however, the source of the trouble can be traced and located with almost equal rapidity and positiveness. The milk is then interdicted, and the epidemic, so far as that route is concerned, at once stops.

Dr. A. R. Reynolds, Chicago—You say there are no cow barns in Buffalo. Does that mean that there are no single cows kept?

Dr. E. Wende—I mean cow barns connected with milk houses; we have an ordinance that a man can keep but one cow in the city of Buffalo on one lot. If he keeps two cows he has to have an additional acre for every cow. In that way we practically exclude cow barns from the city; and even a private individual has to get a permit for the keeping of that cow; and he has to pay the city $1 for that permit.

Dr. C. O. Probst, Columbus Ohio—I would like to ask the Doctor whether they get any information of contagious disease in the dairyman's family.

DR. E. WENDE—No, not by the register.

DR. C. O. PROBST—But in some other way?

DR. E. WENDE—Yes, after we have finished our investigation, in the city and find nothing wrong, we turn our attention to the country, carefully investigating every source of supply, including the dairyman's premises, family and help. If the cause be located, we prohibit the milk from that dairy from entering the city until all danger is over or the evil remedied.

TYPHOID FEVER IN A LEPER, FOLLOWING IMMEDIATELY BUT ACCIDENTALLY ON TREATMENT WITH ANTIVENOMOUS SERUM.*

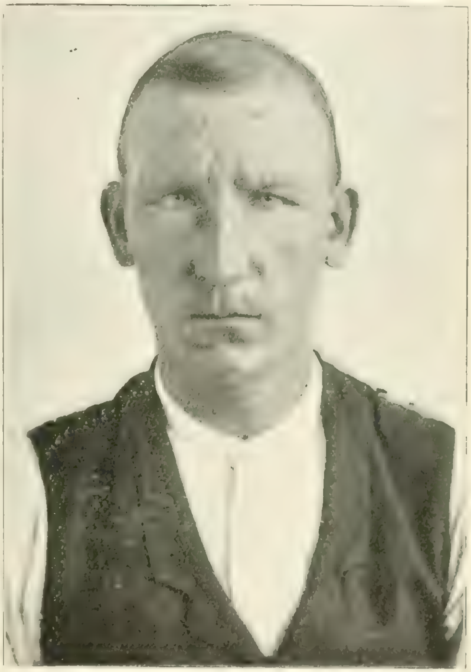
BY J. F. SCHAMBERG, M.D.
PHILADELPHIA.

The following report is deemed worthy of presentation because of several unique features connected therewith. Whilst there is no reason why lepers should not, if exposed, contract typhoid fever, there seems to be, as far as I have been able to ascertain, no recorded instance of the simultaneous existence of these diseases. Furthermore, several eminent leprologists, to whom an inquiry as to the incidence of typhoid fever among lepers was addressed, have replied that they have never noted its occurrence. A letter received from Dr. G. Armauer Hansen, Bergen, Norway, says: "Since 1868 we have not had typhoid fever here, and consequently I am unable to give you any information on this question. I have seen an epidemic of measles and this malady run the same course amongst the lepers as among others."

The fever in the present case developed after the use of injections of antivenomous serum. In 1897, Dr. Dyer of New Orleans, La., read, before the International Leprosy Congress at Berlin, a preliminary report on the use of antivenene in leprosy. In this he stated that he had employed injections of Calmette's serum in five cases of leprosy, in four of which marked improvement had taken place. In one there was practically a disappearance of the lesions present, and of other evidences of the disease. In one the result was negative. In this case the "age and frailty of the patient were to be considered."

Through the courtesy of my friend, Dr. William M. Welch, chief of the Municipal Hospital for Infectious Diseases, Philadelphia, I was permitted to employ this treatment on a leper there resident. The history of the patient is as follows: M. P., aged 25, a sailor, and a native of Oesel, a Russian island in the Baltic Sea, has mixed leprosy of nine years' standing. The face, particularly the forehead, is studded with twenty-five or more pinhead to cherry sized bronze-colored nodules. The region of the eyebrows is bereft of hair. The ears are somewhat thickened, although no distinct nodules are present. The face is reddened as a result of the presence of numerous fine telangiectases. The conjunctivæ are permanently injected. The gums behind the incisor teeth are superficially ulcerated, and a circumscribed area much resembling a mucus patch is situated on the right soft palate. The patient has been subject to swelling of the legs for over four years. In the beginning the hair was lost from the legs, which then became harsh and dry. Burning was noticed in 1890, eight years ago. Upon the thighs, legs and feet are extensive areas of anesthesia. Lepra bacilli were found in an excised nodule from the forehead.

On January 17, the treatment with antivenomous serum was instituted, the serum being graciously furnished by the Pasteur Institute of Lille, France; 1 c.c. was injected into the buttock, and the only reaction was a slight chill which occurred in the evening. On January 19, 1 c.c. was again injected, and on the 21st, 2 c.c. followed by slight chills several hours later. On the 23d, 3 c.c. injected gave no elevation of temperature nor other reaction. January 26, 4 c.c. was injected, and severe chills occurred during the evening. Two days later the temperature rose to 101.8 F., accompanied by loss of appetite and malaise, and there appeared over the lumbar vertebræ a boggy swelling which was distinctly painful and tender. The temperature and swelling both subsided in the course of a few days, and treatment was resumed.



February 2, 4 c.c. was injected into the right, and February 5, 4.5 c.c. into the left buttock. The latter injection was given at noon, and at 8 p. m. there was a slight chill followed by a rise of temperature to 100.8 F. On the 7th, 5 c.c. was injected into the right buttock at noon, and at 8 p. m. chills occurred, followed by rise of temperature to 101.6 F., and accompanied by anorexia and considerable depression, which lasted several days. At noon of February 9, the pulse was 128 and the temperature 100.6 F. On February 12, the quantity of the injection, owing to the depressing reaction, was reduced to 2.5 c.c. Several hours later there was elevation of temperature and great depression, and on the 14th the temperature rose to 104.2 F. In addition there were headache, complete anorexia, depression and intense restlessness. On February 16, the temperature was 103.4 F., with no abatement of the general symptoms.

At this time the suspicion arose that the fever might be due to some co-existing disease and, owing to the great prevalence of typhoid fever in the city, and its development in a few cases at the hospital, this affection was suspected. At this period the patient presented the following symptoms: The countenance was dull and the general expression indicative of profound prostration; the tongue was tremulous, dry and coated, with reddened edges. The pulse was moderately frequent and distinctly dicrotic. The abdomen was slightly full; some gurgling could be heard over the right iliac fossa; there was no tenderness and the bowels were constipated. Two indefinite but suspicious spots were present on the abdomen and loin. The patient had had nose-bleed, but this could easily have resulted from the nasal ulceration from which he was suffering. Indeed, on inquiry, he stated that he had been subject to nose-bleed. The spleen was apparently enlarged. Several days later, on the ninth day of the disease, there occurred numerous rose-colored spots over the abdomen and back, followed two days later by a profuse crop of typical typhoid efflorescences. The bowels remained rather costive throughout the course of the disease. The temperature for the first fortnight fluctuated between 102 and 104 degrees, gradually subsiding to normal on the twenty-third day. The pulse varied from 80 to 100. The Widal reaction, tested on the tenth day, was positive.

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*Presented to the Section on Cutaneous Medicine and Surgery, at the Fiftieth Annual Meeting of the American Medical Association, held at Columbus, Ohio, June 6-9, 1899.

The development of the typhoid fever immediately after the use of the antivenomous serum must be regarded as a purely accidental, though interesting, circumstance. The injections were given with an antitoxin syringe, which was boiled each time before use. Antiseptic precautions in regard to the needle and the skin of the region injected were rigorously carried out. No inflammatory nodulation was ever manifest at the sites of puncture.

The patient convalesced rapidly and made an excellent recovery. The original disease remained entirely unaffected. The nine serum injections did not in the least influence the leprous manifestations. Whilst the result obtained is no fair criterion of what might have been accomplished if the treatment had been continued, yet the writer is constrained to believe that no better result would have been achieved. Dyer obtained visible amelioration after the first few injections, and by the ninth, marked improvement had already taken place.

The patient, disaffected by the restraint of liberty incident to confinement in an infectious hospital, made his escape from the institution. This precluded all possibility of a further trial of the remedy.

DISCUSSION.

Dr. J. F. Schamberg, Philadelphia.—I may add that antivenomous serum is made by injecting the virus, presumably of the cobra, into horses, the serum of the animal being subsequently withdrawn. The reason that this remedy has been employed in leprosy is not purely an accidental one. Dr. Dyer quotes the belief of the lay people of countries where leprosy is endemic, that leprous patients who are bitten by snakes are apt to recover. In fact, a Brazilian voluntarily submitted to the bite of a rattlesnake in order that he might be cured of the leprosy from which he was suffering; the bite proved fatal. As far as I am able to learn from the literature of the subject the present case is the first one reported in which typhoid fever has occurred in a leper.

Dr. R. R. Campbell, Chicago.—I would like to ask Dr. Schamberg whether he made the Widal test after diagnosis had been made; whether the serum treatment had any effect on the typhoid, and whether it was continued after the diagnosis of typhoid had been made?

Dr. Douglass W. Montgomery, San Francisco, Cal.—I have never seen a leper with typhoid fever, and do not remember to have ever read the report of a case, and therefore do not know how the disease would react on one another. Of the general fevers, smallpox is said to have an especially bad effect on tubercular leprosy. A short time ago, however, a young girl suffering from tubercular leprosy and residing in the San Francisco pest house was attacked with smallpox with no immediate bad effects as far as the leprosy was concerned. As regards the diagnosis, although the case reported seems undoubtedly one of tubercular leprosy, yet I did not note any mention of the demonstration of lepra bacilli. These bacilli are usually present in great numbers and are easily demonstrable in tubercular leprosy.

Dr. J. F. Schamberg—I will answer the queries of Dr. Campbell. The Widal reaction was made on the ninth day of the disease and was positive. The use of the serum was not continued after the suspicion of typhoid fever arose. Lepra bacilli were found in a nodule excised from the forehead, and in the accompanying photograph you will see the scar which remains from the excision.

Therapeutics.

Uses of the Stomach-Tube.

The increasing popularity of the stomach-tube is such at the present time that it is no longer the property of the specialist, but it is used throughout the medical world. Its indiscriminate use is irrational, and it is contraindicated in: 1. Heart disease, especially where there is defective compensation. 2. Myocarditis. 3. Angina pectoris. 4. Fatty heart, especially the advanced stages. 5. Aneurysm. 6. Recent hemorrhages, such as pulmonary, gastric, vesical, apoplectic, renal, rectal hemorrhage, etc. 7. Pulmonary tuberculosis. 8. Cerebral hyperemia. 9. Advanced cachexia. 10. In the continuous fevers, typhoid, remittent, etc. 11. Where there has been a recent hematemesis. 12. Ulcer of stomach. 13. Carcinoma of the pylorus, especially where there has been vomiting of "coffee grounds." 14. In all cases where there is a tendency for the gastric mucosa to bleed easily. 15. In those cases where the gastric affection is secondary to some more important primary disease.

The method of using an ordinary stomach-tube is very simple. The first and most important procedure is to secure the confidence of the patient; explain carefully the whole operation. Avoid the use of oils or greasy lubricants. Seat the patient in a straight-backed chair, having him lean his head slightly forward—most patients throw their heads backward. Wet the tube with warm water, place it back on the tongue, and tell him to swallow; the tube will readily enter the esophagus, when it can be rapidly passed into the stomach. Time may be saved with patients with tender fauces, especially those who smoke a great deal, by spraying the throat with a mild solution of cocain, 2 to 4 per cent., but this procedure will seldom be needed. After the tube has entered the stomach, avoid moving the tube, as this brings on nausea and vomiting. Have the patient breathe deep and regularly and attract his attention to something else by conversation.

Simple lavage with plain water, continued until it comes away clear, is preferable to the use of solutions. Medicamentation is better effected by the spraying apparatus of Einhorn. —H. H. Roberts: *Am. Pract. and News.*

Infusion of Salt Solution with Inhalations of Oxygen in Pneumonia.

Noticing that salt solution often acted as a powerful respiratory stimulant in surgical cases, C. A. Penrose *(Johns Hopkins Hosp. Bull.)* was led to try it in three extreme cases of pneumonia. 1000 to 2000 c.c. normal salt solution (0.6 per cent.) were injected at a time. Whenever the pulmonic second heart sound becomes "murmurish" it is an indication that enough fluid has been injected. Regarding the use of the salt solution, the author draws the following conclusions:

1. It dilutes the toxins in the blood and promotes their elimination through the sweat glands and kidneys.

2. It relieves the delirium, lowers the temperature, stimulates the heart, lowers the respiratory rate and makes breathing easier.

3. It renders the patient more susceptible to the influence of oxygen.

The inhalations of oxygen are given at intervals, whenever lips or finger-tips become bluish, and are continued until the color becomes normal, usually 10 to 15 minutes. He advises passing oxygen through a wash-bottle containing a pint of hot water to which has been added:

℞. Tinct. benzoin co........................gtt. xl
Ol. terebinthinæ
Creosoti, āā.......................m. x

The gas is administered through an ordinary glass funnel held about two inches from the face.

Treatment of Whooping-Cough.

There seems scarcely room for doubt that whooping-cough is an infectious disease, but, although several micro-organisms have been described by different investigators as the exciting agents, there is no agreement as to any one of these being the specific cause. When this shall have been discovered we may reasonably next hope for the discovery of the antitoxin, inasmuch as the disease is a self-limited one and a single attack is usually protective against subsequent infection; so that it must be conceived that antitoxins are naturally generated in the process of recovery. In the absence, however, of a specific or antidotal therapy, we are still restricted to symptomatic or physiologic remedies. So far as one can judge, empirically or clinically, the best of these are the sedatives, the bromids and bromoform, including also antipyrin, although inhalations and belladonna and quinin, also are sometimes helpful. One of the most recent candidates for favor in the treatment of whooping-cough is an organic combination of fluorin, known commercially as antitussin, and a report of the results from its employment in 16 cases is given by Helm in a recent number of the *Berliner Klinische Wochenschrift* (No. 50, Dec. 11, 1899, p. 1102). The preparation used consists in an ointment made of 5 parts of diflourdiphenyl, 10 parts of vaselin, and 85 parts of chemically pure wool-fat. This is readily absorbed when rubbed into the skin, preferably of the neck, chest and back, after these parts have been washed with warm soapsuds and dried thoroughly, with vigorous friction. A mass the size of a walnut is used, being evenly distributed, and vigorously rubbed in until it has all disappeared. Of the 16 cases treated, 7 were in the catarrhal, and 9 in the convulsive stage. In the former the course of the disease was virtually aborted, and in the latter the symptoms were greatly ameliorated. The remedy appeared to exert a pronounced antispasmodic effect, preventing the paroxysms of cough, the dyspnea, the cyanosis, and the threatened suffocation. Not only the severity of the attacks, but their frequency, also, was diminished, and the duration of the disease was distinctly lessened. In the next place the remedy proved an active expectorant. Finally, in the amounts used, it was entirely nontoxic. The preparation proved useful, further, in the treatment of catarrhal disorders of the larynx, trachea and bronchi.

Bromoform in Whooping-Cough.

Feer gives the parent 10 gm. of bromoform in a colored bottle with the directions to give the child three times a day as many drops as he is years old, plus two. Five years old=5+2, that is, seven drops three times a day for four days, and then four times a day. If no improvement is noted in a week add one drop, and by the end of another week add another drop. Older children should not take over 50 drops during the day, and adults not over 70 drops to 80. It should be taken after meals in water, milk or the yolk of an egg, from a spoon. Parents should be warned not to leave the bottle in reach of the children. Feer has observed a case (*Semaine Méd.*, Dec. 13, 1899), in which a child 3 years of age took 4 gm. at once (120 drops), but the coma and cyanosis induced by the intoxication soon passed away, showing the slight toxic properties of the bromoform.

Milk from Dethyroidized Goats in Basedow's Disease.

Injections of blood serum from dogs deprived of their thyroid glands have been used in the treatment of Basedow's disease, on the assumption that this affection is due to thyroid hypersecretion which might be neutralized by the toxic substances accumulating in dethyroidized animals. O. Lanz reports very favorable results from ingestion of all the milk secreted by goats whose thyroid glands had been removed, half a pint to a pint a day. The pulse was retarded, the goiter, tremor and cephalalgia were diminished, while sleep and appetite were improved by the end of a few weeks in the two cases thus treated. Another patient has been taking the milk for only eight days, but the exophthalmia and cephalalgia are already improved.

Welander's Mercurial Treatment for Syphilitic Infants.

Seibert stated, before the German Congress of Physicians and Naturalists, that he had tested the pillow-slip method of treatment on twenty-one infants, and he warmly recommends it as simple, reliable when a mild treatment is required, no demands on the attendants and no danger from careless handling of powerful drugs, while in the case of infants the warmth in bed promotes the evaporation of the mercury. Children also have a larger surface, in proportion, than adults, to benefit by the evaporation. Seibert modifies Welander's directions by having the pharmacist rub Hg. cum creta, 40 to 60, on the fleecy side of the cloth, which is then folded once and the mother instructed to sew up the three open sides. The bag is changed every four to six days.

Causes and Treatment of Pernicious Anemia.

Grawitz, in the *Rev. de Therap.*, says that one of the chief difficulties in the way of the successful treatment of pernicious anemia is the improper nourishment of the patient on account of his anorexia. It is necessary to wash out the stomach and bowel and to give saline laxatives to correct this.

If the urine contains an increased amount of indican it is a sign that the intestines contain putrefactive material, and internal antiseptics, such as calomel and salol, should be given. To correct the hyperacidity of the stomach, bitters should be prescribed, or the wine of condurango, wine of pepsin or porter. It is indispensable that the physician have an oversight of the fluids taken by the patient. Iron is useless. Arsenic is the only drug which has a direct beneficial action. Massage, exercise, and appropriate gymnastics may be of some benefit. Infusion is only indicated in women who have lost a great deal of blood in induced labor.

Ulcerative Stomatitis.

Kissel advises, in the *Progrès Médical*, to rinse the child's mouth every hour with a 3 per cent. boric acid solution and rub twice daily the entire buccal cavity, and particularly the gums and ulcerated parts of the mucous lining of the cheeks, with a plug of cotton wet with the same solution. Cod-liver oil is prescribed, and before commencing treatment, unsound teeth should be extracted. Under this treatment ulcerations are said to disappear in from six to ten days. In private practice, when such minute attention is not possible, the author, after extracting the teeth, as before, curettes the ulcerations to the bottom, then with a finger enveloped in gauze he rubs iodoform powder into the ulcerated surfaces. The buccal cavity is cleansed twice daily with a tampon of cotton wet with boric acid solution, and the mouth is rinsed hourly with the same solution.

Use and Abuse of Internal Remedies in Treatment of Cutaneous Diseases.

A. Kuhner claims that the dermatologists neglect internal medication while the practitioner abuses it and depreciates the value of local treatment. He calls attention to the efficacy of arsenic (*Aerztl. Rundschau*, 1899) in lichen ruber, psoriasis and other dry desquamating affections; antimony for acute cutaneous diseases, especially in the form of vinum stibium, which has a favorable influence on the arterial pressure. Phosphorus is effective in nervous cutaneous affections (pemphigus, eczema neurot., etc.), and potassium iodid in large doses has been found extremely beneficial in psoriasis by Haslund.

Strontium Bromid in Epilepsy.

Laborde stated, at the meeting of the Paris Acad. de Méd., December 5, that strontium bromid resembles potassium and sodium bromid in its action, but is much more powerful, while no symptoms of intoxication follow its use such as are observed with potassium bromid. Four grams can be given from the start, and the dose of eight to ten grams a day progressively reached without inconvenience. He has an experience of several cases of epilepsy completely arrested for years by the use of strontium bromid.

Current Medical Literature.

Titles marked with an asterisk (*) are noted below.

Boston Medical and Surgical Journal, January 4.

1.—*What Position Should Universities Take with Regard to Investigation? Thomas Dwight.
2.—*Epistaxis. Frederick C. Cobb.
3.—*Appendicitis in a Hernial Sac. Benjamin Tenney.
4.—*Nitrate of Silver in Hydrochlorhydria. M. P. Smithwick.
5.—*Simple Method for the Quantitative Analysis of the Gastric Contents for Use in Clinical Work. Henry F. Hewes.
6.— Three Unusual Cases of Angioneurotic Edema in Infancy. John Lovett Morse.

New York Medical Journal, January 6.

7.—*Injuries of the Kidney and Traumatic Parenchymatous Nephritis with Clinical Report of an Illustrative Case Accompanied by Hematochyluria and Albumosuria, Terminating in Complete Recovery. Thomas J. Yarrow.
8.—*On a Grave Possible Error in Skiagraphy. Carl Beck.
9.—*Menstruum per Rectum. Alfred Moore.
10.— Report of a Few Cases of Chronic Empyema of the Antrum of Highmore: Operation by the Caldwell-Luc Method. A. W. DeRoaldes.
11.—*Therapeutic Application of Carbonic Acid Gas. A. Rose.
12.—*Sudan III Stain for the Tubercle Bacillus. D. Murray Cowie.
13.—*Limitations and Value of Fluoroscopic Examinations. Charles Lester Leonard.
14.—*Hemorrhoids. The General Practitioner and Ubiquitous Charlatan. A Plea for the Systematic Examination of Rectal Patients by the Family Physician. J. William J. Doyle.

Philadelphia Medical Journal, January 6.

15.—*Foreign Body, Chisel, Imbedded in the Nasopharynx and Posterior Pharyngeal Wall. Gary B. Gamble, Jr., and L. M. Tiffany.
16.—*X-Ray Examinations in Diseases of the Chest. Francis H. Williams.
17.— 1. A Bullet in the Popliteal Space. 2. A Case of Dilated Esophagus. Two Cases Showing the Value of the X-Rays and at the Same Time That in the First Case They Were Misleading. W. W. Keen.
18.—*The Skiameter. A. W. Crane.
19.— X-Ray in Military Surgery. N. Senn.
20.—*X-Ray Demonstration of Some of the Effects of Shoes and Stockings on the Human Foot. H. Augustus Wilson.
21.—*Practical Points in Use of X-Rays. Louis A. Weigel.
22.— Practical Use of Radiograph and Fluoroscope in Diseases of the Lungs. T. Mellor Tyson and William S. Newcomet.
23.—*X-Ray Diagnosis of Nephrolithiasis—A Résumé of Its Development and Value. Charles Lester Leonard.
24.—*White Gangrene. George G. Hopkins.
25.—*X-Ray as a Diagnostic Agent in Pulmonary Diseases. J. Edward Stubbert.
26.— Technique of X-Ray Work. Arthur W. Goodspeed.
27.—*Treatment of Lupus by X-Rays. Philip Mills Jones.
28.— Two Cases of Simultaneous Fracture of Patellas, Treated by Wiring the Fragments. J. S. Wight.
29.— X-Rays in Study of Heart Reflex. Albert Abrams.
30.—*Use of X-Ray in Orthopedic Surgery. Robert W. Lovett.

Medical News (N. Y.), January 6.

31.—*Principles of Treatment of Fractures by Systematic Movements and Massage without Apparatus for Immobilization. Lucas Championniere.
32.—*Some of the Causes of Failure to Relieve Asthenopia and Allied Symptoms. F. W. Marlow.
33.—*Aseptic Catheterism. Carl Beck.
34.— Series of Cases of Pistol Shot Wounds in the Head. Charles Phelps.
35.— Case of Polydactylism. A. L. Benedict.

Medical Record (N. Y.), January 6.

36.—*The Diet in Typhoid Fever. Morris Manges.
37.—*Two Cases of Tumor Pressing on the Cauda Equina; Removal; Recovery. B. Sachs.
38.—*Puerperal Insanity. William Hirsch.

Medical Review (St. Louis, Mo.), January 6.

39.—*Relation of Mental Disease and Residence in an Asylum or Sanitarium to Life Expectancy. Harold N. Moyer.
40.— Case of Impetigo Contagiosa Bullosa Simulating Pemphigus Vulgaris. Albert Fuller.
41.— Amputation Stump. H. D. Fairbrother.

Cincinnati Lancet-Clinic. January 6.

42.—*The Tonsillar Ring. Derrick T. Vail.

North Carolina Medical Journal (Charlotte), Dec. 20, 1899.

43.— Croupous Pneumonia in Children. J. Howell Way.
44.— Acute Tonsillitis. Edwin Gladmon.
45.— Acute Pneumonia in Children. W. L. Harris.

Northwestern Lancet (St. Paul, Minn.), Dec. 15, 1899.

46.— Extra-Uterine Pregnancy. John T. Rogers.
47.— Obstetric Emergencies. W. S. Fullerton.
48.— Croupous Pneumonia. A. A. Finch.
49.— Obstruction of a Deviated Rectum due to the Encroachment of the Right Utero-Sacral Ligament. John H. Rishmiller.

Columbus Medical Journal, Dec. 5, 1899.

50.—*Report of a Case of Pseudo-Diphtheria. Frank L. Stillman.
51.—*Intestinal Obstruction, Operation and Recovery, with Report of Cases. Sherman Leach.

American Practitioner and News (Louisville, Ky.), Dec. 1, 1899.

52.— The Doctor's Pay. John G. Cecil.
53.—*Methylene Blue as a Local Application in Diseases of the Mucous Membrane: with Report of Three Cases. Charles Moir.

Clinical Review (Chicago), January.

54.— Acute and Chronic Myelitis. Henry M. Lyman.
55.— Clinical Lectures on Etiology, Pathology, Diagnosis and Treatment of Tumors. A. H. Levings.
56.— Notes on the Liver and Its Diseases. George Dock.
57.— Dermoid Cyst of Ovary Complicating Labor. Henry F. Lewis.
58.— Lecture on Gunshot Wounds. Chas. B. Nancrede.
59.— Clinical Lectures on Obstetrics and Gynecology: Albuminuria and Eclampsia. Denslow Lewis.

Medical Standard (Chicago), January.

60.—*Pulmonary Anemia: An Early Symptom of Phthisis. Albert Abrams.
61.— Urethral Bougies, Catheters and Sounds. A. P. Heineck.
62.— Chronic Nasal Discharge. Paul I. Dombrowski.
63.— Preparations of Iron in Therapeutics. Anton Ewald.
64.— Intestinal Antiseptics. J. F. Purviance.

Louisville Monthly Journal of Medicine and Surgery, January.

65.—*Study of Sixty-one Cases of Appendicitis, Thirty of Whom Were Operated On. Frank T. Meriwether.
66.—*Arm Saved After Being Run Over and Crushed by a Locomotive. S. L. Kilmer.
67.—*Some Phases of Malaria: Quinin In. William Britt Burns.
68.— The Young Physician's Reception. Wilbur F. Sterman.
69.— Aneurysm: With Report of Case. J. Brent Palmer.
70.— Leucoma Adherens, a Sequel to Gonorrheal Ophthalmia, Followed by Two Acute Attacks of Glaucoma. Adolph O. Pfingst.

Medical Review of Reviews (N. Y.), Dec. 25, 1899.

71.—*Cholangiostomie: Two Cases Recovering. B. Merrill Ricketts.

Medical Herald (St. Joseph, Mo.), December, 1899.

72.— Diabetes and its Constitutional Treatment. Elmore S. Pettyjohn.
73.— Human and Bovine Tuberculosis and its Relation to State Medicine. R. E. Graham.
74.— Symptoms and Diagnosis of Carcinoma Uteri. H. J. Boldt.
75.— Blood and Quinin in Malaria. L. H. Warner.
76.— Pernicious Intermittent Fever Treated with Hypo-Quindol (Gardner). C. O. Buck.
77.— Clinical Experience with Thialion. L. Lofton.
78.— Surgical Suggestions. W. J. Bell.

Canadian Journal of Medicine and Surgery (Toronto), January.

79.— History of Medicine. Ezra H. B. Stafford.
80.— Treatment of Acute Digestive Disorders of Infancy. Andrew R. Gordon.
81.— Anesthesia by Chloroform and Ether. William B. Jones.
82.—*Cases of Puerperal Sepsis Treated with Antistreptococcic Serum, with Notes. George T. McKeough.
83.—*Hospital Room in Each Dwelling. W. J. Telfer.

Dominion Medical Monthly (Toronto), December, 1899.

84.— Therapeutics of Conversion, or the Vis Medicatrix Spiritus Sancti as a Cure for Erotic Neurasthenia, with a Remarkable Case.
85.—*Distribution of Anthrax in Ontario. W. T. Connell.

Southern California Practitioner (Los Angeles), December, 1899.

86.— Plea for Early Radical Treatment of Appendicitis. O. O. Witherbee.
87.— Some Causes of Failure in Prescribing Digitalin: Dosage. W. T. Bolton.
88.— Case of Ptomain Poisoning. W. M. Lewis.
89.— Parrott's Disease, Report of a Case. C. G. Stivers.

Brooklyn Medical Journal, January.

90.—*Achylia Gastrica with Report of Two Cases. H. W. Lincoln.
91.—*Salpingitis. Frederick J. Scoop.
92.—*Remarks on Gangrene of Lower Extremities: With a Plea for Early Operative Procedure. William Maddren.

New Orleans Medical and Surgical Journal, January.

93.— Review of the Bacteriology of Gonorrhea. O. L. Pothier.
94.— Report of Cases of Spinal Injury Treated at the Charity Hospital, New Orleans, During 1899. E. D. Fenner.
95.— Report of a Case of Bradycardia. T. S. Dabney.
96.— Interesting Case of Stenosis of the Trachea. Good Results from an Operation for Exophthalmic Goiter. W. W. Keen.
97.— Treatment of Cases of Psychic Impotence. Orville Horwitz.

Obstetrics (N. Y.), December, 1899.

98.—*Atresia Vaginæ Complicating Labor. George G. Ward, Jr.
99.—*Ovarian Cyst Complicating Labor. H. D. Peterson.
100.— Report of Case of Dermoid Cyst of Ovary Complicating Labor. Henry F. Lewis.
101.— Dystocia Due to the Fetus. Thomas S. Bullock.
102.— Physical Diagnosis in Obstetrics. (*Continued.*) E. A. Ayers.

Toledo Medical and Surgical Reporter, January.

103.— Psoriasis. J. C. Reinhart.
104.— Locomotor Ataxia. W. W. Brand.
105.— Locomotor Ataxia. C. W. Newton.
106.— Pathologic Anatomy of Locomotor Ataxia. J. H. Jacobson.
107.— Pulmonary Tuberculosis Treated with Hypodermic Injections of Bromin-Iodin Compound, with Clinical Reports. Paul Plummer.

St. Louis Medical and Surgical Journal, January.

108.— Quosque Tandem, Catalina, Abuteris Patientia Nostra? Albert S. Ashmead.
109.— Contribution to Therapeutics of Pepto-Mangan, "Gude." Ludwig Paul.

Journal of Cutaneous and Genito-Urinary Diseases, (N. Y.), January.

110.—*Case of Blastomycetic Dermatitis Engrafted on Syphilitic Ulcers. Henry G. Anthony and Maximillian Herzog.

111.—*Case of Macular Lepride of Scalp, with Remarks on Localization of Leprous Lesions. Prince A. Morrow.
112.—*Etiology and Rational Treatment of Urethral Arthritis and Allied Affections. A. MacKenzie Forbes.
113.— Urethroscope in Treatment of Strictures. Henry Koch.
114.— Unusual Complication of Subacute Gonorrhea. J. Henry Dowd.

Colorado Medical Journal (Denver), December, 1899.

115.— Report of Case of Intubation of Larynx in an Adult. F. E. Waxham.
116.—*Two Complicated Cases of Appendicitis. S. D. Van Meter.
117.— Dental Jurisprudence. F. F. Graves.
118.—*Report of Case of Hydrophobia. Edwin R. Axtell.
119.— Genito-Urinary Memoranda. Wm. P. Munn.

Archives of Ophthalmology (N. Y.), November, 1899.

120.—*Spontaneous and Post-Operative Detachment of Retina in Myopic Eyes. Conrad Fröhlich.
121.—*Case of Papillo-Retinitis Due to Chlorosis. W. Schmidt.
122.— Contributions to Embryology of Lens. C. Ritter.
123.— Binocular Vision after Extraction of Senile Cataract of One Eye. Edgar S. Thomson.
124.—*Buphthalmus with Lenticonus Posterior. Ed. Pergens.

Richmond Journal of Practice, December, 1899.

125.— Practical Experience in Asepsis and Antisepsis in Obstetrics. Douglas Ayres.

Merck's Archives (N. Y.), December, 1899.

126.— Use of Remedies in Asthma. J. H. Jackson.
127.— Aspidosperma Quebracho in Therapeutics. Virginius W. Gayle.
128.— Diagnosis and Treatment of Uremia. Augustus A. Eshner.
129.— Gaduol in Chronic Bronchopulmonary Catarrh. Joseph M. Patton.

Medical and Surgical Monitor (Indianapolis, Ind.), Dec. 15, 1899.

130.—*Care of the Recent Case of Insanity. C. B. Burr.
131.— Notes of European Travel. A. J. Banker.

AMERICAN.

1. **Universities and Original Investigation.**—Dwight believes it is not the duty of universities to urge, much less to force, original investigation on students. It should be on hand for those whose zeal is so great that it will take no denial. He would not give more prizes, but of scholarships for deserving men we can hardly have too many. As to the encouragement and support of investigation in its faculty, it is the primary object of the professor to teach, but there are cases where it is necessary for his reputation and influence, to do some original work, and the university should assist, especially in the financial needs of this. The best plan would be to place a sum in the hands of the professor at the head of each scientific department, to be spent for the good of that department, including publications. If the individual lacks discretion in the use of this fund, a check to the system would naturally follow.

2. **Epistaxis.**—The causes of bleeding, according to Cobb, may be either local or general. The local causes are more apt to be ulcerations of the blood-vessels, resulting from scabs and crusts on the septum. These may be caused by irritation, as in deflected septum, by foreign bodies—although this is rare—by new growths, and especially by operations for sarcomata. The general causes are plethora and anemia, the hemorrhagic diathesis, acute febrile diseases, vicarious menstruation and disease of the kidneys, syphilis, phthisis and alcohol. It seems to the author that the occurrence of severe bleeding should lead to an examination of the kidneys as a cause. As regards treatment, he recommends cauterization of the bleeding point on the septum with chromic acid, or galvanocautery after cocainization, suprarenal extract to be tried, watching for a possible renewal of the hemorrhage from vascular reaction. Plugging, when resorted to, should be done by strips of gauze introduced along the floor of the nose by means of long forceps, the Eustachian prominence not to be occluded. Packing should be left in twenty-four to forty-eight hours, and removed with the utmost care.

3. **Appendicitis in a Hernial Sac.**—Tenney reports a case of appendicitis due to hernia of the inflamed appendix, which was removed. He discusses the condition generally, which is unusual, though hardly to be called rare.

4. **Nitrate of Silver in Hyperchlorhydria.**—Smithwick reports three cases of treatment of hyperchlorhydria with nitrate of silver, ¼ gr. in ½ ounce of water, poured through a stomach-tube after lavage. While his experience is limited, he thinks it worthy of a thorough trial. We should remember the possibility of argyria and occasionally omit it.

5. **Quantitative Analysis of Gastric Contents.**—Hewes publishes a new method of quantitative analysis, which he claims is more simple than the one he published some two years ago.

1. *Total free HCl.*—For this measure off 5 c.c. of contents after shaking, and add Töpfer's reagent. If free hydrochloric acid is present, the mixture will assume a carmine red color. This will occur, as a rule, with one drop, though three or four may be required. To this add a decinormal solution of sodic hydrate by titration, until the red color changes to orange or bright yellow. The number of cubic centimeters of the soda solution required are read off and multiplied by .00365 grains. The amount of free hydrochloric acid in the 5 c.c. of contents is thus obtained and the percentage may be reckoned. In order to make this test more exact, he supplements it with a tropeolin test, adding a drop of a saturated solution of 00 tropeolin to a drop of the mixture in a warm dish. As long as such a mixture gives a purple color on evaporation, the free HCl is not yet neutralized.

2. *Total free acids plus free acid salts.*—To the same 5 c.c of contents already used, continue to add the decinormal soda solution until a drop of the mixture fails to color Congo red paper, and by taking a record of the soda used up to this point, the quantitative estimate of the total free acids plus acid salts in the contents can be obtained in the same manner as the estimation of the total free HCl. If in performing this Congo test the reaction point is passed, the paper is turned a brighter red than its original color. It is easy, therefore, to control the accuracy of the test.

3. *Total acidity.*—Using the same 5 c.c. mixture, 2 drops of a 1 per cent alcoholic solution of phenolphthalein is added. Continue to add the soda solution until a deep red color of a maximum intensity is obtained. This indicates the presence of an alkaline reaction or the neutralization of all the acid elements. From the record of the soda solution used to accomplish this result we estimate the total acidity. Care must be taken to develop the deepest red color which can be obtained. This analysis gives us a qualitative test for free hydrochloric acid, and a quantitative estimation of the total free hydrochloric acid, the total free acids plus acid salts, and the total acidity. By subtracting the total free HCl from the total free acids plus salts, we obtain a quantitative estimate of the total organic acids plus acid salts. By subtracting the total free acid salts from the total acidity, we obtain the total combined acids—the total combined HCl in cases where free HCl is present. By adding this total combined HCl to the total free HCl we obtain the secreted hydrochloric acid. In cases in which free hydrochloric acid is present to the Töpfer test, this test includes, with the exception of the qualitative test for lactic acid, all the tests that are necessary in ordinary clinical work. Where the Töpfer test is absent or doubtful, the qualitative test for free HCl must be tried with 00 tropeolin, Boas' resorcin reagent and phloroglucin vanillin. Where a trace is discovered by one of these tests which could not be determined by the Töpfer test, the amount present is recorded as a trace, it being too small to admit of a definite quantitative determination. When no free hydrochloric acid is present by any qualitative test, the contents are first tested by Congo red paper. A positive test shows the presence of free acids—organic acids—or of acid salts of both. Five c.c. of contents is then estimated with the soda solution, against Congo red and phenolphthalein in turn, and the free acid plus acid salts and the total acidity determined. If no free acid plus acid salts is present, the contents is first tested with blue litmus. If the test is positive, the presence of combined acids of some kind, either mineral or organic, is proven. Five c.c. of the contents is then estimated against phenolphthalein, to determine the total acidity. In cases in which no free HCl is present, and the contents is still acid, it is of much importance to determine whether or not the combined acid present or a part of it is combined hydrochloric acid, for by this determination we ascertain whether or not any hydrochloric acid is secreted; that is, whether the acid-secreting cells of the stomach suffer from a total loss of function or a simple diminution of this function below normal. This fact may be ascertained in a simple manner by subjecting the contents to the qualitative test for chlorin, except that present in the form of inorganic chlorids, known as the Ewald-Sjoqvist test.

Test for combined hydrochloric acid in the absence of free hydrochloric acid.—Ten c.c. of the contents is mixed with a pinch—half a saltspoonful—of barium carbonate. This mix-tate is evaporated and the residue fused to a red heat in a platinum crucible, fused to a red heat only. The fused mixture is treated with boiling water. The mixture is filtered. The filtrate and wash water together should amount to about 30 c.c. To this filtrate are added from 5 to 10 c.c. of a saturated solution of sodium carbonate is added. If chlorin in the form of organic chlorin compounds and albumins, peptones—is present in the original mixture, a white precipitate will form in this filtrate. When this barium carbonate test is positive, then we know that some of our combined acid is combined hydrochloric acid, and that the disturbance of the secretion of acid present is due to a diminution rather than a total loss of function of the secreting cells. This is a fact of considerable importance in our knowledge of the case. This Ewald-Sjoqvist test is very simple. It occupies about half an hour. It necessitates for apparatus a platinum crucible and a Bunsen lamp. The necessary reagents are: 1, barium carbonate C.P.; 2, saturated aqueous solution of sodium carbonate. All methods of quantitative estimation of the total combined hydrochloric acid in the absence of free hydrochloric acid, which are of sufficient accuracy to be of use, are too difficult of application for use in ordinary clinical work. Hewes employed the above method as a routine practice in all cases of gastric affections in his out-patients, for two years, and he thinks the results have paid for the trouble.

7. **Injuries to the Kidneys.**—Yarrow reports a case in a child who was run over by a coal cart and had the symptoms of contusion or laceration of the kidney with acute nephritis, but in whom the symptoms followed a very favorable course, the recovery being complete in about forty days after the accident. One of the most interesting features of the case was the occurrrence of hematoidinuria, which continued until after the blood clot had been absorbed in the contused kidney. He thinks that in this condition the hemoglobin is changed to hematin and methemoglobin, and finally subjected to further oxidation by contact with the tissues, and converted into hematoidin. The acute traumatic nephritis in the case would probably have lasted less than a month except for an aggravation due to influenza at its close.

8. **Errors in Skiagraphy.**—Beck calls attention to the possibility of errors in accepting skiagraphs of a bone fracture, and illustrates by a case showing how the first view in the anteroposterior direction alone failed to reveal an oblique fracture of the tibia satisfactorily. The case shows the importance of taking at least two skiagraphs in different positions in all cases of suspected fracture.

9.—See abstract in The Journal of Dec. 2, 1899, p. 1419.

11. **Therapeutic Application of Carbonic Acid Gas.**—This article gives a general review of the effects of carbonic acid gas in pathologic conditions, with a history of its employment in this way. The author shows that it causes hyperemia of the nasal membranes, and that it has its value in rheumatism and neuralgia in balneologic treatment. His paper is to be continued.

12. **The Sudan III Stain.**—Cowie shows the unreliability of this stain, as now manufactured and sold, for the differentiation of the tubercle bacillus, and thinks that the original stain used by Dorset appears to be now unattainable. He hopes it will be found, and if it proves, as it appears it might, to be a selective stain for the tubercle bacillus, its value in clinical medicine will be beyond calculation.

13. **Limitations of the Fluoroscope.**—The value of the fluoroscope is that it aids and confirms the mental pictures obtained by the diagnostician by other methods, but it does not replace them. It is impossible to always determine the difference shown in this manner on normal tissues under different conditions, and unless we know the normal, it is impossible to determine the pathologic. This is especially true of the lungs, which vary in their showing according to their expansion and other circumstances. The apices, for instance, of persons of sedentary habits, expand imperfectly in normal breathing, and thus might lead to a diagnosis of incipient phthisis. Absolute accuracy by this method seems to be impossible. Its value is less than that of the skiagraph, which records its work, and instantaneous skiagrams, which may be made in future, will possibly afford one of the greatest advances in X-ray work.

14. **Hemorrhoids.**—Doyle calls attention to the carelessness of accepting a patient's testimony as to his rectal condition, and illustrates it by cases which he says might be multiplied indefinitely. There is really nothing difficult about making rectal examinations, though they are sometimes objected to. He gives his method in detail. After becoming satisfied as to the condition of the external parts, the vast majority of diseases within the rectum can be detected by the educated finger, the speculum being rarely required. When entering, the finger will give a definite idea of the condition of the external sphincters, and once the finger is inside, we readily detect any abnormal condition, such as stricture, internal piles, polypi, old ulcers with indurated bases, and sometimes the opening of internal fistulæ. In males we learn the condition of the prostate gland, and in the female, the size, shape and position of the uterus, ovaries, etc. For ordinary examinations, where the speculum is required, Cook's or Matthew's instruments are satisfactory, while for the deeper parts, Kelly's tubes are admirable, but require more skill in their introduction. The soft silver probe is sometimes useful, but is really rarely required, as in demonstrating an internal fistula or opening. The rectal bougie is a dangerous instrument, even in the hands of an expert. In connection with the history inquire as to: 1, pain, its character, situation and relation to the act of defecation—whether worse before, during, immediately after, or some time after evacuation; 2, itching; 3, a sense of fulness, heat and burning; 4, swelling and protrusion at anal opening—its relation to defecation, whether or not it becomes reduced spontaneously; 5, bleeding; 6, discharge—if any, its nature, whether mucous, bloody, purulent, or offensive—its relation to defecation or its occurrence independently of that process; 7, the character of the evacuation as to color, size, consistence and regularity; 8, the family history regarding malignant disease and generally investigate the *personnel* of the patient. Such examination will place us in a position to form at least a fairly accurate diagnosis and enable us to keep the patient within the circle of an educated profession, and the rectal charlatan, whose sole object is to grasp the pursestrings of the sufferer, will be compelled to devote his attention to other pursuits.

15. See abstract in The Journal of Nov. 4, 1899, p. 1181.

16. **X Ray Examinations in Thoracic Diseases.**—The paper of Williams is an elaborate one, going into details as to the relative advantages of the X-ray as compared with the other methods of diagnosis of heart and lung diseases, aneurysms, neoplasms, etc. He does not advocate giving up any other methods for making diagnosis in thoracic diseases—we need all the aids we can have—but strongly urges the addition to them of careful X-ray examinations, and emphasizes the value of this method as a means of indicating early certain abnormal conditions in the chest. We have two methods of examining the heart and lungs—auscultation and percussion. Each of these in suitable cases gives valuable information; they require a trained ear and experience with many patients to make them serviceable. In some cases the former is of the greater value, in others percussion; more frequently they are best when used together. To these we may now add a third method, which also requires special training, that of X-ray examinations. There are diseases in which each of the three methods may render the chief service, and each may in other cases be of little value. Usually, they should be used together; each supplements the other.

18. **The Skiameter.**—This instrument is described and its use indicated. It consists of a screen on which are fastened strips of tinfoil of from one to ten layers, with intervals between. These have also two holes of different sizes cut in them. The tinfoil bar of only one layer is the unit of shadow measure; if its shadow is undistinguishable, while that of the next is seen, we have a chest shadow of one degree. This explains its main utility, but it also serves for topographic mensuration.

20. **Foot Deformities.**—Wilson demonstrates by the X-rays the effects of foot coverings on the feet.

21. **Practical Points in X-Ray Work.**—Weigel prefers a static machine for the work, uses mechanical rests, objects to too close tubes, even with short exposures, thinks photographs preferable to the fluoroscope, and makes various suggestions as to developing, printing, etc. He believes more attention

should be given to this part of the work. The fluoroscope has only a limited usefulness, and is, he suggests, perhaps responsible for some of the charges of unreliability, etc. of X-ray revelations. His paper concludes with illustrative cases.

23. **X-Ray Diagnosis of Nephrolithiasis.**—The diagnosis of kidney calculi requires a "soft" Crookes' tube, or one with a low vacuum, and also one that is self-regulating. The vacuum required is shown, by experience, to equal in resistance one or two inches of spark in air. The length of exposure depends on the individual and is also dependent on the amount of energy developed in the secondary circuit, since this influences the volume of the Roentgen discharge. High wattage and not high voltage is the necessary element in the current employed to energize a tube for differentiation in soft structures *en masse*. He gives reports of thirty-six cases.

24. **White Gangrene.**—According to Hopkins, the X-ray burn is due to destruction of the nerve-supply of the part by the rays. It is more common when alternating currents are used, and he has found but four cases on record when the static current was employed, and then only when the exposure has been unduly long. If improper apparatus, too long exposure and too close approach to the tube are avoided, and the static machine used, there need be no fear of injury.

25. **X-Ray in Lung Diseases.**—Stubbert reviews the methods of pulmonary examinations with the fluoroscope, and describes the appearances. A great deal depends on the intensity and steadiness of light and the amount of muscular and adipose tissue intervening between it and the fluoroscope.

27. **Cure of Lupus by X-Rays.**—Jones reports two cases of lupus of the face cured by the X-rays.

30. **X-Ray in Orthopedic Surgery.**—Lovett's paper illustrates the uses of the rays in orthopedic surgery. Twenty-nine skiagrams are given, showing their value in the diagnosis of existing conditions.

31. **Treatment of Fractures Without Immobilization.**—Lucas-Championnière advocates the treatment of fractures without the use of immobilization apparatus, and maintains that by this method at least one-fifth of all fractures can be treated. It consists in passive movements of the joints, and general massage of the limb, both of which prevent stiffening of articulations, muscles and tendons, and especially favor repair. The massage should never give pain, and should always be followed by an attempt at passive movement of the joints of the limb, which procedure must also be accomplished without pain. There is only one contraindication to this method, and that is a threatening deformity, and this only should prevent the surgeon from using this method. In 598 patients with serious lesions thus treated, 370 suffered from fractures which he gives in classified form. He thinks it gives more rapid and satisfactory results than any other plan of treatment employed at the present time. It requires, however, more attention and personal care than does the use of apparatus which may be left undisturbed for days or weeks.

32. **Asthenopia.**—The cases of asthenopia which fail to be relieved by the ophthalmologist are discussed by Marlow, who divides them into curable and incurable, and gives illustrations of each form. The curable cases may fail from the fault of the patient or that of the oculist, or there may be extreme latency of some of the errors of refraction and equilibrium that are overlooked or very difficult to correct. The incurable cases include congenital asthenopes whose eyes are incapable of a normal amount of work, independently of their refraction and muscular condition and of the general health, and second, those in which the symptoms are due to organic disease of the brain or to some general disease.

33. **Aseptic Catheterism.**—The chief point in Beck's paper is the necessity of very thorough cleanliness, extreme delicacy and much patience in catheterization and he shows how difficult it is to make the urethra aseptic; even the normal passage contains numerous pathogenic germs. He advises a prophylactic injection of a 5 per cent. emulsion of iodoform in glycerin before the introduction of the instrument. In this case, if an abrasion is caused, the iodoform will come in contact with the wound at the very first, and destroy the germs or arrest their growth. The trusting of a catheter to the patient himself is unscientific and should be done only under the most pressing circumstances. Soft catheters should be chosen, and the fact that their usefulness is soon destroyed by repeated boiling should not have much weight in the matter.

36. **Diet in Typhoid.**—Manges pleads for a more liberal diet in typhoid, and points out that the dangers are decidedly less than they have been commonly supposed. Typhoid fever is a general toxemia, and it is this rather than any particular lesions to which we must direct our attention, and regulate the diet, and the general nutrition should be kept up at the highest point possible. The dangers of hemorrhage as far as the limited number of cases quoted permits judgment, is not increased, nor does he believe that the dangers of perforation are any greater with a soft than a liquid diet. Our present directions are too stereotyped, usually being that the patient should be fed on milk. Manges thinks that if proper disinfection of the stools, urine, etc., were attended to, and we studied the diagnosis of typhoid fever more instead of prescribing useless drugs, the benefit to the world would be very marked. He does not lay down the rule that every patient should be placed on this less restricted diet, nor that every article may be allowed, but simply pleads for a more liberal feeding, which he thinks the experience of competent observers has taught us is safe.

37. **Tumors Pressing on the Cauda Equina.**—Sachs reports two cases of tumors pressing on the cauda equina in the lower spinal canal, both of them operated on with success, and the chances of recovery greatly improved. It is possible that in one case at least there may be some malignant residua left, and that there is a serious danger of relapse. The localization of spinal growths is now so well fixed that the question is not where, but what is the lesion, and do the symptoms warrant the diagnosis of tumor and make operation advisable. Sachs believes that whenever there is a strong suspicion of extraspinal neoplasm, and a possibility of reaching the site, an exploratory operation should be made as early as possible. If properly done it is perfectly harmless.

38. **Puerperal Insanity.**—Hirsch ends his paper as follows: 1. A specific form of mental disease, which might be called puerperal insanity, does not exist. The different psychoses which are observed during one of the stages of gestation are the same as those we see in other patients. 2. Pregnancy may, under certain circumstances, be one of the etiologic factors of insanity. Its etiologic importance, however, is proven by neither statistics nor clinical observation. It is, therefore, not permissible to terminate pregnancy on account of a psychosis, unless there are special indications for such intervention. 3. During parturition we sometimes meet a transitory disturbance of consciousness, the clinical features of which resemble psychic epilepsy. 4. Psychoses which occur in connection with the act of parturition are produced: *a*, by trauma in cases of difficult labor; *b*, by anemia and exhaustion after severe hemorrhage; *c*, by intoxication in septic cases or local inflammation, or uremia. The clinical symptoms of this group of psychoses consist of an acute delirium, which either leads to recovery after a short time or passes into a secondary psychosis. All these cases may be produced by the same causes in the non-pregnant state. The clinical features have nothing special in any way. 5. Lactation, as such, plays no rôle in the production of insanity. It is due to other circumstances that, during the first few months after delivery, women, on the average, are more predisposed to nervous and mental diseases than under ordinary conditions.

39.—See abstract in THE JOURNAL of Dec. 30, 1899, p. 1655.

42.—Ibid., Dec. 2, 1899, p. 1423.

50. **Pseudo-Diphtheria.**—Stillman reports a case of apparent diphtheritic growth in which the most careful examination of the membrane was negative as regards the Klebs-Loeffler bacillus, and showed a pure streptococcic invasion. The duration of the disease was three weeks.

51. **Intestinal Obstruction.**—In regard to this subject, Leach says, after due trial with various remedies, calomel, oil, salines, also rectal enemata of various kinds, if we fail to get the bowels open, we should not delay operation. Peritonitis should be prevented by operation at once, without waiting for its symptoms. He reports cases illustrating his views.

53. **Methylene Blue.**—Moir reports three cases in which he used [illegible] local application to the mucous mem-

brane in purulent diseases of the tonsils and nasal passage with the best results. In one of the cases he also employed it internally, in 2-grain doses three times a day. He believes its germ-destroying effects are equal to if not superior to those of any other drug.

60. **Pulmonary Anemia, an Early Symptom of Phthisis.**—Abrams in a former communication called attention to the presence over the thorax of apparently normal individuals of constant areas of diminished percussion resonance, varying from dulness to flatness. These vary in number and situation in the individual, but generally admit of definite localization. He has called these atelectatic zones. They can be dispelled by repeated forced inspiration, but will return with ordinary breathing, and in children more than in adults are associated with anemia. These zones bear an almost definite relation to the points of election and the paths of distribution of the lesions in chronic pulmonary tuberculosis. Since the advent of the Roentgen rays, he has confirmed these views, but finds that voluntary forced breathing alone is not always sufficient to dispel these areas, and he now subjects such patients to breathing exercises with compressed air, before submitting them to the skiascopic examination. The indications for treatment are to increase the power of the lungs and inorease its development by proper gymnastics.

65.—This paper, here printed as original, has appeared elsewhere; see abstract in THE JOURNAL of Dec. 9, 1899, p. 1479, ¶ 24.

66.—Ibid., Oct. 28, 1899, p. 1090, ¶ 63.

67.—See abstract in THE JOURNAL of Oct. 21, 1899, p. 1042.

71.—Ibid., Nov. 11, 1899, p. 1229.

82. **Puerperal Sepsis Treated by Antistreptococcic Serum.**—McKeough reports a case of puerperal sepsis treated by the injection of 10 c.c. doses of antistreptococcic serum, and mentions others that have come to his knowledge similarly treated. While the evidence in regard to this method of treatment is conflicting, he is inclined to think that the good results in his case were due to it.

83. **Hospital Room in Dwellings.**—Telfer here recommends that in house construction a special room be taken for cases of sickness, not to be utilized for this alone, but to be so built and furnished that it can, in case of need, be made a proper hospital apartment and isolated and disinfected as such. The ceilings, walls, and floors should be finished so that they can be thoroughly washed, its furniture such as can be rendered aseptic. Special bath and closet arrangements should be provided, and a stairway that can be exclusively used. The advantages of such a room are pointed out.

85.—See abstract in THE JOURNAL of Dec. 9, 1899, p. 1505.

90. **Achylia Gastrica.**—Two cases are reported, with a general discussion of the subject. The condition is considered to be a disease, not a symptom, and while it may exist without any symptoms whatever, the patient being in apparent health, there are generally symptoms of dyspepsia, constipation, etc., and sometimes obstinate diarrhea with nausea and vomiting. The treatment consists in keeping up body nutrition and stimulating the gastric muscles. Five or six small meals are preferable to three ordinary ones, and milk given according to the views of L. D. Bulkley works admirably. For local stimulation, lavage and intragastric electrization stand pre-eminent. Either or both may be continued for a long time, according to the case. Many require no medicinal treatment. Dilute hydrochloric acid, some good iron preparation, fluid extract of condurango, tincture of nux vomica, Fowler's solution, etc., are used as indicated. Pineapple juice is a good substitute for hydrochloric acid.

91. **Salpingitis.**—Shoop thinks the majority of cases of salpingitis are due to a streptococcic invasion, the gonococcus not being so great a factor as was formerly supposed.

92. **Gangrene.**—The various forms of gangrene and their causes are mentioned by Maddren, who believes that it is the wisest and best procedure to have the patients submit to amputation at the most favorable point in the first stages of the malady, while their recuperative powers are at their best and their systems are less charged with toxic matter.

98. **Atresia Vaginae Complicating Labor.**—Ward summarizes his study of this subject in the following: 1. In the great majority of cases Nature is competent to overcome the obstructions by the softening and relaxing of the tissues incident to the later months of gestation, and by the dilatation produced by the presenting part. 2. No hard and fast rules can be laid down for such cases, as the treatment must depend on the character of the obstruction. 3. Labor is very apt to be induced by efforts at dilatation, and unless premature delivery is intended, such efforts had better be deferred until near term, or until labor sets in, especially as the condition of the tissues is more favorable for dilatation at that time. 4. Hydrostatic and careful manual dilatation, coupled with shallow radiating incisions or nicks, if necessary, may be used with advantage to aid or take the place of dilatation by the presenting part. 5. Dilatation of the atresia should be as nearly complete as possible before the forceps are applied. 6. Care should be observed in the after-treatment of these cases, to maintain the patency of the vagina by irrigations, and the daily passage of suitable dilators. 7. In those cases in which the obstruction is unyielding or cartilaginous in character, or is complicated by the presence of a vesicovaginal fistula if, after a fair trial, it is seen that further delay is dangerous to both mother and child, Cesarian section should be resorted to, in preference to embryotomy and craniotomy. 8. In cases where the labor can not be terminated per vaginam, and in which the atresia is complete, so that the proper drainage of the lochia from the uterus is interfered with, a Porro operation should be performed in preference to a Cesarian section.

99.—See abstract in THE JOURNAL of Dec. 2, 1899, p. 1425.

110. **Blastomycetic Dermatitis.**—The case reported by Anthony and Herzog is one of blastomycetic dermatitis superposed on gummata. No other micro-organisms but blastomycetes were seen in the tissue.

111. **Leprosy.**—Morrow reports a case of the rare occurrence of macular leprosy on the scalp, in a sailor, 47 years of age. The patient had had syphilis and epilepsy prior to this affection. This case is also reported by him in his memoir on leprosy in "Twentieth Century Practice," Vol. xviii.

112. **Urethral Arthritis.**—The motive of Forbes' paper is to show that gonorrheal arthritis is due to the migration of the gonococcus, as is shown by experimental evidence, and by the fact that they have been found so rarely in other than the acute stages and that the gonococci do not tend to flourish in the joint, hence the rational treatment is to cut off the source of supply in the urethra; in other words, we must cure the urethritis to cure the arthritis. He reports an analysis of forty-three cases, which he thinks, in a general way, support his views; he gives a more detailed account of one case in particular.

116.—See abstract in THE JOURNAL of May 27, 1899, p. 1179.

118. **Hydrophobia.**—The case reported by Axtell is that of a boy 8 years old, who was bitten by a dog about three weeks before the beginning of the symptoms. The wound had healed up kindly. The case is of interest as giving symptoms of hydrophobia, or dread of water, in a child too young to be affected by the history of the disease and his imagination. The stage of excitement lasted two days. There was no paralytic stage, the spasms were not painful, the mental state was clear, and the abject terror or fear of water was typical. He asks: if the case was not one of hydrophobia, what was the cause of death?

120. **Detachment of Retina.**—The frequency of any evidence of spontaneous and post-operative detachment of the retina in myopic eyes is discussed by Fröhlich, who finds that the accident is much more frequent after operation than in cases unoperated on, and that adding the loss of sight from this cause and that from infection after operation, the total amounts to 5.5 per cent. He says all the new departures in surgery cause a sacrifice. Still, the course may be proper, and improved technic may later bring down the percentage of losses.

121. **Papillo-Retinitis and Chlorosis.**—Schmidt reports a case of double papillo-retinitis in a girl of 14, due to a chlorotic condition, as shown by the blood examination. The patient recovered under treatment, and the case is in many respects similar to that reported by Dieballa.

124. **Lenticonus Posterior.**—Pergens here reports a case of buphthalmus with pronounced keratoglobus, in a boy 4½ years old. The eyeball was enucleated and examined microscopically,

and found to be a case of lenticonus posterior, being the first case thus examined in man. There was a pyramidal cataract anteriorly. The other eye was normal. He gives a résumé of the cases in literature in which this condition has been diagnosed in man.

150. **Treatment of Insanity.**—Burr discusses, quite elaborately, the treatment of recent cases of insanity, and strongly advocates the rest-in-bed treatment, with the other methods found useful in these cases. Among the special methods he mentions are the "salt glow" or rubbing, followed by a cold bath. He thinks it is unadvisable to recommend change of scene and travel for neurasthenic and depressed patients.

FOREIGN.

British Medical Journal, Dec. 30, 1899.

Harveian Lectures on Treatment of Tuberculous Diseases. W. WATSON CHEYNE.—The third lecture by Cheyne, which is appearing in the British journals, is devoted to the subject of genito-urinary tuberculosis. In the male the epididymis seems to be the most frequently affected. After noticing the symptoms, he considers the methods of treatment, and after describing the operations of castration and epididymectomy, he rather favors the latter, considering it worthy of more consideration than it has yet received. When it alone can be used, he would prefer it to castration. Tuberculosis of the prostate requires surgical treatment only when there is breaking down and formation of pus, and in these cases it should be carried out early. Tuberculosis of the bladder may be treated either surgically or medically; in neither case can we insure a cure. Operations, however, are likely to give relief, if not absolute cure of the disease. The kidney is the most common seat of tuberculosis in genito-urinary disease, and may be affected either primarily or secondarily. After the diagnosis is made, which is of the utmost importance, as to which kidney is affected, and the extent and implication of other organs, the surgical procedures are nephrotomy and nephrectomy, total or partial. The former is only a temporary expedient and must generally be looked upon as a preliminary operation. Nephrectomy, to be justified, requires that the disease must be unilateral, and Cheyne doubts the reliability of ureteral catheterization in the diagnosis of these cases. The best procedure, in spite of its disadvantages, is, he believes, to cut down on the kidney supposed to be diseased, and ascertain the condition. In all cases where the kidney is removed, more or less of the ureter will also have to be taken. Of late years some good results have been reported from partial nephrectomy, though in many the subsequent removal of the remainder has been required. On the whole, however, the best results are obtained by nephrectomy, if the other kidney is healthy.

Essential Toxic Symptoms of Diphtheria. JOHN BIERNACKI.—The author suggests that the toxic symptoms of diphtheria are due to a rapid fall of blood-pressure caused by the diphtheria toxin, and he publishes a chart and reports a case which he thinks supports this view.

Lancet, Dec. 30, 1899.

Measures Taken at Tor and Suez Against Ships Coming from the Red Sea and the Far East. MARC ARMAND RUFFER.—The quarantine methods at the northern end of the Red Sea are described, also the conditions of the Mecca pilgrimage. According to Ruffer, the sanitary condition of the steamers carrying pilgrims to and from Jeddah are of the worst possible character, the Austrian boats alone being a marked exception. The quarantine station at Tor, at the foot of the Sinai range, appears to be on the whole as good as could be expected, and he considers the arrangements efficient against plague, but not against cholera. There are also serious defects as regards disinfection of the clothing of the passengers and crews of infected vessels, and the Venice convention regulations are very far from being as efficient and satisfactory as they should be. At present there is nothing to prevent vessels from carrying passengers in the incubation period of plague and cholera, through the Suez Canal into Europe, and the ultimate measures must be taken at European ports. In his opinion, in ship disinfection it is better to do a little well and thoroughly than a great deal badly. The great danger is the patient, the things in his immediate neighborhood and his soiled clothing, and it is comparatively easy to deal with him, but when attempts are made to enforce more general measures, and entail pecuniary loss, the door is open to every form of fraud, bribery, concealment and corruption.

Clinical Record (London), Dec. 20, 1899.

Combined Degenerations of Spinal Cord. RISIEN RUSSELL.—The disorders of the spinal cord here considered include certain species already recognized, but which the author considers as not clearly pathologically proven, such as ataxic paraplegia and lateral spinal sclerosis, and another form which he has recognized as existing, whether these others really exist or not. The disorder has not yet been assigned its proper place in the classification, its subjects having been considered as suffering from various conditions, such as myelitis, tabes, disseminated sclerosis, etc. Its etiology is obscure. Its pathology, as the name "combined degenerations" implies, is the disorder of various spinal tracts, and in some regions nearly the whole of the white matter except that which abuts immediately on the gray. Where the change is less extensive, the most marked damage is to the dorsal and lateral regions, while an area which varies in extent in the ventrolateral region escapes. The damage to the posterior column diminishes toward the caudal extremity, while that of the pyramidal tract diminishes toward the medulla. The greatest area affected is in the thoracic region. Tracts which are supposed to have their trophic centers in the gray matter of the column are more or less preserved. Microscopically, the conditions are, in their most pronounced state, a dense sclerosis, practically no nerve elements being left. He rejects the idea that the condition originates in anemia, though we do not find any very satisfactory explanation. The one that seems most satisfactory to him is the action of a toxin. The disease generally begins with weakness in the lower extremities, often with early sensory symptoms, such as numbness and tingling. A girdle sensation is frequent, and some patients complain of a persistent pain in the region of the liver. Shooting pains are sometimes felt in the legs. Some sphincter disturbance, especially of the bladder, is common and not long delayed. The first symptoms rarely appear in the upper extremities. When patients are under observation, the disease is generally advanced, but wasting is not usually apparent, though it occurs later. The faradic muscular reaction is diminished, while the galvanic is retained. The paraplegia is either spastic or the limbs are flaccid, though in the latter case there may be certain spastic phenomena. Flaccidity may be a sequel to the earlier spastic condition. The trunk muscles sooner or later become involved, and ataxia of the upper extremities is sometimes present, with loss of muscular sense, though the disease is more manifest in the lower extremities. Analgesia and anesthesia are there present. The knee-jerks are usually exaggerated, and ankle-clonus is commonly present. The plantar reflex, that is the extension of the toes instead of the flexion, as is normally the case, is a valuable sign, especially in cases where the reflexes are absent, as it distinguishes this form of paraplegia from that due to peripheral nerve affections. Trophic disorders are common, sacral bed sores, anasarca, etc. Toward the close of the disorder mental changes are noticed, most marked at night, when there may be delirium. The cranial nerves are seldom affected, except in the general asthenia in the advanced stage. The anemia is sometimes so marked that some cases may possibly be considered as pernicious anemia. In others it appears to play no part. The disease runs a rapid course, the average duration being ten months. The case longest under observation was one year and three months, the shortest three months. In every case in which this disease has been recognized clinically, in the hospital, by Dr. Russell, death has resulted.

Caledonian Medical Journal, January.

Notes on Condition of Cortical Nerve-Cells in Three Cases of Imbecility. J. MIDDLEMASS.—The author briefly reports three cases, two epileptics, another an imbecile not suffering from epilepsy, in which the nerve-cells of the second layer of the cortex, and in two the third layer also, were in the condition called by Bevan Lewis, "developmental arrest." If these cases are confirmed by other observations, he thinks they should prove of considerable importance as explaining the pathology of imbecility to be a fetal condition of these nerve-cells. One of [illegible] cases go to demonstrate that epilepsy is not a constant [illegible] of this condition of arrest, as has been held by [illegible].

Bulletin Medical de Quebec, December, 1899.

Cardiopathy and Marriage. A. SIMARD.—The published statistics, the writer states, show that the mortality of heart disease aggravated by pregnancy and its consequences is 13 to 61 per cent. Porak reports 88 out of 214 pregnant women with heart disease prematurely delivered. The fetus is usually dead and is [illegible] poorly developed when born at term. Two observations of mitral lesions much aggravated by pregnancy [illegible] Simard to accept von Leyden's dictum that the physician should in general advise against the marriage of young women with valvular lesions. It is evident that pregnancy is liable to greatly aggravate an existing heart disease; also that pregnancies under these circumstances are frequently interrupted, which is another danger for the patient, and the puerperal state may prove fatal. But it must not be forgotten that numbers of women with heart lesions pass through pregnancies without apparent injury. In another of Simard's observations a young woman with aortic insufficiency came through her pregnancy unscathed. Jaccoud and Vinay assert that if the subject has never suffered from her heart affection and the lesions are compensated, there is no reason to forbid marriage, merely advising "maternity in moderation." Simard would acquaint the subject with the possible dangers, and if accidents have already appeared, positively forbid marriage.

Bulletin Medical (Paris), Dec. 20, 1899.

Renal Lithiasis in Children. COMBY.—In this communication Comby states that he has noted evidences of renal lithiasis in 100 out of 600 necropsies of infants, in the last two years, but not a single case of biliary lithiasis. Uric infarcts have even been noted in stillborn infants. The renal lithiasis is not hereditary, but acquired from improper or insufficient food. Most of the children were atrophied, dehydrated and with infections favoring acidity and concentration of the urine and precipitation of urates. In 48 examined more closely, 31 were boys and 17 girls: 28 were under 6 months old; 18 between 6 and 12 months and 2 between 1 and 2 years. Diarrhea was noted in 29; vomiting in 24; athrepsia in 14; various eruptions in 28 and rapid decrease in weight in 25. Symptoms are obscure on account of the age; nephritic colics are rarely recognized. Convulsions, dysuria, screaming, restlessness can sometimes be connected with the renal lithiasis. If the children survive their athrepsia, the calculi may persist and lodge in the urinary passages. The lithiasis of the youth and the adult may date from the earliest infancy. Prophylaxis consists in appropriate food and drink; in case of fever, copious enemata of water, or injections of artificial serum if there is gastric intolerance. A course at some watering-place is advisable in case of continued lithiasis.

Ventral Position in Treatment of Vesicovaginal Fistula. [illegible].—The frequent failure of treatment in these cases is due to the incessant contact of the wound with urine. If this can be prevented, the wound heals rapidly, and this can be accomplished by accustoming the patient to lie in the ventral decubitus. This position and a permanent sound may alone effect a cure, and should be imperative after every operation, with possibly compression of the posterior wall of the bladder after suture of the fistula.

Presse Medicale (Paris), Dec. 20, 1899.

Search for Projectiles in the Skull with Radiography and the Contremoulin Apparatus. T. TUFFIER.—Remarkable results were attained with this apparatus in three recent cases in which the results of radiography and operation contraindicated the clinical manifestations. The apparatus is not very complicated. It fits over the head, and two radiographs are taken. The apparatus is then removed and a pair of long sliding needles inserted, which meet at right angles exactly at the point where the projectile is located. After anesthesia the apparatus is replaced on the head and the needles [illegible].

Severe Polyuria and Its Relation to Lesions of the Pancreas. C. MONCOUR and GENTES.—"Beside the benign polyuria with still undetermined lesions, there is a severe polyuria commencing abruptly or consecutive to the former, the nature of which is still unknown. The evolution deceptively simulates the evolution of pancreatic diabetes, and we believe that it is connected with a lesion of the pancreas." This pancreatic lesion, neoplasia or fibrous degeneration is perhaps hypertrophic, respecting the acini comparatively. In all the observations the pancreas was hypertrophied. It is possible that the destruction of the cells is less complete than in the atrophic sclerosis encountered in diabetes. The lesion more resembles the results of experimental incomplete ablation of the pancreas or ligature of the pancreatic duct, which was followed by simple polyuria. In one observation, described in detail, a young man was suddenly affected with extreme weakness and vertigo, in the midst of his work, subsiding again in a few weeks but reappearing by the end of the year, during which polydipsia had been frequent, with rapid decoloration of the integuments, complete asthenia, no appetite, intense thirst, polyuria of five to six liters a day, no sugar, no albumin in the urine, continuous slight fever, extreme hypoglobulia. Death in coma followed in about a week. The only lesion found at the necropsy was the extraordinary woody hardness of the pancreas, which weighed 210 grams, with fibrous sclerosis between the acini. The pancreatic duct was dilated into an ampulla filled with clots and calcareous concretions, closing the lumen entirely on the side toward the intestines. In another observation of polyuria of 16 to 24 liters a day and great emaciation, ingestion of fresh pancreas reduced the amount of urine by several liters, but it returned to the previous amount every time on suspension of the pancreas. The patient was lost sight of. Polyuria has also been noted in a few cases on record with carcinoma of the pancreas.

Semaine Medicale (Paris), Dec. 13, 1899.

Gas Cysts in Intestines in Man. HOLSTEIN.—Two cases of gas cysts of the bladder are on record, noted at the necropsy, and several of the vagina, and they have been found at necropsies, in the intestines, similar to the intestinal cystic pneumatosis found in cattle and hogs. A microbian origin is obvious; Lindenthal and Dupraz have both isolated a coccus which reproduces these cysts in animals. The first case diagnosed *intra vitam* in man was reported by Hahn, last October. He succeeded in restoring the patient to health by a laparotomy, excising all the pedunculated cysts and crushing the others. They ranged from the size of a pea to that of a nut, scattered through all of the large and part of the small intestine. Comparing the symptoms observed in this case with the findings and anamnesis at necropsies, we note that the subjects have usually been affected with gastro-intestinal disturbances for a long time, with much distension of the abdomen, and obstinate constipation in which purgatives are impotent. Besides the constant constipation, there are symptoms suggesting gastric ulcer, pain in the epigastrium, vomiting of black or bloody masses, occasionally symptoms of ileus. The affection develops slowly and sometimes lasts several years. The subjects are generally much emaciated, and succumb to marasmus or intestinal occlusion. Examination of the abdomen affords the most valuable information. In Hahn's case elastic resistance to pressure was noted at various points, giving a tympanic sound on percussion, while echinococcus cysts give a dull sound. The stomach is considerably dilated and displaced by the tumefied intestinal loops. The probability of the transmission of the disease from pork imposes the necessity of stricter surveillance of meats.

Berliner Klinische Wochenschrift, Dec. 11 and 13, 1899.

New Scientific Basis for Organ Therapeutics. P. F. RICHTER and A. LOEWY.—We know that the uterus becomes atrophied after removal of the ovaries, and that the general organism is affected in various ways; in 25 to 35 per cent. the subjects grow fat. The experimental research here reported shows that the interchange of gases and consumption of oxygen are materially diminished after castration. The difference becomes striking by the tenth to fifteenth week, possibly coinciding with the atrophy of the uterus, and suggesting that it may at first substitute the missing ovaries. The consumption of oxygen diminishes constantly and permanently, an average of 10 per cent. The oxidating power of the protoplasm, which has the metabolism in charge, is reduced—the metabolism falls off

9 per cent., and this reduction is the cause of the gradually developing obesity which may be mechanical—the body passive—or it may be an organic anomaly leading to the accumulation of fat by the altered destructive powers of the cells. This fact of the diminished interchanges after castration affords a test for organic or "substitution therapeutics," and oöphorin—ovarian substance—has responded to the test. When the effect of castration is at its height, that is, in about fourteen weeks, ingestion of oöphorin promptly restores the interchanges to normal and not only restores the consumption of oxygen to normal but raises it above normal. On suspension of the oöphorin the former conditions return in a week. This influence on oxidations suggests its therapeutic application in all cases in which the oxidating power is subnormal, as in obesity, either constitutional or consecutive to castration or the menopause. Normal, uncastrated animals were not affected in any way by the oöphorin, whose harmlessness has been fully established. Thirty tablets a day have been taken with impunity (Burghardt). It was also noted that the consumption of oxygen diminishes after castration in male animals, the same as in females, but much more rapidly, in days instead of weeks. Thyroid and ovarian medication can scarcely be compared, as the loss of the thyroid function is so profound and far-reaching in its effects. The difference between them is most evident perhaps, in their effect on normal subjects. Loewy reports experiments which tend to establish that oöphorin has no influence on the albumin metabolism. The increased metabolism that follows ingestion of oöphorin is at the expense of the non-nitrogenous elements. Virchow urges further research to determine the essential and non-essential elements of the ovary. His study of the suprarenals has shown that the juice in these organs is exclusively limited to a certain portion of the organ, between the cortex and the medulla. "Possibly the Graafian follicles might be cut out and used exclusively for ovarian medication." Loewy has succeeded in isolating an effective substance from the ovaries, leaving an ineffective residuum, but it rapidly deteriorates. Jacobs of Brussels makes an ovarian wine. Pinkus has recently stated that the fear of phenomena due to the loss of the ovaries is much exaggerated, and that the general consensus of opinion at the late gynecologic congress was that it seems to be immaterial whether or not the ovaries are left in operating. Fritsch has never had a case of serious trouble from this cause in six hundred total vaginal extirpations, and as many more ovariotomies.

Acute Lead Poisoning. W. ZINN.—Symptoms of acute intoxication appeared six hours after ingestion of what was supposed to be sodium bicarbonate. The diagnosis was made from the line on the gums, and the presence of lead in the urine, still perceptible in twenty-five days. It was found that a teaspoonful of a silver polish had been taken by mistake. It contained about 15 gr. of lead oxid. The syndrome continued for ten weeks, assuming a more chronic character after the first; pulse 66 to 68; complete recovery.

Centralblatt f. Chirurgie (Leipsic), Dec. 30, 1899.

Treatment of Chronic Hydrops Genu. G. MUELLER.—The patient stays in bed a few weeks with a bandage of starched gauze wound from the foot above the knee with considerable compression, the limb raised. Another tighter bandage is wound over the first the next day and so on. Then wedge-shaped pieces are cut out of the bandage over the knee, and the bandage applied still tighter. The leg above the knee is massaged during this time. The bandage is removed at the end of eight days, and the joint will usually be found entirely free from swelling. The leg is then massaged also below the knee, and the joint douched with alternate hot and cold water for five minutes a day. Later come passive and then active and resistance gymnastics of the knee, and the patient is dismissed with an elastic knee-cap and the admonition to refrain from all but light work, especially lifting or carrying heavy burdens. If the hydrops recurs, then the only means to cure it is by relieving the joint of all weight and work with a Hessing splint or a home-made contrivance for the same purpose.

Deutsche Medicinische Wochenschrift (Leipsic), Dec. 14, 21, 28, 1899.

Cholecystotomy with Water-tight Drainage. POPPERT.—The number of cases treated by Poppert's method is now 162, and experience is confirming its value. The gall-bladder is opened and evacuated as usual, and then a stout Nélaton catheter is inserted and the wound sutured around it, the thread passing through the surface of the catheter in both the deep and superficial sutures. A safety-pin is also passed through the dressings, and a rubber tube connects it with a glass receptacle. Before the final closing of the wound, a few strips of gauze are packed around the catheter. The dressings are changed in five or six days, and then twice a week. The tampons are loosened and gradually removed until all have been taken out in two or three weeks. The irritation of the gauze ensures a reliable packing around the catheter. The gall-bladder is thoroughly flushed as the catheter is removed, usually by the end of the third week, and stones sought with the sound and curette. Among the advantages of this method of drainage are its applicability to cases of all kinds, shriveled, friable gall-bladders, abnormal position, etc., the simple technic, and that it protects against infection of the abdominal cavity. Hernia or fistula has never occurred in any case. The method is especially advantageous in choledochotomies—29 cases. It ensures the success of the operation even with complications, and has given patients greater confidence. Before 1897 only forty-four had applied for operation, but since then the number has risen to 233.

Etiology of Epidemic Cerebrospinal Meningitis. L. ZUPNIK.—A young man was brought to the clinic with a fatal case of cerebrospinal meningitis, and a meningococcus was derived from lumbar puncture, supposed to be Weichselbaum's coccus, but differing by certain peculiarities in culture, resembling more the gonococcus. Comparing the bacteriologic studies of this disease, on record, Zupnik is convinced that the causative agent of epidemic cerebrospinal meningitis is losing more and more the specific character once attributed to it. Besides Fraenkel's pneumococcus and Weichselbaum's meningococcus, Pfaundler has observed two different "types," and Kister a meningococcus, while the micro-organism found by Zupnik and probably identical with one described by Pfaundler in a recent work, adds another to the list. "It seems evident, therefore, that epidemic cerebrospinal meningitis is an infectious disease which, like other infectious processes, such as pneumonia, endocarditis and acute suppurations, has no single etiology. The epidemic character of the disease can be explained by assuming that the cause is not in the micro-organism itself, but in certain external deleterious influences which simultaneously affect and lower the resistance of large numbers of persons."

Formation of Sugar from Albuminoids. F. BLUMENTHAL.—This review concludes with the statement that the formation of glycogen after ingestion of albumin does not depend entirely on the carbohydrate group in the albumin molecule. The glycoside nature of albumin and glycogenesis must still be considered entirely separate, "and no well-founded and unassailable theory in regard to glycogenesis yet exists." The abundance of carbohydrate groups in glycogen-free animals, which the writer has established, may explain the glycogenesis after ingestion of casein, leucin, urea, etc., by the formation of the glycogen from carbohydrate groups already on hand. The glycoside nature of all albuminoids, with the exception of casein, suggested to Pavy the idea that the casein might have lost its carbohydrate, which it had abandoned to the milk in some fermentative process. Extending this conception of a fermentative process to the organism, it would explain that severe form of diabetes in which sugar is formed in spite of the absence of carbohydrates from the food. The albuminoid is unable to retain its carbohydrate; abandons it and it is eliminated. According to this theory the carbohydrates must disappear from the albuminoids in severe diabetes, but this fact has not been confirmed, and the writer's investigation of the nucleoproteids of the liver and pancreas at the necropsy of a case of diabetic coma, showed them intact, also the albumin of the liver. The absence of a carbohydrate in casein explains the value of milk diet in diabetes, advocated by Leyden and Winternitz among others. (See The Journal, xxxiii, p. [illegible].) The fact that carbohydrates abound in numbers of albuminoids suggests the question whether this is important in the diet of diabetics. If we accept tests *in vitro* as evidence, we must exclude the thymus, liver, etc., as organs rich in nuclein, but the writer asserts that since the discovery of the glycoside nature of the nucleoproteids of the animal kingdom we know of no diet that is free from carbohydrates, [illegible] especially proteids. Since carbohydrate groups have been found in the albuminoids of eggs, liver, muscle, etc., we have learned that as we determine the relation between different carbohydrates and the elimination of sugar by the pancreatic diabetic, we must also investigate in the same way, the influence of the different albuminoids, on the elimination of sugar.

Diagnostic Significance of Acute Effusions in the Abdominal Cavity. H. Braun.—Since calling attention, in 1891, to the effusion that follows internal incarceration and accumulates so rapidly that its presence is soon disclosed by percussion, Braun has noted the effusion in a number of cases and at necropsies, but has also noted a number in which, with apparently favorable conditions, the effusion did not occur. He appeals for further study of the phenomenon, to establish its exact clinical value, and ascribes great importance to it. The acute effusion occurs with torsion of the intestine on its axis, inducing venous congestion, and with incarcerations of a portion of the intestine in abnormal cavities or openings, either congenital or formed by ligaments or a diverticulum, less frequently with invaginations. An acute effusion indicates the non-existence of ileus from a foreign body or a tumor. In every case of internal incarceration in which an acute or rapidly increasing effusion is noted, laparotomy should be urged or done at once, because it is in these cases particularly that the intestines become rapidly altered and gangrene ensues. When the abdomen has been opened on the probability of an internal incarceration, and a blood-stained fluid flows out, the trouble causing the effusion must be sought and found in every case, without resorting to an artificial anus. Torsion of the sigmoid flexure frequently causes enormous meteorism, and the systematic search for the trouble indicated by the acute effusion will save many a life doomed without it.

Origin of Leucocytosis and of Transportation of Bone Marrow Cells to Other Localities. P. Lengemann.—Normal bone marrow has a certain consistency, but after intraperitoneal injections in rabbits, of liver or kidney broth, or infection with staphylococci or the bacterium coli, or intoxication with sodium cantharidinate, etc., the marrow becomes dark red, almost black, and so soft that it is nearly fluid. The microscope shows that the leucocytes are more numerous than elsewhere in the blood, in the small spaces which are noted occasionally here and there in normal marrow, filled normally with blood, without walls, the blood washing the cells of the parenchyma or walled in by a delicate membrane. Some of the leucocytes only slightly project into the blood; others are only lightly attached to the parenchyma: others float freely in the fluid. As the marrow becomes dark red and soft, these spaces without walls become very much larger and more numerous, and the leucocytes are swept away by the increased volume of blood, and appear elsewhere in the circulation as a pronounced leucocytosis. The non-leucocytic elements of the bone marrow become so soft that even a slight jar is sufficient to detach a particle, and all these corpuscles, particles, etc., are swept by the venous circulation into the lung capillaries, and on into the main circulation, except the larger, which are sifted out and detained in the capillaries, where the giant nuclei gradually break up into grains and crumbs rich in chromatin, while marrow cells may drift into remote arterial vessels and long remain unaltered. The hyperemia gradually subsides, and by the eighth day the marrow contains less blood than in normal conditions. The blood is crowded out of the spaces mentioned above, by the results of greatly increased mitosis in the cells of the parenchyma, leucocytes, etc. Even the giant cells show more mitosis than usual. It is evident from the research here reported that the marrow becomes involved in many more affections than has been heretofore supposed, and that the processes accompanying leucocytosis induce marked alterations in the marrow.

Gazzetta Degli Ospedale (Milan), Dec. 10, 1899.

New Ocular Tonometer. P. Gradenigo.—The instrument described and illustrated automatically records, in the most delicate manner, the degree of tension and its slightest variations, according to the writer's experience, free from all the inconveniences of others. The patient lies in the dorsal decubitus wearing some stout test spectacles with adjustable rings in the center of each lens space. The gauge fits into and is held by one of these rings, after a few drops of cocain have been instilled and the lids held mechanically apart. The gauging is done with a glass rod sliding loose in a glass cylinder 44 mm. long, and the diameter of the cornea, projecting beyond at the other end, where a long index registers its movements.

Nordiskt Medicinskt Arkiv (Stockholm), Nov. 30, 1899.

"Sermo de Pondere et Longitudine Infantum Recens Natorum." H. Adsersen.—The weight and length of newly-born infants, as noted at various maternities, etc., are tabulated in the attempt to prove that they obey certain laws in respect to the astronomic months, analogously to the laws that have been established in respect to the growth at different years of life. It is remarkable how invariably the curve representing the length reaches its highest point in September. He urges others to note the weight and length of the newly born for an international collective investigation which may reveal important facts in regard to the influence of the locality and climate, as well as the calendar.

Primary Sarcoma of Small Intestine. F. Westermark.—The neoplasm usually starts in the submucous tissue, where it may make its way as a thin plate, soon invading the muscular layer and the mucosa of the intestine, while the serous membrane escapes degeneration much longer. Sometimes the infiltration forms a sheath around the intestine without a so-called tumor, and the intestine in time becomes a rigid tube. In other cases the invading tumefaction develops under the peritoneal portion of the intestinal wall, forming masses of tumors covered with serous membrane, or it may develop into the lumen of the intestine. The symptoms in the three personal cases, added to the twenty-nine in literature, were dysuria, dull pain in the abdomen, colics and rapid emaciation commencing about three months before operation in two cases. A third had no pain or other abdominal symptoms, merely languor, pallor and rapid emaciation for a few months; the compact, movable tumor extended lengthwise across the abdomen, and recurred in five months after operating. In one case the tumor was the size of a man's head, oblong, irregular, not movable, the chief portion projecting into the small pelvis. This patient recovered. One died of ileus five days after operation.

Treatment of Gangrenous Hernia. J. H. Akerman.—The writer sent out a circular requesting the communication of the experiences of others in this line, and has compiled the 235 replies, in tabulated form with numerous particulars: 60 inguinal, 171 femoral, 2 umbilical, and 1 each of hernia lineæ albæ and obturatoria. The total mortality was 49.3 per cent. or 116. The mortality rose progressively from 25 per cent. after one day's incarceration, to 77.7 per cent. after that of six days; 66.6 per cent. after seven and 70 per cent. after eight days and longer. He remarks that these tables will probably prove very interesting reading in ten years, when he proposes to compile a similar article, for comparison.

Societies.

Rock River Medical Association.—The semi-annual meeting of this Association will be held at the Galt House, Sterling, Ill., January 24, at 10:30 a.m.

Mobile (Ala.) County Medical Society.—Newly-elected officers of this Society are: president, Wm. B. Pape; vice-president, C. N. Owen; secretary, G. H. Fonde; treasurer, J. G. Thomas.

Berks County Medical Society.—At the recently held annual meeting of this Society at Reading, Pa., the following officers were elected: president, F. W. Frankhauser; secretary, J. W. Keiser; treasurer, A. S. Raudenbush.

Johnson County Medical Association.—At the recent annual meeting, held at Iowa City, Iowa, this Society elected the following officers: president, James Murphy; vice-president, J. P. Mullin; secretary and treasurer, J G. Mueller.

Springfield Medical Society.—This Missouri Society held a meeting recently, at Springfield The newly-elected officers are: president W. C. James; vice-president, J. W. Williams; secretary, N. F. Terry; treasurer, D. B. Farnsworth.

York County Medical Society.—The newly-elected officers of this Pennsylvania Society are: president, W. C. Stick; vice-presidents, R. E. Butz and A. C. Rice; secretary, R. A. Harding; treasurer, J. F. Klinedinst.

Marion County Medical Society.—This Indiana Society celebrated its 25th anniversary the 2d inst., and elected officers as follows: president, William V. Morgan; vice-president. Frank Ferguson; secretary, Theodore Potter; treasurer, P. Scherer.

Madison County Medical Society.—This Indiana Society, at a recent session held at Anderson, elected the following officers: president, G. A. Whittledge, Anderson; vice-president, C. W. Suttner, Elwood; secretary, H. W. Collier, Anderson; treasurer, E. M. Conrad, Anderson.

Charlotte Medical Association.—At the recent annual session of this Association, held at Charlotte, N. C., the election of officers resulted as follows: president, C. M. Strong; first vice-president, J. R. Irwin; second vice-president, Annie Alexander; secretary and treasurer, W. H. Wakefield.

Fayette County Medical Society.—The following officers were elected at the recent session of this Society, at Uniontown, Pa.: president, John H. Davidson; vice-president, Charles H. Smith; secretary and treasurer, Levi S. Gaddis; assistant secretary, John D. Sturgeon; censor, J. C. McClenathan.

Nashua Medical Association.—This New Hampshire Association has just held its annual meeting at Nashua. The newly-elected officers are: president, Frank E. Kittredge; first vice-president, H L. Smith; second vice-president, Geo. F. Wilbur; secretary, Ella Blaylock-Atherton; treasurer, Albert Guertin.

Kansas City Academy of Medicine.—The Academy will hold its annual banquet February 6. The annual meeting and election of officers was held the 6th inst., resulting as follows: president, Jabez N. Jackson; vice-president, J. M. Langsdale; treasurer, C. Lester Hall; censor, B. C. Hyde; secretary, Ralph J. Brown.

Darke County Medical Society.—This new Society was organized at Greenville, Ohio, recently, with the following officers: president, A. W. Rush; vice-president, M. M. Corwin; secretary, W. T. Fitzgerald; treasurer, Donavan Robeson. Regular meetings are to be held the second Thursday afternoon of each month.

Weber County Medical Society.—At a regular meeting of this Utah Society, the 2d, the following officers were elected for the ensuing year: president, H. J. Powers, Ogden; vice-president, G. A. Dickson, Ogden; secretary, H. B. Forbes, Ogden; treasurer, T. S. Wadsworth, Morgan; librarian, E. M. Conroy, Ogden.

Medical and Surgical Society of Western Illinois.—This Society met at Whitehall, Ill., recently. Officers were elected as follows: president, H. W. Smith, Roodhouse; first vice-president, J. S. Williams; second vice-president, J. W. Hairgrove, Jacksonville; secretary, W. C. Chapin, Whitehall. The next meeting will be held at Carrollton, May 4, 1900.

Hartford Medical Society.—The annual meeting of this Connecticut Society, held recently, resulted in the following choice of officers for 1900: president, S. B. St. John; vice-president, George R. Shepherd; secretary, J. E. Root; treasurer, George K. Welch; librarian, F. T. Simpson. The Society is considering the establishment of a museum, also a laboratory for original research.

New York State Medical Association.—The sixteenth annual meeting of the Fifth District Branch of this Association will be held in Brooklyn, May 22, 1900. Diabetes is the topic for discussion. Fellows who are interested in this and have any clinical data to present or theories to offer, are asked to correspond with E. H. Squibb, secretary, P.O. Box 760, Brooklyn, N. Y.

Brashear Medical Society.—This Society held its first quarterly meeting at Bardstown, Ky., on the 8th inst., and elected the following officers: president, J. J. Wakefield, Bloomfield; vice-president, W. W. Ray, Springfield; secretary and treasurer, Wiley Rogers, Taylorsville. Our correspondent informs us that the Society was named in honor of Dr. Walter Brashear, who lived at Bardstown, Ky., and in 1806 did the first hip-joint amputation ever performed in America and the first successful one in the world.

Cumberland County District Medical Society.—The January meeting of this Society was held at Bridgeton, N. J., the 9th. After some routine business the society listened to a paper on "Idiopathic Tetanus," by H. G. Miller, of Millville, N. J. This paper elicited quite general discussion, and there were several interesting cases reported. The next meting will be in Bridgeton, in April.

Cumberland County Medical Society.—Officers of this Society were chosen as follows, at the meeting held in Carlisle, Pa., January 9: president, J. C. Davis, Carlisle; first vice-president, M. M. Dougherty, Mechanicsburg; second vice-president, George C. Bourst, Newville; secretary, Hilda H. Longsdorf, Carlisle; corresponding secretary, J. W. Lefevre, Boiling Spring; treasurer, J. W. Bowman, Riverton.

State and Local Boards of Health.—The tenth annual meeting of state and local boards of health of Ohio will be held in Columbus, January 25 and 26. A cordial invitation is extended to all officers and members of boards of health to be present. But few papers have been provided, so as to allow full discussion of the subjects presented. A reduced rate of one and one-third the regular fare has been granted on all railroads in Ohio, on the certificate plan, when the full fare is more than 75 cents. Tickets going may be purchased not more than three days before January 25, and tickets for return not later than three days after January 26, Sunday not being counted. C. O. Probst, Columbus, is secretary.

Cincinnati Academy of Medicine.

Dec. 18, 1899.

CASE OF ALOPECIA AREATA.

Dr Meyer L. Heidingsfeld presented a patient of interest in that this disease had developed at the age of 2½ years. Out of the fifteen to twenty cases that had come under his observation, the present was the one patient in whom the disease had developed so early. The etiology in this instance is a little obscure. The spots which are present on his head are perfectly bald and are smooth and shining. There is also a nervous element which may be a causative factor in the development. The child does not sleep well, and is not strong. In persons of more advanced age, mental anxiety, financial reverses, and death losses of various kinds are supposed to exert not a little influence. Some investigators think the disease is dependent on the clinical fact that it is very liable to occur in epidemic form, for instance, in prisons, particularly where there are a large number of prisoners, fully two-thirds of the inmates may be attacked. Another reason for this theory is that it responds very promptly to antiparasitic treatment, especially to chrysarobin and the perchlorid of mercury given by the cataphoric method. The prognosis is usually favorable, except where there is a neurotic element, as in the present instance.

INTRALIGAMENTOUS CYST.

Dr. C. L. Bonifield presented this topic. The cyst, when in the abdomen, was of large size, reaching to above the umbilicus. The three most common forms of cysts in this region are the ovarian, the parovarian, and the ordinary ligamentous cyst. Of the last there are the unilocular and the multilocular. The true ovarian cyst is always multilocular, and usually contains a fluid of varying thickness. The broad ligament cyst was very well represented by the specimen he presented, in that it had a very thin wall and clear lymph-like contents. They may assume the papillary form and even be semimalignant, particularly if the sac is ruptured and the contents allowed to escape in the peritoneal cavity. In the present specimen there was no evidence of an ovary, nor was it multilocular. Goodell was the first to popularize the method of removing these cysts, but Minor of Buffalo was the first to call attention to this method of operating. At first, however, the operation consisted only in opening the cysts, removing their contents, and stitching the cyst wall to the abdominal parieties, a drainage-tube being inserted. In this day this necessity of such free drainage does [illegible]. In this patient he closed up the rent in the broad ligament with a row of sutures extending from the [illegible] along and down one side of the uterus.

APPENDICES.

DR. EDWIN RICKETTS presented these specimens. In one instance a boy 12 years of age was suffering from his third attack of appendicitis. During the twelve hours previous to seeing the case the patient suffered so much that it had become necessary to give him morphia hypodermically. During the two previous attacks the patient also had considerable pain in the appendiceal region. On opening the abdomen the appendix was found flexed upon itself and laid down on the inner side of the intestine. About a teaspoonful of pus was found at this point, while a little lower down was found another pocket of pus.

GALL-STONES.

DR. GILES MITCHELL presented some stones he had removed. He first saw the patient about ten days ago. She gave the usual history of periodic attacks of localized pain and constipation extending over a period of three to four years, and was slightly jaundiced. She was suffering from an acute attack of colic, the temperature 102.5 F. There were three stones, quite large and showing facets, and they were of the mulberry variety. The fluid in the gall-bladder was clear and almost colorless. The smallest of the stones was well down in the duct, and was removed with some difficulty.

VAGINAL SECTION.

DR. C. D. PALMER, in his paper, while recognizing the fact that abdominal section was often preferable in the diagnosis and treatment of lesions of the pelvic viscera, thought that there might not infrequently be cases which could be relieved equally as well by the vaginal route and without the danger which always attends abdominal section. Vaginal section implies a division of the tissues of the vaginal vault into the peritoneal cavity, and the opening might be made either anterior or posterior to the cervix uteri. He prefers the posterior section, as it is more easy of execution and safer, with fewer blood-vessels, and is the better for diagnosis and treatment. The posterior opening having been made, the fingers of the operator can be readily introduced, and the size, shape, position of the uterus, new growths if any, and the condition of the peri-uterine structures easily mapped out. Any fluid that may be present in the most dependent part of the peritoneal cavity can be effectually evacuated. Bimanual examination can be performed with the greatest facility, and the appendages if necessary, be drawn down into the vagina. Irrigation can also be performed without danger and free drainage secured without difficulty. No stitches are necessary, and the wound usually closes without loss of time when the packing is removed. Convalescence is not prolonged and is usually painless. In septic conditions of the pelvic organs, uterine curettage should first be performed before resorting to more radical methods. If not successful, removal of the diseased organs can be as readily done and with as good result by the vaginal as by the peritoneal route. Old chronic peritoneal exudates with adhesions, not large but extremely painful, and when not situated too high up, will often undergo resolution after vaginal section. Pelvic abscesses, when not complicated with disease of the appendages that requires removal of the latter, are best treated by this method. However, when the abscesses are multiple, as they are not infrequently, they can perhaps be best treated from above. Selected cases of ectopic gestation, particularly in the earlier months and when the growing mass bulges into the vagina, can be easily and successfully treated by section through the vagina. A prolapse of the ovary, which is usually complicated with chronic adhesive conditions within the pelvis, and which is often associated with great pain and a depressed condition of the entire economy, may also be successfully treated by removal through this route. Retroflexion with retroversion when without grave adhesions, can often be treated by attention to the usual details of dress, posture, pessary, etc.; but when the strength of such adhesions resists such treatment, these posterior adhesions can be as readily treated by the vaginal as by the abdominal section. On the other hand, this operation may be overdone. It can not entirely supersede abdominal section in all cases of pelvic disease, either as regards diagnosis or treatment. Well-defined cases of pyosalpinx, ovarian abscess, all pronounced ovarian cysts of whatever kind or size, fibroid tumors of the body of the uterus, intramural and of good size, seriously diseased appendages, shortening of the round ligament for retroversion, are managed best by the abdominal section. Success in operation very often depends on free inspection and easy manipulation; unquestionably, abdominal section renders the pelvic organs the more accessible. Vaginal section is rarely attended with danger. The vagina must be cleansed as carefully as possible. Posture will usually prevent the intestines from descending far enough to be injured. With the exercise of ordinary care the ureters and the uterine arteries will escape injury.

Philadelphia Pathological Society.

Dec. 14, 1899.

SARCOMA OF ORBIT AND CHOROID.

DR. G. E. DE SCHWEINITZ read a paper on, and presented specimens of choroid and orbit, with recurrence in the latter. The patient was a butcher, 36 years of age. Five years previously the left eye began to trouble him and he was told to consult an ophthalmologist. The patient was first seen in May, 1899, at which time the eye was glaucomatous. It was removed on May 12, 1899. Rapid recovery ensued and he enjoyed good health for six months, when recurrence was noted in the orbit. The entire orbit was then eviscerated. The growth apparently had its origin near the entrance of the optic nerve. The lens was cataractous. On microscopic examination the episcleral vessels were found enlarged. The ciliary granules were found near the entrance of the optic nerve, and similar pigment granules scattered in different areas. Cylindric cells were noted in abundance. The nerve bundles were infiltrated. The central artery of the retina was filled with the granular material. The growth was therefore a melanotic sarcoma.

SYPHILIS OF THE LIVER.

DR. J. A. SCOTT presented a specimen and read a paper on this subject. Previous to 1847 few cases of syphilis of the liver had been reported. In over 3000 cases of syphilis reported by one writer, the liver showed manifestations of the disease in only nine instances. Hutchinson considered this organ the most common seat of the disease in the later stages of syphilis. The liver seems to be more frequently affected in those cases in which there is only a slight rash present. Osler described three types of syphilis of the liver. In this organ, the changes noted are whitish or grayish growths on the surface, and in some instances soft cicatricial or gummatous areas may occur. In certain cases friction sounds of perihepatitis may be heard. Enlargement of the spleen has been noted. Dropsy is common.

This patient was a man 60 years of age, who had suffered from all the diseases of childhood. Forty years previously he had a chancre, but under appropriate treatment no other symptoms had been manifest. About one year previously the abdomen became prominent, but there were no symptoms of the previous disease, and the patient only thought he was becoming stout. In April, 1899, the abdomen was filled with fluid, and the man was subsequently tapped several times, and in all, twenty-nine gallons removed. Neither the liver nor spleen appeared to be enlarged.

At the autopsy, the liver was found adherent to the anterior wall and ribs. The pleuræ contained serous fluid. The spleen weighed 1200 grams, the kidneys were swollen, and the liver weighed 2200 grams; a large, deep, transverse scar was found between the two lobes. The pancreas was in the dislocated long diameter of the body, so that the head was turned upward. In the liver, the blood-vessels showed distortion and thickening of the intima.

DR. L. N. BOSTON also presented a specimen of syphilis of the liver. The patient was a woman, 32 years of age. For the previous six months the abdomen had increased in size, emaciation had been marked, the skin had been lemon tinted, and vomiting of blood had occurred. On Aug. 24, 1899, a large amount of clear serum was removed from the abdominal cavity.

At the autopsy, the heart was normal, spleen enlarged, kidneys congested; the liver was yellowish-gray in color, and con tained small yellowish-gray spots from the size of a millet seed to that of a pea, and surrounded by bands, the center being somewhat depressed, microscopic examination showed the liver cells well formed, but there was an excess of fat near the periphery of the lobules.

DR. JOSEPH MCFARLAND stated that the principal change noted was cirrhosis with puckering of the capsule.

DR. W. M. COPLIN spoke of a similar condition of the liver occurring in a girl who had died of typhoid fever.

DR. J. D. STEELE several years ago saw a specimen of liver obtained from a typhoid case, in which there was a small circumscribed process showing a great increase of connective tissue.

DR. DAVID RIESMAN was of the opinion that the specimens were of syphilitic liver, yet he held that there might also be other diseases which could show this change.

DR. ALFRED STENGEL thought the specimen presented by Dr. Boston more characteristic of syphilis of the liver than that of Dr. Scott. The latter specimen he considered quite rare.

DR. J. A. SCOTT, in closing the discussion, said that there could be no doubt that his patient had previously had syphilis. He had been treated by a noted physician of this city.

CARCINOMA OF ESOPHAGUS.

DR. A. A. ESHNER presented a specimen of this affection, from a patient 60 years of age. The usual symptoms had been noted. The red blood-cells numbered 3,225,000 per cubic millimeter. The seat of the lesion was about eleven inches from the teeth. At the autopsy, the locality was found ulcerated and contained cheesy masses. The lungs also contained tubercles. Cultures made from the ulcer showed diplococci and pneumococci. Section proved the growth to be an epithelioma.

CASE OF ANTHRAX.

DR. J. H. JOPSON and **DR. A. A. GHRISKEY** reported a case of anthrax. The patient was a man 48 years of age, an employee in a morocco factory. He had previously been working with raw hides received from Turkey. Infection had been through a scratch received on the forearm. A few days after the injury of the part, a swelling was observed. Some time later a number of small vesicles surrounded this area, the central zone of which began to turn dark. He was etherized and an incision made over the inflamed area, but no pus was found. Gelatinous material was found in the region of the olecranon. Subsequent to the operation, temporary improvement occurred, but death finally resulted. A bacterial examination was made from the contents of one of the vesicles. Inoculations were made on glycerin agar and other media, and stained with Loeffler's alkaline methylene blue solution. Large bacilli were numerous, as were staphylococci. Subsequent inoculation into a white mouse produced death.

In Pennsylvania the disease is very rare. Outbreaks have occurred in Louisiana, Delaware, New Jersey and Pennsylvania. The disease has been known to result from the importation of hides received from China, Siberia and South Africa. Death in these cases probably results from metastasis to some of the internal organs.

DR. A. A. GHRISKEY followed with a detailed account of how the cultures were made in this case. In 10 per cent. glycerin and on agar, the growths had been characteristic, showing the ribbon-like bands. With a low power lens, the curling or wavy lines were noted. Inoculations made on a white mouse caused death and from the heart's blood pure cultures of the bacilli were found, which stained with Loeffler's alkaline methylene blue. The bacilli were large, non-motile, and occurred in chains.

Philadelphia County Medical Society.

Dec. 13, 1899.

TRAUMATIC PUNCTURE OF EARDRUM.

DR. FRANCIS A. PACKARD read a paper with this title. In a series of 1500 injuries to the ear, treated in the Pennsylvania Hospital, the membrana tympani had been ruptured in 11 instances. In a series of 5400 cases of injuries to the ear, reported by Randall, the ear-drum was found ruptured in 8 instances, while in another series of 731 cases, reported by another writer, perforation was found 18 times. In the series of injuries producing this condition, as found in the statistics of the Pennsylvania Hospital, the accident occurred from the following causes: 2 from falls upon the head; 2 from foreign bodies; 1 while bathing; 1 from rarefied air while the patient was in a casing; 1 from a weapon; other causes operated in the other cases. The drum membrane has often been ruptured during irrigation of the external ear. One writer reported a case occurring during the vomiting of pregnancy, and many have occurred as a result of "boxing" the ears. The condition has often been noted as a result of the explosion of gunpowder. In another case a stroke of lightning was the cause. The treatment is very simple, for the most part expectant. The procedure followed in the above series of cases was to simply keep the parts cleansed.

DR. L. J. LAUTENBACH reported a case in which a sailor had sustained a rupture of the drum membrane as a result of the discharge of a large gun on board a man of war. In this instance a shred of the membrane was blown off. This condition has been noted in several instances. The accident is more apt to occur when the person stands in what is called an exposed part of the vessel, than when he stands in what is called the "nodal" point. Rupture of the drum membrane occurs in patients suffering from nephritis.

DR. F. A. PACKARD, in closing the discussion, stated that rupture of the drum membrane was observed in sailors after the battle of Santiago, when the men did not have time to take the necessary precautions against this accident, whereas at the battle of Manila, when everything was planned previously, and when the men had placed cotton in the ears, such injuries did not occur.

VAGINAL DRAINAGE IN SUPPURATION.

DR. GEORGE ERETY SHOEMAKER read a paper entitled "A Successful Operation, Preliminary Vaginal Drainage, and Subsequent Laparotomy in a Severe Case of Pelvic and Abdominal Suppuration." Mrs. K. G., aged 33 years, married, had two miscarriages, the last one three months previously. There had been high fever, distension of the abdomen, and dulness in the pelvic region. Incision into the posterior cul-de-sac evacuated a large collection of pus. After its discharge a rather hard tumor was felt above the pubic bone, which was pushed downward, incised, and a large collection of greasy, purulent material escaped. Drainage completed the operation. The patient returned five months later, and the remainder of the dermoid cyst was removed without difficulty. The histories of two other cases were cited.

N. Y. Academy of Medicine.

Section on Pediatrics, Dec. 14, 1899.

ICHTHYOSIS.

DR. ROSA WELT-KAKELS exhibited a girl 12 years old, afflicted with ichthyosis, most marked on the soles.

DR. A. JACOBI remarked that by percussion, while the child was leaning forward, he had been able to determine the persistence of the thymus gland in this patient. By warm baths, lasting continuously for two or three days, and by the internal use of arsenic and of the thyroid extract, he thought she might be improved.

INTUSSUSCEPTION.

DR. FREDERICK KAMMERER opened the evening's discussion on this by some remarks on the treatment. Regarding the injection of fluid into the rectum, he said that this method is only applicable to cases of the colic or of the ileocecal variety. At one time he made some experiments which convinced him of the futility of attempting to reduce an intussusception of the small intestine by enemata given at a pressure which would not be likely to cause rupture of the colon. In young children a hydrostatic pressure of more than three or four feet should not be used; the quantity of fluid used is of secondary importance. After all, the chief objections to this method of treatment are the delay incident to its use, and the impossibility of knowing whether or not the intussusception has been completely reduced. He is of the opinion that early operation will greatly reduce the death-rate in this affection. In endeavoring to reduce the disinvagination it is better to compress the sheath at a point a little above the intussusceptum, in addition to making traction. Intestinal anastomosis, total resection and the making of an [illegible] was a very [illegible] [illegible] of [illegible].

Dr. [illegible] [illegible] the results of a study of [illegible] cases of acute intussusception reported since 1888, [illegible] ascertained that the prognosis depends absolutely on the promptness of surgical relief. By means of [illegible] tabulations he endeavored to show that the earlier laparotomy is performed, the larger the percentage of reducible and uncomplicated cases, and the better the prognosis.

Dr. Frederick Holme Wiggin said that having become impressed with the idea that the manipulations associated with the injection method of treating intussusception were productive of more shock than laparotomy, he proceeded to collect a series of cases for study. He was then able to demonstrate that the enema treatment was actually followed by a higher death-rate than early laparotomy done by experienced surgeons. He believes that surgeons generally are coming to accept this view, though medical men still seem to be wedded to the old injection treatment. The time is not far distant when the whole profession will consider this same injection treatment just as unsuitable for cases of intussusception as they now do for the relief of a strangulated hernia.

Dr. Willy Meyer took the same position as the last speaker, and pointed out the weak points in the injection treatment, viz.: 1, the large percentage of cases of the ileocecal variety, or those not amenable to this treatment, and 2, the danger and unreliability of this method.

Dr. A. Jacobi took a very decided stand against operating at once in all cases of acute intussusception. The child should be supported by a pillow, with the hips elevated, and the fluid should be injected by means of a fountain syringe elevated not more than twelve or eighteen inches above the anus. If this is done under chloroform anesthesia, and the abdomen manipulated gently, no harm can result, and many patients will recover without operation. He advises that this method be tried in the early stages of every case of acute intussusception, being repeated two or three times, if need be, at an interval of one or two hours. If still unsuccessful, laparotomy should be done at once.

Dr. Charles G. Kerley said that as mistakes in the diagnosis of intussusception in young children are quite common, he desired to emphasize that if there are bloody stools associated with slight fever and with a prostration greatly out of proportion to the other symptoms, the physician is justified in strongly suspecting the presence of an intussusception. The speaker thoroughly agreed with Dr. Jacobi regarding the value of the enema treatment, and reported two cases which he had successfully treated in this manner.

Dr. Arthur L. Fisk related a case in which, by enemata, he had apparently succeeded in reducing the tumor on two occasions, a few hours apart, nevertheless the child had suddenly passed into collapse the following morning, and had begun to vomit stercoraceous matter. Laparatomy was then performed, and showed that what he had reduced was the portion in the colon, leaving a portion in the ileum unreduced. This only served to strengthen his belief that in intussusception of the ileocecal variety enemas serve rather to close the ileocecal valve more tightly.

Chicago Ophthalmological and Otological Society.

Dec. 12, 1899.

PRIMARY TUBERCULOSIS OF THE CONJUNCTIVA.

Dr. F. C. Hotz presented this case—a child 5 years old, with an unusual affection of the conjunctiva, which he diagnosed as primary tuberculosis. Both the father and the mother are living and in good health. No tubercular history, nor specific history was obtainable. The child had scarlet fever when 3 years of age, and had diphtheria in May. About seven weeks ago the mother noticed in the lower right quadrant of the right eye a slight injection of the bulbar conjunctiva, which gradually increased until the entire bulbar conjunctiva was involved. Six weeks ago, a week after the beginning of the trouble, there was first noticed a swelling of the pre-auricular gland, and later the glands at the angle of the jaw on the side corresponding to that of the affected eye became swollen. The child entered the hospital about ten days ago. When seen, the whole right side of the face was considerably swollen, the swelling due chiefly to an enlargement of the submaxillary glands and pre-auricular gland. The lids showed slight edema, and on everting the lower one, the conjunctiva looked granular and deep red. The ocular conjunctiva was swollen all around the cornea, particularly the lower right quadrant, which showed decided elevation, due to dense lardaceous infiltration, and on the top of this elevation there was an irregular yellowish patch, evidently due to ulceration, with a rough surface, as if little holes had been pricked into it. Upward and downward, following the margin of the cornea, and at a little distance from it, was noticed a number of yellow punctiform infiltrates; there was also some mucous secretion. Since the child has been in the hospital, the swelling of the cheek has decreased materially, and the enlargement of the submaxillary glands has decreased so much that now only small nodules are felt. The pre-auricular gland, first noticeable by its enlargement, has also been reduced in size to a great extent. The condition of the ocular conjunctiva has not changed materially. From this clinical picture of the affection the Doctor made the diagnosis of tuberculosis of the conjunctiva and, in order to confirm it, a bacteriologic examination has been made on several occasions; and in three tests the tubercle bacillus has been found. Cultures have also been made from the scrapings, which have not yet developed far enough to furnish any information.

The treatment so far has consisted simply in boric acid irrigations every morning and evening, and in the application of iodoform powder upon the conjunctival ulcer. It occurred to Dr. H. that it might possibly be of advantage in such a case, where the tubercular affection is still localized, only beginning to extend, as shown by the lymphatic disturbance, to subject this patient to the tubercular treatment. He therefore inquired whether it would be a proper procedure, believing it had never been used in such cases. So far these cases have been treated by curettement of the ulcers, or by cauterizations with or without the curettement; also iodoform has been used. The danger is the extension of the general infection. The case is of interest, as the affection is not very common, this being the first typical case that has come under his observation.

SCLERO-KERATITIS.

Dr. H. W. Woodruff, Joliet, Ill., showed a case of sclero-keratitis in a woman of 29 years, who had hip-joint disease when 2 or 3 years old. Since that time her general health has always been good, with the exception of some rheumatic pains in the joints. A sister had hip-joint disease at 11 years. She has two brothers and two other sisters, all in good health. Her father died at the age of 68, of Bright's disease, and her mother died of typhoid fever at 48.

One year ago last October a slight inflammation began in the right eye, gradually getting worse, until last December, since which time frequent relapses have occurred, the longest period of rest being five weeks. There is general diffuse congestion of the sclera, more marked about the ciliary zone, with irregular triangular deposits in the cornea, with base in the sclera and apex toward the center of the cornea; no scleral nodules. The magnifying glass showed the cornea to be quite vascular, some blood-vessels extending beyond its center. This was the condition of the eye September 1, when he began treating her, and it is the same now. She has been treated with potassium iodid, in small and large doses, salicylates, salines, diet, etc.; locally with atropin and hot applications. Atropin had to be discontinued at one time on account of its poisoning, when atropin ointment was substituted. There is only a slight adhesion of the iris to the lens. Pain is not very severe, and is controlled by hot applications. The affection in this case was probably due to rheumatism, although there is no definite rheumatic trouble, simply a history of having pains. There is no tubercular history excepting the existence of hip-joint disease during childhood. This has not disturbed her since childhood.

RETINITIS PIGMENTOSA.

Dr. Albert B. Hale presented this case. The patient, a Russian, 23 years of age, has been in this country only two months. He says that about twelve years ago he had a severe illness which lasted a long time, but he does not know what it was. He had his eyes examined by an eye doctor in Warsaw, who at the time could not tell what was the matter. He is a painter by trade, an unusual trade for a man with his visual defect, and of late he has been obliged to give up his job because he could not see enough of the object he was painting. His associates had to help him out a great deal. He came to Dr. H. as a private patient, saying that he became so blind at night that he could not go about. So far as reading and writing are concerned, he gets along very well without any noticeable trouble. Vision is one-tenth in each eye, but on giving him time, from half a minute to a minute and a half, he can see perceptibly better. There is astigmatism in each eye, which has never been corrected, and slight manifest hyperopia. He accepts a minus cylinder which improves his vision, if he is given time, to about 6/24, which was the best Dr. H. could get in the left eye, better than in the right, although the field of vision in the left was more restricted than that of the right. Dr. H. showed charts of it, and said he got good reading that morning with the perimeter, and the illustrations show the field he has remaining in the left and right eyes. The central spot of visual perception is perfect. Outside of this he is blind to all colors. There is no difference in the reduced perception for red, blue or green in the small area just outside the clear central vision, while within this clear area he perceives everything. The large area outside of the central fixation point is completely obscured; it is the same way in the left eye. The pigment spots are very, very plain and typically arranged. They do not, however, encroach on the macula or on the papilla. The latter is the least bit pale, and the retinal vessels are drawn out to the usual hair-like condition which one sees in such a case of retinitis. The pigmentation does not extend to the periphery, so far as he can trace it. We have one area the diameter of the ordinary disc which is heavily pigmented. Beyond that, up toward the equator of the globe, the retina and choroid are comparatively free from pigmentation. The fundus appearance is typical and beautiful.

SYMBLEPHARON WITH CORNEA ADHERENT TO PALPEBRAL CONJUNCTIVA.

DR. THOMAS A. WOODRUFF presented the following case for Dr. Casey A. Wood:

Joseph M., 12 years of age, while shooting off a cannon last Fourth of July, exploded a can of powder and the flame burst into his face, severely burning the left eye. There was a large upper symblepharon on the left eye, about seven-eighths of the cornea being adherent to the palpebral conjunctiva, with granulation tissue at the points of union externally, altogether involving an adherence of one-half of the whole upper palpebral surface with the eyeball. After treatment of the swollen lid and granular conjunctiva for three weeks, the palpebral conjunctiva was dissected free and the lower border stitched to the sulcus above. Contrary to expectations, there was no readhesion, and the patient's vision has improved, and the eye is clearing up, and now, one month after the operation, improvement is marked. The question arises, what further operation may be done, if any? Also, whether a Thiersch graft or a mucous membrane transplantation would be preferable?

DR. F. C. HOTZ—I do not quite understand the procedure adopted by Dr. Wood in this case. I believe it was stated that after dissecting the lid from the globe the palpebral conjunctiva was drawn from the cul-de-sac forward to cover the lid. I do not understand where this conjunctival flap came from; for it would seem to me the dissection produced two raw surfaces extending from the lid borders and the cornea respectively, all the way back to the fornix, and there was no palpebral conjunctiva left to draw forward. The result is certainly very good, as it has liberated the lid from the cornea, and given the eye good lateral motion. The lid shows a certain degree of ptosis. When you turn the lid, you will notice that its upper border is in close adhesion with the eyeball near the corneal margin, and unless it is dissected back freely and the defect covered with a graft on the eyeball, it will be impossible to open the eye freely, and in the future, if the patient has any annoyance from this close connection between the upper lid and the eyeball, I should consider it perfectly proper to perform a second operation in that direction to dissect the lid farther back and cover the wound on the eyeball with a lip graft.

(To be continued.)

Chicago Academy of Medicine.

Nov. [illegible], 1899.

(Continued from p. 110.)

CRETINISM AND THYROID THERAPEUTICS, WITH REPORT OF A CASE.

DR. FRANK X. WALLS presented this topic, in part saying: The thyroid gland in cretinism is frequently entirely wanting; or it may be rudimentary, or even very much enlarged through goitrous degeneration. In very rare instances the gland has been apparently normal, but even in these cases its functional activity has been arrested.

The disease is rarely congenital; in the greater number of cases it develops from the fifth to the eighth month, sometimes later, even up to the time of puberty. After this period, perversion, diminution or abolishment of the functional activity of the thyroid gland leads to myxedema rather than cretinism.

Complete and interesting papers on cretinism may be found in Osler's article in the supplement to "Keating's Encyclopedia of the Diseases of Children;" Murray's treatise in the Twentieth Century; or Ewald's monograph in Nothnagel's System, and I wish to acknowledge my indebtedness to these works for much that appears in this paper.

In this connection it may not be inappropriate to briefly review the theories of the function of the thyroid gland. Formerly it was believed that the only purpose of this gland was to give a beautiful contour to the neck; to express by swelling or condensing, strong emotions; and perhaps also to afford protection to the deeper organs. Later it was thought to exercise a controlling or regulating influence on the amount of blood going to the brain, because of the proximity of the gland to the large blood-vessels in the neck, and the rich cavernous spaces in the gland; and for long years an intimate relationship between the gland and the sexual apparatus was recognized. Today it is universally acknowledged that the thyroid gland represents an organ indispensably necessary to the preservation of life, and there are two views concerning the manner in which the thyroid exercises its influence on the economy.

The views, in brief, ascribe to the thyroid an internal secretion that possesses either a nutritive or an antitoxic function; that is, that under the phenomenon of athyrosis there is withheld from the organism either a material necessary for its nurture, or a substance having an antitoxic action against certain products of tissue metabolism. The great majority of authors assign to the gland an antitoxic function, which in a direct or indirect manner antagonizes certain poisons of tissue metabolism, that, accumulating in the blood, injuriously affect the general organism and in particular the central nervous system. The gland might accomplish this result in two ways: the poison in the blood is destroyed while circulating through the gland; or the gland secretes an antitoxin that is taken into the circulation and exerts its influence after it has been incorporated into the general vascular system.

Against the first of these hypotheses and in favor of the second, speaks the structure of the gland, which is that of a secreting, rather than filtering, organ, and also the fact that the gland juice, or the gland itself, when introduced into the economy, after the removal of the thyroid gland, prevents the development of the otherwise inevitable symptoms of systemic intoxication. We may consider, then, that the gland produces a substance which is taken into the blood, and in the blood exerts an antitoxic effect on certain toxic products of tissue change.

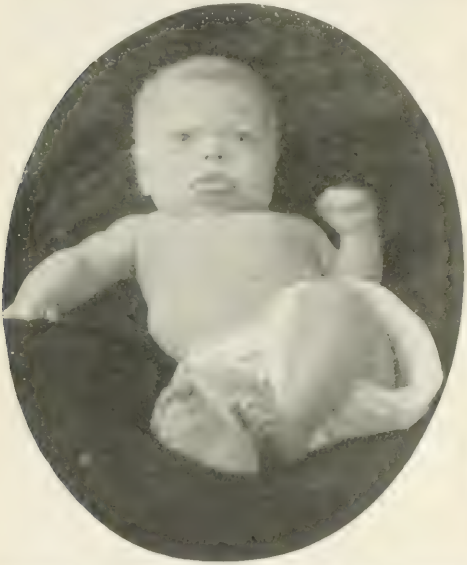
This thyroid substance, if introduced into the blood in too great quantity, either naturally, through increased functional activity of the gland, hyperthyrosis, or artificially through administration of too great a quantity of gland substance, leads to symptoms of cardiovascular and nervous irritability comprehended under the term "thyroidismus." It may be of interest to recall that clinically cases are met with that for years present the symptoms of Basedow's disease, hyperthyrosis and then gradually pass into a condition of myxedema, hypothyrosis; or, in other words, cases in which an increased functional activity of the thyroid gland exhausts the secreting capabilities and is succeeded by a lessening or total abolishment of function.

The diagnosis of typical cretinism does not present any serious difficulties; on the contrary, after having once seen a case or studied a photograph, the recognition should be easy. Unfortunately, however, many cases are permitted to go for months or even years without specific treatment. A case I saw in London was sent unrecognized by an urban practitioner, to the Ormond Street Hospital, for the removal of adenoids. The only conditions that might possibly be confounded with typical cretinism are dwarfism and the Mongolian type of idiocy. The dwarfs are frequently bright and intelligent but lack the pathognomonic evidences, and the Mongolian idiot, while it may resemble the cretin in appearance, does not have the myxedematous infiltration of the skin.

A child who presents a dwarfish frame, with undeveloped intellect and cretinoid facies, as depicted in the first photograph, and all cretins resemble each other almost exactly, and he who has boggy infiltration of the skin, is without doubt a cretin.

We can readily conceive of conditions of the thyroid gland in which its function may be impaired to a slight extent, to a greater degree, up to absolute abrogation of function: we can conceive of clinical cases that may present every gradation from the normal type to cretinism.

Cases that are suffering from a lessened but not abolished functional activity of the thyroid gland may present diagnostic problems. These cases have been called by French writers *myxœdème fruste*, and at times correspond to the symptomatic syndrome known as infantilism, and are discussed in the works previously referred to.



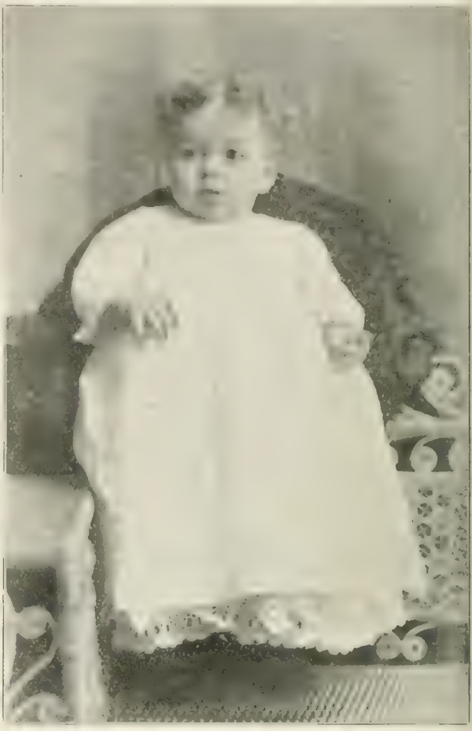
The treatment of cretinism consists in the administration of thyroid gland.

The intra-abdominal and subcutaneous implantation of sheep's thyroid has been attempted, but with no considerable measure of success. The subcutaneous injection of the extract of the thyroid gland was introduced by Murray in 1891, and soon after he suggested the feeding of the afflicted individuals with the glands either fresh or desiccated, and this latter method of administering thyroid is the most convenient and satisfactory that has been prepared.

The amount of thyroid gland must be individually established in each case. The usual initial dose for a child is 5 gr. a day, increased to 10 or 15 gr., and continued until the cretinoid symptoms have disappeared. The treatment thereafter is to be continued, with perhaps a smaller dose, during the lifetime of the individual, else a return to cretinoid or myxedematous condition is inevitable.

In December of last year a cretin baby was brought to the Children's Clinic at Northwestern University, who since that time has been under observation and treatment, and shows such a marked improvement as might justify the publication of its history and the presentation of two pictures.

E. W., aged 16 months, was carried to the clinic by her mother because of a dry and harsh condition of her scalp, with scant growth of hair. The family history was entirely negative. The father and mother were young, healthy adults, with no evidence of diathetic or specific disorder, and not consanguineous. The child was the production of a difficult labor lasting sixteen hours, and the mother, a primipara, was delivered under chloroform.



The child was nursed by its mother until it was 1 year old, and then given soft foods, oatmeal, crackers, potatoes, etc. After 3 months of age, the child did not seem to grow, though it had a very good appetite and slept quite soundly. When 13 months old its hair began to fall out, and its scalp became dry and scaly. Later the skin about the knees and shoulders became dry and harsh.

At present the child does not walk nor talk, is intellectually dull, good natured, sleeps almost continually, eats well, but is obstinately constipated.

Status praesens.—The face presents the physiognomonic characteristics of idiocy. The complexion is of a sallow, whitish cast. The scalp is dry and scaly, the hair stiff and sparse and of irregular length. The anterior fontanelle is widely open, diameter 2 inches, and the posterior fontanelle is not yet closed. The forehead is low. The nose is small and retroussé, with large nasal orifices. The base of the nose is sunken and flattened, and the interocular space is very wide. The eyes are set far apart and seem to be quite small because of the thickened eyelids that almost close the palpebral fissures. The lips are thick, and puffed, and between them is protruding the large swollen dusky tongue. The gums are soft and show no signs of the eruption of the teeth. The neck is short and thick, and the head hangs forward with the chin resting on the sternum.

The skin of the face and body is extremely dry and hangs in folds; it is quite thick, but yields no pitting on pressure. At the root of the neck on each side is a fatty-like tumor. The chest is short, the abdomen large, protruding and flabby, with a pseudohernia at the umbilicus. The arms and legs are thick and squat. The body length measures 22 inches. Such, in brief, are the notes of the case taken in December, 1898, at the time the first picture was taken.

The child was given tablets of the extract of the thyroid gland (Parke, Davis & Co.). At first 1 gr. of the extract was given three times daily, which is the dose the child is now taking. The second photograph was taken in October, 1899, and the change from a dwarfish, idiotic, repulsive thing to a bright, pretty, intelligent child is as remarkable as it is satisfactory.

The child, as the illustration shows, has lost all of the earmarks of cretinism. The fontanelles are closed, she has an abundant growth of hair, a good complexion, and soft, pliant skin; she walks, and talks in words of one syllable, has twelve teeth and measures 30 inches in height, a gain of eight inches in ten months.

Cretinism is a chronic disease due to a cessation of function or total absence of the thyroid gland, and is characterized by a growth-disturbance of the bony skeleton and the external soft parts, with a characteristic change in the physiognomy and severe disturbance of the sense organs and the intellect.

DR. JAMES G. KIERNAN—Dr. Walls quoted Osler as saying that there was not much of an underlying local factor found in the United States as compared with other countries in regard to cretins. Dr. Osler is evidently unacquainted with the results published in 1887, by the American Medico-Psychological Association, superintendents of various insane hospitals, and by a number of physicians connected with the Indian reservation. It would seem from the results that there was a continuous causal factor in connection with these American cases. The record of cretinism in English-speaking countries is following the same path that that of many other diseases has. It is just being brought to the attention and found to be rare. Then the general practitioner trains his powers of observation and finds a lot of cases. Progress in connection with cretinism in this direction has been unusually rapid since undeniably brilliant results have followed the thyroid treatment of the condition. There is very little doubt that there will be a large number of cases found from time to time, of imperfect cretinism due to a variety of conditions, occurring in a number of different cities and rural districts, but practically the same as those which obtain in Italy, Switzerland, etc.

BACTERIA AND ICE.

DR. ADOLPH GEHRMANN—In considering this subject from a sanitary standpoint, we have practically the same conditions to deal with as in the consideration of water: the chemical purity of the ice, then the bacteria that may cause disease. The chemical quality has to do with the purity of the water from which the ice is prepared. We can say that ice, as presented for use, both artificial and natural, contains bacteria in greater or less numbers, ranging from fifty up to three thousand per c.c.

As to contamination, the point in relation to typhoid fever is of great importance and the bacillus coli communis is the indication of the presence of pathogenic bacteria. The methods of examination are those which are used in water analyses for the determination of the bacillus coli communis, and it is taken as an indication for contamination. We may also attempt to determine the presence or absence of the typhoid bacillus itself. Among the points of sanitary interest is the source of the ice supply; this should be examined. As a rule, ice is procured from a definite locality, and the water in that locality can be examined before the ice crop is gathered. Then, when the ice is cut, it is stored in large quantities and remains there ready to be hauled away for use. It can be subjected to examination from time to time until it is to be used, so that its quality can be determined a long time before its delivery to the consumer.

When ice is found to be impure, according to the city ordinances, its distribution is limited to certain places, based on inspection of the conditions surrounding that particular place. There are two sources of contamination of ice: original contamination from the place where the water is obtained, as natural ice, while ice may be contaminated during its transportation by railroad companies. Ice is never considered as a food. It is classed along with manure, grain, feed, lime, and all merchandise materials, and handled practically in the same way. A series of experiments conducted by Mr. Kinnicott, formerly city chemist, in ice which was packed with various other materials, showed that it became contaminated so that a considerable number of bacteria were found in the cakes. Considerable contamination may result in this way. (Here Dr. Gehrmann related at length a case of infection from ice, resulting in several cases of typhoid fever.)

There is one point I might speak of in regard to disease bacteria in ice and the storage of ice, i. e., water in a pond or river will purify itself to a greater or less extent, but when water is frozen immediate preservation takes place. One of my early experiences with ice was in relation to a pond in the neighborhood of the city, from which the quality of water was doubted. Investigation during the summer time showed that arrangements had been made to fill the pond with water from Lake Michigan during the fall. The pond had been filled before the previous winter season, with Lake Michigan water, raising it to a level of some three or four feet. An ice crop had been cut and stored, and a portion of it was being delivered during that summer. This was during the first year that the city undertook the work of inspection. Analyses of the ice from this pond were made and condemned it for domestic use. The bacillus coli communis was found in the ice, and a considerable amount of organic matter of vegetable or animal origin. An examination of the water in the pond showed the absence of the bacillus coli communis, and the water contained a relatively less amount of organic matter. The point we had to deal with here was that the water in the fall had been contaminated lake water, frozen and preserved in the ice-house, while the pond, without the further addition of lake water, purified itself to such an extent that disease bacteria had disappeared. It was further found, in this connection, that when Lake Michigan water was not pumped into the pond, a reasonably pure crop of ice could be obtained from that source.

REPORT OF A CASE OF CESAREAN SECTION.

DR. CHARLES E. PADDOCK reported the following case: May 22, 1898, I was called by Dr. Van Pelt to see a case in labor. Examination showed the pelvis filled with a mass which very much resembled a child's head, and under certain conditions might easily be mistaken for it. Labor had progressed about twelve hours, the membranes having been ruptured for several hours. The cervix was found, with great difficulty, crowded up behind the pubis. The patient was a primipara, American, about 28 years of age, strong and healthy. She had never been aware of any tumor. She was removed to the Mercy Hospital, and there being no alternative, a Cesarean section was decided on. Under anesthesia, a hard mass, evidently a myoma, near the cervix, completely blocked the outlet. The four fingers could be passed into the cervical canal with great difficulty, making the canal about 2 cm. by 7 cm. This diameter positively decided the Cesarean section. Even had the child been dead, craniotomy would have been out of the question.

Dr. Halstead and Dr. Barnes assisting me, the patient was soon delivered, through the abdomen, of a ten-pound boy. I should judge the time from the commencement of labor to the delivery was twenty hours. The operation was the conservative Cesarean section, not removing the tumor.

The question may well be asked, Why was the Porro-Cesarean not done? Kelly (Operative Gynecology, page 423) says: "When there is good reason to anticipate sepsis; when, for example, the patient is exhausted by a protracted labor, and when manual or instrumental efforts at delivery have been made, etc., the Porro operation must be performed." In this case, the woman was considerably exhausted, and from the too frequent examinations and early ruptures of the membranes, sepsis was possible, still we decided to leave the uterus and tumor. The exhausted condition of the patient, and my experience in obstetrics, of seeing similar tumors grow during pregnancy and subsequently decrease and sometimes entirely disappear [illegible] to this [illegible]. That I was partly correct is [illegible] from the specimen which I show you.

The patient made a [illegible] recovery. A small stitch abscess was the only complication. Most authors speak of the lochia following a Cesarean section as being the same as delivery *per via naturales.* In this case the flow stopped the third day. If one stops to consider what happens, it is plain that the flow can not be the same. The child in passing down through the lower uterine segment and vagina in normal cases denudes the surface, so that we have a continual wound surface, which we do not have when the child is removed through the abdomen. I claim that most of the lochia, or a good part of it, comes from this denuded area and not from the placental site. I merely mention this as something that is liable to occur, and I believe does occur in cases of this kind, and that the absence of the usual flow may not worry the physician.

I saw the patient occasionally after leaving the hospital. The tumor gradually diminished in size, and six months after delivery it was hardly to be felt. Eight months subsequent to delivery the tumor had commenced to grow, and I advised an operation, and through the kindness of Dr. Franklin H. Martin, who removed the specimen, I am permitted to show it. It is a submucous myoma with pedicle attached at the junction of the cervix with the body of the uterus.

Just a few words regarding the Cesarean operation. It has generally been the custom to operate in selected cases when labor has commenced. The reason for this was the belief that the uterus would not contract. This is far from the fact, and I would strongly advise in such cases to set your time as near the termination of pregnancy as possible, have everything ready, and suit your own convenience; waiting until labor begins is dangerous. Your patient is not prepared for such a serious operation; the physician is away at another case; the membranes rupture, the cord may prolapse, and numerous complications may result. In selected cases or others, where infection of the uterus has not been possible, the uterus may be opened *in situ;* the abdominal incision in such a case does not need to extend more than a few inches above the umbilicus, or perhaps 20 cm. in all. In my case, however, where there was reason to anticipate sepsis, the incision extended high enough, so that the uterus could be lifted out on the abdominal wall, and sterilized towels packed firmly underneath to protect the intestines. An assistant firmly presses the abdominal walls against the uterus. The uterine incision is made as nearly in the median line as possible; still, if it is necessary to go to either side to avoid cutting over the placenta, you should do so. The placenta can be located by the doughy feel, by the elevation over it, and also by the increased vascularity over the site.

Great care should be given to the removal of the placenta. The contraction following the removal of the child is so great that the placenta may immediately become wholly detached. Grasping its fetal surface and raising, and at the same time twisting it, will readily detach the placenta together with the membranes. Any large pieces adhering must be removed. Small decidual shreds had better be left than to spend much time in removing them.

The uterine incision should run down to the reflection of the vesical peritoneum, which is easily recognized by a transverse white line in the cervical region. I can see no advantage in the incision advocated by Fritsch, of Bonn, namely, making a transverse incision through the fundus. In fact, to me it would have its disadvantages. After the incision has been made, care should be taken that it is long enough. It should be too long rather than too short; bringing the child out through a too narrow incision would not only cause delay, which is dangerous to the child, but might easily cause a severe rupture of the uterus. The child should be grasped by the feet, and only by the feet. Any other way, such as the arm, is awkward, can not be delivered as quickly, nor through such a small incision.

Another point worth remembering is to clamp the cord. I always do this in my normal cases, always having my forceps handy, and as soon as I am ready to sever the child, I clamp the cord in two places and cut between. This often saves time, and time is a very important item in many obstetric cases. Especially is it so in a Cesarean operation. Two valuable assistants are necessary in an operation of this kind; one assistant can entirely control the hemorrhage by grasping the uterus well down toward the cervix, and especially pressing the uterine arteries, which are readily found. Never use a rubber ligature around the cervix, as it is a dangerous procedure. It only favors atony, one of the things we wish to avoid, but it bruises the tissues to an alarming extent. No hemostatic forceps are necessary in this operation, after making your abdominal incision.

As to sutures, fine silk is probably as good as anything. Dissecting back the peritoneal covering for a short distance, pass the needle, avoiding the outer covering, emerging in the line of incision between the muscularis and the decidual layer; enter the other side directly opposite, coming out on the surface opposite the first; tie each ligature separately, controlling the hemorrhage. These sutures should be 1 cm. apart. A second row of sutures uniting the peritoneal layer and covering in the first sutures, completes the closing of the uterus.

The omentum should be spread carefully over the intestines, but not over the uterus. As a rule, adhesions form between the uterus and abdominal wall. Any infection in the uterine wound might find its exit through the abdominal wound. With the omentum over the uterus and adherent to it, the result would be different.

Too little attention is given to the after-treatment of these cases. There certainly is not the danger of infection per vaginam that there is no wound surface, but still, thorough cleanliness and the application of antiseptic pads over the vulvar orifice are obligatory. In a subsequent article, I intend to treat of this subject more especially relating to the indications for the conservative Cesarean operation and the Porro operation.

The opportunity to do a Cesarean operation is rare, but in skilled hands the mortality should not be any greater than any simple operation requiring an anesthetic. This being so, the idea of a craniotomy on a living child, in a healthy mother, can not be considered for one minute.

Chicago Medical Society.

Jan. 10, 1900.

EXOPHTHALMIC GOITER, TRACHEAL STENOSIS, ETC.

Dr. A. C. Klebs presented a patient with exophthalmic goiter with tracheal stenosis and recurrent paralysis. The patient was a man, 22 years of age, in whom, of the three cardinal symptoms of Graves' disease, only the struma was well defined. The pulse ranged from 92 to 102. Exophthalmus was not very marked. The signs of Stellwag, von Graefe and Moebius were absent. There was a slight tremor of the hands, and inclination to perspiration, palpitation, nervous irritability and headaches. The struma was rather hard and pressed on the trachea, which was bulged in. There was paralysis of the left posticus, hence difficulty in respiration—stridor—and phonation. There was no distinct improvement after five weeks rest. Iodids and faradism had been resorted to without much benefit. The author believes that in this case partial extirpation of the struma is indicated.

Dr. Arthur D. Bevan said he was interested in the case from the standpoint of operation. He was not clear in his own mind as to whether this case should be classed among the cases of exophthalmic goiter or not. When he saw the patient, in consultation with Dr. Klebs, he recommended expectant and iodid treatment for a time at least. If, however, the patient did not improve, operation was justified. The expectant and medical treatment of exophthalmic goiter had not been satisfactory, if the statements of recognized authorities in internal medicine were accepted. In investigating the results of surgical operations on this disease, he had found some 230 operations had been done, partial strumectomies, with a cure in 45 per cent. of the cases, decided improvement in 23 per cent., some improvement in 11 per cent., failure in but 10 per cent., and a mortality of about 7.5 per cent. Surgery in this disease holds out either a cure or improvement in eight out of ten cases. The majority of operations have been done on the theory that the disease is due to a hyperaction of the gland, the chemical theory, and the operations performed have been either partial strumectomies or else ligation of the thyroid vessels. A few operations have been done on the nerve theory—sympathetic—as to the excision of the disease. Results of operations on the sympathetic—cervical—have not been very encouraging. The best that can be hoped for is the removal of one of the symptoms of the goiter, and that is exophthalmus. Tachycardia, struma and tremor were not affected by the operation. Personally, he has operated on three cases, one of which was reported three years ago. Since that time he has operated on two others. one eighteen months, another three months ago, and so far as the disappearance of the symptoms is concerned, the results have been entirely satisfactory. Given a case of exophthalmic goiter, the diagnosis of which has been thoroughly established, the treatment should be that of expectancy and the usual therapeutic measures employed. If the case did not improve, he believed it was the surgeon's duty to give the patient the benefit of the relief which surgery offers.

Dr. A. J. Ochsner operated on his first case of exophthalmic goiter some five years ago, when his attention was directed to operative intervention in this disease. The patient was a woman, 18 years of age, with a pulse of 140, and all of the other symptoms strongly marked. He removed one lobe of the thyroid, and before the patient left the hospital her pulse came down to 70. and has remained approximately at that point during the past five years. Since that time he has operated on six others, all having done well. One of them, however, was too recent to speak of the permanency of the result.

Dr. Archibald Church said he was interested in the case from the standpoint of diagnosis. The three cardinal symptoms of the older writers—exophthalmus, thyroid enlargement, and tachycardia—were represented only by the thyroid enlargement and a slight rapidity of the pulse in this case. There were other symptoms, in his opinion, which are as important as the classic triad referred to—namely, mental irritability, general muscular weakness, and tremor, or Marie's sign. Of the latter three symptoms, only the tremor was present, so far as he could determine, and even this from a superficial examination did not seem to be the persistent, rhythmic thrill which is ordinarily found in cases of exophthalmic goiter of long duration. Then, too, the enlarged thyroid gland was so common to many other disorders that this symptom of itself carried very little weight in the diagnosis of Graves' disease. If in addition there were in this case flashings, sweatings, attacks of colic and diarrhea, albuminuria, glycosuria, or polyuria at some period, with a tendency to mental vagaries, some one or all of these, as subsidiary symptoms, taken with the thyroid enlargement, might serve to establish a diagnosis of exophthalmic goiter.

Speaking of the surgical treatment, Dr. Church said a word of warning should be injected, as such capable men as Horsley, Kocher and others who had done a large amount of work on the thyroid, experimentally and on human beings, had reported cases of sudden death following operative procedures, and instances of the same character had occurred in Chicago.

Dr. Junius C. Hoag had seen several cases that had baffled the most expert diagnosticians. He recalled one in particular in which the only prominent symptom manifested was tachycardia. There was a slight thyroid enlargement. The patient had consulted half a dozen neurologists, and "internalists," and some of the diagnoses made were "neurasthenia, hysteria," etc. Finally, he discovered a slight protrusion of one eye, and then the diagnosis of exophthalmic goiter occurred to him for the first time, which was subsequently confirmed by others. The medical treatment of the disease is extremely unsatisfactory, and the profession looks to the surgeons for help.

Dr. Klebs, in closing the discussion, and replying to Dr. Church, said that in his paper he mentioned nervous irritability, frequent headaches, perspiration, family stigmata, etc. He believes an operation would probably be the best thing to recommend in this case, and was glad that the surgeons who had spoken concurred with him in that particular.

GUNSHOT WOUND OF THE ABDOMEN.

Dr. Jacob Frank reported a case of this. The patient, Mrs. A., mulatto, was 23 years of age. She was accidentally shot with a 38-caliber revolver about 1:30 p.m., and was brought to the hospital four and a half hours later. The bullet entered the abdomen in the left hypochondriac region, two inches below the last rib on the left axillary line. No wound of exit was found. She complained of slight pain, referred to the point of entrance of the ball in the region of the kidney and about the uterus. As the woman was menstruating at the time, she thought the pain about the uterus was due to it, but as the bullet was found in the cul-de-sac of Douglas, the increase of pain was well accounted for there. From the position in which the bullet left the pistol, and from its entry, it was determined that it would be almost impossible for the ball to travel in that direction without injuring the intestine. The patient was anesthetized, the bullet wound enlarged, and the finger introduced with the hope that the track of the bullet might be followed. Failing to detect the ball, an incision, six inches long, was made to the left of the median line on the outer border of the rectus muscle, beginning 1½ inches above the umbilicus and extending downward and inward toward the mons veneris. On opening the abdomen, a small quantity of fluid and some blood were found, but no escape of intestinal contents. The patient was eviscerated, the parts being protected by warm towels, from the pylorus, noting the injuries to the intestines and marking them with a piece of gauze pushed through the mesentery. Examination showed the bullet, after penetrating the walls of the abdomen and perforating the walls of the small intestine, besides bruising two or three other portions, had dropped in the cul-de-sac of Douglas, whence it was extracted. A small bleeding point was found a short distance away. As it was impossible to repair the perforating wound with sutures in the gut, a resection was made and a 1⅛ inch Frank's coupler introduced and the anastomosis completed in the usual way. The bruised portions were closed with Lembert sutures. A gauze drain was inserted in the bullet wound incision. At the upper end of the laparotomy incision a gauze drain was introduced, and at the lower end a modified Mikulicz drain into the cul-de-sac, and removed after thirty-six hours. The patient made an uneventful recovery.

Dr. Frederick Leusman showed a young man with a chronic posterior urethritis of ten years' standing.

Dr. D. N. Eisendrath showed, first, a case of congenital nevus, involving all of the fingers of the right hand of a child 5 years of age.

GANGRENE OF FOOT.

The next case was one of gangrene of the foot following a Schede operation for the relief of varicose veins combined with ligation of the internal saphenous vein. The patient was not shown to throw discredit on an operation which has given most excellent results in the majority of cases, but simply to call attention to the fact that it may be, at times, followed by complete venous stasis and gangrene, and that the operation is not to be advised when there is much arteriosclerosis, as was present in this case, or when the return circulation will be at all impeded.

SURGICAL KIDNEY.

Dr. Eisendrath's third case was one of a patient who had been operated on 1½ years ago on account of a unilateral surgical kidney, with excellent recovery. The other kidney had remained apparently normal; the urine was clear; the patient had been treated with antitoxin for diphtheria since that time; and had also undergone an operation for cystic ovary. The case was chiefly interesting on account of the fact that the general teaching is that surgical kidney is most frequently bilateral, and such cases as the above show that nephrectomy for such conditions offers a good prognosis.

A specimen of surgical kidney was also shown, which had been removed from a woman at autopsy, who had suffered from a cystitis, and in which the opposite kidney was also found to be perfectly normal. Similar cases have been reported by Weir of New York.

Dr. D. M. Aderhold reported an interesting and instructive case of amebic dysentery.

THE JOURNAL OF THE
AMERICAN MEDICAL ASSOCIATION.

SATURDAY, JANUARY 20, 1900

DIAGNOSIS OF BUBONIC PLAGUE.

In October, last year, there convened in the Imperial Health Department at Berlin, a scientific conference for the discussion of questions relating to the plague. The wide field indicated seems to have been covered in a most exhaustive manner[1]. All the various problems, scientific and practical, of the various aspects of bubonic plague, were here discussed in a select gathering of recognized authorities. The results can not fail to be of immediate benefit to Germany and indirectly to other countries.

At this time it may be of advantage to refer to the paramount question of diagnosis, of especially the first suspected cases which may obtrude themselves at any time in seaports. Pfeiffer, recapitulating the more important observations in regard to the examination in plague, remarks that the blood does not carry the germ constantly; often but few bacilli are present; at other times they are present in large numbers, but may diminish rapidly and even disappear wholly shortly before death. Frequent cultures should be made. Bacilli grown from the blood at first develop slowly and poorly. In the pulmonary form, which is usually fatal, the bacilli are readily found in, and obtained from, the sputum. In light cases of plague the bacilli are often hard to find. The primary lesions are the most promising places while fresh. The pus of suppurating buboes is nearly always sterile. There is no theoretic objection to incision of buboes for securing material; the incision necessary is harmless, and often gives the patient relief. Great care should be exercised in the post-mortem of the first cases especially, in order to prevent the spread of the disease. The material especially necessary for diagnosis is the contents of buboes, the spleen and the lung, and the post-mortem need be carried no further than necessary to secure material for examination; often this can be obtained by punctures. Post-mortems should never be made by others than experts. Whenever possible, all examination should be made on the ground; transmission to distant places should be avoided; a special committee was appointed to draw up special regulations for the sending of material away in the event that should be unavoidable. Pfeiffer states that when the microscopic demonstration of the bacillus does not suffice, then cultures must be made, preferably on agar and blood serum, in pure infections; in mixed infections, gelatin slants kept at low temperatures are most serviceable. Inoculations should be made, especially of rats; rats infected by inoculation of the nasal mucosa should not again be touched; no animal experiments are to be made outside of the laboratory. As regards serum diagnosis, further investigations are essential before the matter can be cleared up satisfactorily.

The Prussian government has arranged and made ready for use three "flying laboratories" at a cost of about $750 each, as previously noted in The Journal. Four small boxes contain everything necessary for the examination of material of suspected cases of plague. When necessary these are to be sent on at the same time as an expert is hurried forward. In some of the quarantine stations rooms have been set aside for laboratory purposes in case of need. In this way the establishment of stationary laboratories can be dispensed with.

Of the many other problems discussed with equal thoroughness and with equally definite results, suffice it to mention that the Conference unanimously recommended the establishment of stations for the manufacture of protective vaccin material and of serum for the agglutination test, and of an institute for the preparation of antiplague serum.

The perusal of the report of the proceedings of this Conference carries with it the impression that the prescribed task has been accomplished with signal success, and that the plague, should it reach the shores of Germany, will meet a powerful and well-planned defense. The direct, practical value and application of scientific laboratory and clinical research are again demonstrated with a directness that points the value of this sort of co-operation in other problems of like nature.

THE CRUSADE AGAINST TUBERCULOSIS.

There is no longer any question among those most competent to form an opinion on the subject, as to tuberculosis being a communicable, and to a great extent a preventable and curable disease. It is definitely known that only in the rarest instances is the disease as such inherited from the parent by the offspring, although a susceptibility or predisposition may be thus transmitted. Of the preventability of tuberculosis evidence will be found in the reduction in morbidity, and mortality effected wherever appropriate prophylactic measures have been instituted, apart from the knowledge that, being dependent on a palpable, tangible, finite cause, the control of this must necessarily inhibit the development of its effects. That tuberculosis is curable is established by the results of both clinical and pathologic observation, as exhibited in the large number of those restored to lives of health and usefulness, on the one hand; and to common detection of healed foci of tuberculosis in the bodies of those dead of other diseases, on the other.

A powerful impetus has been given in the last few years, to the movement directed to the prevention and the cure of tuberculosis. Medical literature teems with communications on these subjects, and at least one publication is devoted to their consideration exclusively. Congresses dealing with the various aspects of tuberculosis have been held, leagues and societies for the restriction of its ravages have been organized, and special hospitals and sanatoria for its treatment have been erected. The importance of the subject has always been appreciated by the medical profession, but signs are not wanting that the lay public has awakened to the gravity of the menace by which it is threatened in this great "white plague," and the vast possibilities of an intelligent, vigorous, and well-directed prophylaxis. Some interesting facts in this connection were developed at a joint meeting of the Philadelphia County Medical Society and the Pennsylvania Society for the Prevention of Tuberculosis, held recently. On this occasion the importance of educating the community in the ways of prevention was pointed out, and the need of hospitals and sanatoria for both the poor and the better circumstanced, particularly for the former, was emphasized, not less on economic than on humane grounds; not alone for the sake of the sick and the suffering, but for the protection of the well. The obligation is to be met in this way, and the interests at stake are far too enormous to be borne by individuals, and they naturally and properly devolve on the state. Questions of cost and maintenance were intelligently discussed by practical men on the basis of actual experience, and the necessity for the establishment of such institutions, not alone in the country but also in the city, and the situations best adapted for their location, were pointed out on the authority of personal observation. It was clearly shown that for the recognition and proper treatment of many obscure and otherwise inaccessible foci of disease, registration of cases of tuberculosis would be necessary.

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[1] Centralb. f. Bakt., Abth. i, 1899, xxvi, 710.

On all sides the hopefulness of the movement stood out prominently. In the matter of hospital accommodations it was pointed out that, for the present at least, it might be best to utilize existing institutions, setting aside special wards or special buildings for cases of tuberculosis, as, in the first place, the public is not yet prepared for, and it would in many ways resent attempts at, the enforcement of absolute isolation, so that such a step would tend to defeat the objects of the movement. In the second place the cost of the necessary new plants, even beginning in a modest way, would be very considerable, and the next most important item would be the cost of nursing and of treatment. It would, therefore, seem best for the present to intelligently use our present resources, permitting the process of specialization and isolation to evolve gradually, and in this way to obtain the co-operation of the people in a movement whose results must in time prove of inestimable benefit to the entire human race.

PHARMACOLOGY OF THE ORGANIC NITRATES

Modern pharmacologic research is slowly but surely establishing itself on substantial foundations. Time was, and not in a wholly remote past, when authors of text-books of materia medica tried to analyze the pharmacodynamic actions of complex physical constituents in many drugs, such as digitalis, ergot, squills, etc. But the newer studies prosecuted in many laboratories demand a knowledge of the molecular chemical structure of the individual constituents before investigations are commenced, and the appreciation of the part played by the different chemical radicals in a complex synthetic combination, be it of digitoxin, chrysotoxin, scillain or acetanilid, is intimately bound up in the interpretation of the pharmacologic results.

No more promising field of experimental research has been opened up than the study of the effects of different radicals when added to well-known compounds, and the synthetic chemist and pharmacologist are hand and glove in their endeavors to work out new combinations of therapeutic utility. The study of the action of the various nitrates has always presented special attractions because of their great utility in the therapy of cardiac and vascular diseases; and the recent work of C. R. Marshall, professor of materia medica in the University of St. Andrews, on "The Pharmacological Action and Therapeutic Uses of the Organic Nitrates,"[1] offers some suggestions to those interested in the modern advances along the lines indicated.

He points out that two groups of these nitrate compounds may be distinguished: the *substitution* compounds, in which the nitrate group replaces a hydrogen or an hydroxyl group in the original compound; and the *addition* compounds, in which the nitrate radical is added to the original molecule, and a substance in many respects resembling an inorganic salt is produced. The experiments were made to determine the effects of the nitrate radical in organic combination in the organism and the modifications of this action produced by the various alkyl radicals. A large number of bodies were tested, the physiologic investigation being confined to the general effects and the toxicity, the action on the vascular and excretory systems, the mode of excitation and the influence of susceptibility and tolerance.

The following conclusions may be deduced from this extensive study: With the exception of the addition nitrate compounds all organic nitrates are toxic; the toxicity increasing within limits perscribed by the solubility; thus mannitol nitrate and the nitrate sugars are so insoluble as to be almost non-toxic. All are vasodilators, the power in this directioin, like the toxicity, increasing with the increase of nitrate groups.

On account of the comparative insolubility, the main effect of the solid organic nitrates is a gentle and prolonged dilatation of the blood-vessels. All produce methemoglobin when added to the blood, with the exception of methyl nitrate. The amount of methemoglobin formed is mainly dependent on the solubility of the nitrate ester. The effect on the pressure of the blood is that of primary depression, which is followed by a gradual rise in pressure; mannitol hexanitrate and glucose pentanitrate produced the most lasting depression.

From the therapeutic point of view, the deductions,

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[1] **Medical Chronicle, vol. 1, 1899, No. 6.**

[illegible] for the most part not entirely new, yet amplify [illegible] conceptions of the action of some of the nitrates more commonly employed. Thus of nitroglycerin it is said that [illegible] empirically in a great variety of disorders of the vascular system, but two groups of diseases warrant its use. These are: 1, those [illegible] with arterial or relative spasm of unstriped muscle [illegible], and 2, nervous diseases. A third group, where its action would aid in the elimination of soluble toxins from the body, is best treated by other remedies. Glycol dinitrate possesses a similar effect to nitroglycerin, but is more rapid in action as well as more transitory, but by reason of its great expense will probably not come into general use. The solid organic nitrates, erythrol tetranitrate, mannitol hexanitrate are of [illegible] where a steady and prolonged dilatation of the blood-vessels is deemed necessary. The chief value, however, is in preventing the onset of anginal pains, for which purpose erythrol tetranitrate has proven of distinct service. Mannitol hexanitrate, by reason of its insolubility, is less serviceable. Methyl nitrate possesses no advantages over the erythrol compounds, and the [illegible] nitrates are too unstable for general use.

A NEW "MEDICAL JOURNAL."

A new "medical journal," that begins with the new year, is issued from a large "sanitarium" that has been unenviably noted for its quackish methods and brazen advertising. This is perhaps not in itself to be wondered at, but some surprise may be permitted at the fact that the initial number contains some advertisements from drug houses that stand well in professional regard. Can it be that the supply of drugs necessary to the conduct of this institution of unsavory reputation has been so tempting to the manufacturers that they readily yielded to the request for an advertisement of their products for this new disgrace to the name of medical journalism? In passing it may be noted that the sanitarium is "asceptic," concerning which it might perhaps in safety be remarked that one is necessarily nearly as skeptic of the morals of the institution as of the orthography of its officials. The publishers' announcement asserts: "We propose to have a Subscription of Fifty Thousand." It is not at all probable that nearly half the physicians in the United States will subscribe for the organ of an institution of this character, but it is quite in line with experience that 50,000 physicians should be made more or less unwilling recipients of this "medical journal."

STUDENTS AGAINST PROGRESS.

The students of the medical colleges of Cleveland, Ohio, or a portion of them, have organized to defeat the proposed law regulating the practice of medicine, which is supported by the profession of that state. In so doing they go beyond the Iowa students who would have only themselves exempted from a state examination, for they unselfishly (?) demand that neither they nor anyone else shall be examined, unless all present practitioners in the state shall go through the same mill. As there are legal and constitutional objections to this last, their position amounts simply to a demand that no medical reform shall succeed, and they place themselves on the level of the quacks who are fighting medical practice acts throughout the country. Making all the allowances for the average unwisdom of immature undergraduates, this is not a very pleasant matter for contemplation, and the more general the movement the worse the case. One is tempted to hope that young men who have no better ideals as to their chosen profession than to join forces with its outlaws, will never get into it, at least not until they have had the full benefit of an extra rigid state examination. Ohio would better, for its own sake, pass such a law at once, with an emergency clause attached.

ALCOHOLIC LIQUORS IN PRESCRIPTION.

The U. S. Commissioner of Internal Revenue has aided the temperance cause, it is hoped, by a recent decision. He decides that the prescription of any alcoholic liquors, uncompounded with a drug or remedy, subjects the prescriber to the special internal revenue tax as a retail liquor dealer. There are physicians whose principles or good nature have permitted them to help the thirsty to gratify their desires when the legalized public facilities are wanting. A physician in West Virginia, kept a drug store and dispensed liquors on his own prescriptions. His appeal to the revenue department from the local collector produced the decision above mentioned, and referred to in our "Medical News" columns, the 13th. The only effect of this decision will be to stop the prescribing of "straight" drinks, diluted or otherwise. It can be often enough evaded by the addition of some medicinal agent under the pretense of a prescription for disease, but if the spirit and intention of the law are strictly regarded by the authorities, this, it would seem possible, might occasionally cause some inconvenience to the complaisant prescriber. A doctor, however, who is willing to function as a stationary or perambulating "blind pig" will probably still continue his practices; the advantage of the decision is that it will call the attention of some careless individuals to the risks they run in accommodating some of their thirsty clients in dry places.

THE GENESIS OF ACUTE MILIARY TUBERCULOSIS.

According to Weigert, general miliary tuberculosis depends on a dissemination of tubercle germs in large numbers, due to an invasion in mass through a large vessel—the heart, or the thoracic duct. This theory is supported by the recent investigations of Benda[1], who carefully studied seventeen cases with this point in view. The points of invasion of the circulating blood were found by Benda as follows: Through the thoracic duct twelve times, the pulmonary veins four times, the endocardium once—once the mitral valve, and once the aortic—and the thoracic aorta once. In the majority of the cases the vascular foci contained extraordinarily numerous bacilli in heaps. The points of invasion are divisible into two classes: One, which is rare, is due to an erosion of a vessel from without of an extravascular caseous focus, the other, more frequent and present in all of Benda's cases, depends on single or multiple metastases on the vascular intima—a tuberculous endangitis—from which infection of the blood or lymph takes place through caseation and softening, and is followed by a general eruption of tubercles in various organs. That is to say, the general infection occurs in two stages: A few bacilli become implanted on the intima, and here produce a characteristic area in which the germs multiply freely, and then masses of bacilli are sooner or later thrown into the circulation. The primary, or intermediate, internal focus is located in the subendothelial connective tissue, and bounded externally by the inner elastic membrane. When the other coats of the vessel become involved it would be difficult, and sometimes quite impossible, to say where the lesion started, whether in the inner or the outer of the vascular tunics.

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[1] Berlin Klin. Woch., 1899, Nos. 26, 27, 29.

THE DIAGNOSIS OF TYPHOID

Within the past year the bacteriologic diagnosis of typhoid has been enriched by several new methods, as noticed in the several departments of THE JOURNAL. That of Piorkowsky, by cultures from loops of the supported feces, using normal urine specially prepared with peptone and gelatin, has been confirmed by others, though as Wittich has shown, some further tests may be necessary to differentiate the colon bacillus.[1] More recently, however, Cesaris Demel has found that by using liver bouillon we can have an early means of differentiating the typhoid bacillus, and with the addition of litmus, also eleven other micro-organisms, including the colon and icteroid bacilli, and the cholera vibrio, by reactions characteristic of each[2]. With these methods, and especially the latter, we seem to have a valuable additional aid in the diagnosis of typhoid, and this with the possibility of detecting the change as early, according to Cesaris Demel, as the second day of the disease. The fact stated by Neufeld and by Curschmann[3], who confirmed Neufeld's findings, that the bacteriologic examination of tissues and blood from typhoid spots will reveal the bacillus, is also in point. It would seem probable from the recent observations of two English observers, Wright and Lamb[4], that the serum from these eruptions, while it affords cultures even earlier and more readily, will react differently from that from the general circulation in other parts of the body to the Widal test. According to their findings, the micro-organisms flourish especially in these typhoid spots, where the agglutinins found in the blood seem less active to impede their propagation and growth. Altogether our resources for the recognition of typhoid appear likely to be materially enlarged.

ENGLAND AND THE OPIUM TRADE.

The *British Medical Journal* , noticing a publication recently issued on the effects of opium as observed amongst the Chinese, criticises the opinion therein stated that the British Government is morally responsible for the opium habit in China, and that the trade is at once degrading and reprehensible. It says: "This may be all true, but it is not in accordance with the evidence laid before the recent inquiry on the opium habit conducted by a specially appointed Royal Commission." If it had said a part of the evidence, it would been more correct, for anyone who has read through the mass of published testimony must have been impressed with the fact that the official doctors and other officials and the government land farmers gave the testimony on which the findings of the commission were based, while the non-official doctors, native editors and missionaries, with a very few exceptions, testified to the direct opposite. The verdict of that commission was drawn up from the testimony of officials without regard to that from other quarters. The Burmese official testimony, moreover, was largely different from that of India, where the revenues are so largely dependent on the opium trade, and had the inquiry been extended to China, the results might have been still more strikingly different. The paragraph quoted from the publication referred to with so much disapproval, that "The day will come when the bulky report of the Commission will be looked upon as a costly and stupendous monument of sordid bias, special pleading, and outrageous discrepancy," may be chiefly offensive under the common-law rule, "the greater the truth the greater the libel." The rule of Great Britain over the inferior races has been in the main beneficial, but that is no reason why such a notable exception to the rule of righteousness as its course with the opium trade should be ignored or condoned.

COLORADO AND CONSUMPTION.

In a report submitted to a tuberculosis conference, held in Denver, Dec. 23, 1899, Dr. Tyler, secretary of the Colorado State Board of Health, gave statistics relating to deaths from consumption in Denver for the six years, 1893-98, which are worthy of consideration. While these showed only a moderate increase in the total of deaths from this cause, the percentage of cases contracted in Colorado advanced steadily from 11.26 in 1893 to 19.77 in 1898. These figures are given as indicating that pulmonary tuberculosis is increasing in that state. Quoting from the report: "This steady increase of the number of deaths from tuberculosis contracted within Colorado is sufficient to merit the earnest attention of all who are in any way interested in the prevention of the disease." The figures from this single locality are significant and suggestive, though not conclusive, but these do not seem quite as alarming as they might appear at first sight. They simply show that to keep up the average of deaths, a larger number of native cases is required, and since a large proportion of the Colorado population were originally "one lungers," it can afford an increasing proportion of presumably more or less hereditarily predisposed subjects. This is one way of looking at the facts, though it must be admitted that without a larger number of details, not here given, its absolute correctness can not be guaranteed. The population of Denver and Colorado is presumably increasing steadily, and there is hardly any better evidence to be had that the climate is salutary for tuberculous diseases than the fact that the death-rate from such does not, with the constant influx of infected individuals, very materially increase. That there is an increase of locally originating cases—admitting that they can all be positively proves such—does not, considering the unavoidably abundant chances for infection, materially affect the case. However we may value its text, Dr. Tyler's recommendations are correct and sensible, according to the present standards of belief in regard to the communicability of tuberculosis, and he sensibly refrains from recommending the exclusion of consumptives from the climatic advantages of Colorado.

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[1] THE JOURNAL, xxxiii, p. 1514. [2] Ibid, January 6, p. 39
[3] Ibid. xxxiii, p. 1652. [4] British Med. Jour., Dec. 23, 1899

STATE CARE OF EPILEPTICS.

Like many another great project, state provision for the epileptic moves slowly. The five states, Ohio, New York, Massachusetts, New Jersey and Texas, are the only ones that have really furnished state care for their several epileptic populations. Many other states are outlining their needs for colonies for epileptics and are urging legislative action. The colonization of these in America, the scheme apparently meeting with most success, was first agitated by Dr. Frederick Peterson of New York, in 1887. Dr. Peterson's inspiration in the matter was largely drawn from the successful Bethel Colony for Epileptics, Bielefield, Germany, where some 1500 are now grouped together on the village or colony plan. Mr. Letchworth[1] sets forth the essential principles urged by those engaged in colonizing epileptics, which is to provide an ample acreage for the prospective village, centrally located in the state, in which small homes may be built for its inhabitants and where all the industrial and educational lines may be fully carried out. As we now have a national association for the care and treatment of this class, the colonization where they may be kept under scientific study will render the society's meetings profitable to both the scientist and the philanthropist. THE JOURNAL has always been in sympathy with those endeavoring to ameliorate the unfortunate condition of the epileptic, and trusts that the time may speedily arrive when every state will provide separate institutions for its dependent epileptics.

VASOMOTOR ALBUMINURIA.

It is a fair question whether renal albuminuria can ever be considered a normal manifestation. If the answer be in the negative, the condition must be considered an indication of disease, however slight and transient. Disease is best defined as a deviation from the normal, in function or structure, or both. In fact, there can be no abnormity in function without alteration in structure, although this may be beyond our means of recognition. Unless, therefore, albuminuria be a normal phenomenon, it can scarcely be designated "physiologic." It is fair to assume that albuminuria occurs essentially as the result of disease in the epithelium of the uriniferous tubules, and this may be due, among other things, to alterations in the vascular pressure in the kidneys, sometimes increase, sometimes diminution, and at different times fluctuations between the two. These alterations must, in the absence of gross organic disease, eventually be referred to the vasomotor system, and the condition would then fit into the group of disorders comprehended by S. Solis-Cohen in the designation, "vasomotor ataxia." Such albuminuria as is now under consideration, has been observed in the sequence of muscular exertion in neurotic individuals and neurotic states, after the ingestion of food, and sometimes in the absence of discernible cause. To these varieties Hawkins[1] adds another that he describes as postural albuminuria, in which the albumin appears in the urine on arising, standing up and moving about after a period of rest in the recumbent posture. This has been observed most commonly in young persons, and apparently in males more often than in females. It is usually discovered accidentally. The albumin does not appear in the urine passed immediately on arising from bed in the morning, but in that passed after breakfast. Sometimes it is present also after the midday meal, and it is nearly always present in the evening. The amount of albumin is generally small, and hyaline casts are occasionally found. The general health is good, and there is no evidence of disease of the heart or arteries. Several cases may be observed in the same family. The prognosis in all varieties of vasomotor albuminuria should not be too sanguine, as long persistence and frequent repetition of the condition may predispose, if it do not actually give rise, to textural alterations. The treatment should be essentially prophylactic and hygienic, and directed to the maintenance of the general health, with especial reference to the preservation of vascular stability.

THE POLAR REGIONS AS HEALTH RESORTS.

It has been proposed, by an English journal, to establish a sanatorium in Spitzbergen, to take advantage of the germ-free atmosphere of that high latitude. The experience of Nansen, who found an absence of microbes in the farthest north, has suggested this to some active-minded sanitarians. It is a pity that the suggestion is not a more practical one. Germ-free air is not the one essential to health, and the climate of the North Pole has its drawbacks in spite of its aseptic advantages. A short summer sojourn at Spitzbergen would have attraction for a very limited class of individuals, and its therapeutic value might be even more restricted, allowing it to exist at all for a few. As a winter resort, the polar regions are out of the question, though it is in the winter especially that they are most free from microbic life. Dr. F. A. Cook, in a recent magazine article, has graphically described the effects of a winter sojourn in the Antarctic ice, and has given a new and descriptive name—"polar anemia"—to the syndrome produced by it in that supremely aseptic climate and region. One of the officers of the expedition to which Dr. Cook was attached succumbed to this disorder, induced by the long darkness, monotony, and intense cold, which affect both mind and body. Another objection to the northern climate is the fact that those who apparently endure it will often suffer on their return to more temperate latitudes; it is very far from building up an immunity to microbic diseases; on the other hand, it seems to render the system more liable to them. Arctic exposure, though it may be comparatively well endured at the time, is apt to be followed later by various disorders, as rheumatism, bronchitis, tuberculosis, etc., and prominent explorers like Sherard Osborn and others have insisted on this point in advising as to the selection of men for northern expeditions. The fact that a man has had experience was in their opinion rather a drawback than otherwise. The utility of an arctic sanatorium if such a one is ever seriously proposed, would therefore appear to be limited. It appears to be a fact that where pathogenic germs can not exist, other life is also difficult if not impossible, and, such being the case, we will have to make the best of it. The polar regions, the Sahara, and other lifeless tracts will have to offer other claims than their heathfulness to render them attractive.

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[1] Letchworth, Wm. Pryor. Care and Treatment of Epileptics, 1900.

[1] British Med. Jour., Dec. 9, 1899, p. 1598; THE JOURNAL, Dec. 30, 1899, p. 1651.

TUMORS OF THE HEART.

Primary tumors of the heart are among the rarest of neoplasms. Some years ago Berthenson collected some thirty cases from the literature; the majority were sarcomas, and most of them occurred in some part of the auricles, which seem the most susceptible parts of the heart to primary tumor growth. The right ventricle may be said to be the least susceptible part. Primary sarcomas of the heart very rarely produce metastases; in fact, metastasis was not recorded until recently, when Geibel[1] observed a secondary growth in the wall of the right ventricle following an undoubted primary, round-cell sarcoma originating in the endocardium of the right auricle—interauricular septum. This tumor constituted an accidental finding in a post-mortem on a woman, 53 years old. The tumor filled over half the cavity of the auricle, but nevertheless there were no symptoms of obstruction in the large veins. The absence of definite symptoms under such conditions is attributable to the gradual growth of the tumor, which gave the circulatory apparatus good time to adapt itself to the new conditions. It is rather difficult to establish, with absolute certainty, the primary nature of a tumor like this. It is necessary to exclude all other possibly primary growths in all parts of the body, including the skeleton; it must be clearly made out that no tumors or growths of any kind have been removed by surgical operation, etc. Geibel seems to show conclusively that his tumor was primary. Metastatic tumors in the myocardium are not of such unusual occurrence; they are usually associated with numerous secondary growths in other organs, naturally they may be either of sarcomatous or carcinomatous nature; among the carcinomas, those of the esophagus are the most frequent source of the metastasis, which is due to extension and invasion of some of the veins along which carcinomatous emboli are conveyed to the heart; at other times the heart may become involved by direct extension of the tumor growth. Geibel mentions a case of this kind in which a communication was established between the lumen of the esophagus and the left auricular cavity.

SOME DISORDERS OF THE SENSE OF SMELL.

While one would naturally expect individual variations in the acuity of the olfactory sense, it appears that noteworthy alterations in this function, other than as a result of local disease of the nares, are uncommon, but this may be because close attention has not generally been directed to clinical investigations of the subject. It is conceivable that the peripheral filaments of the olfactory nerve may become the seat of an inflammatory process of varied origin with impairment of the sense of smell; and the same result might be brought about by lesions in the course of the olfactory tract, from the bulb to the as yet unlocated cortical center, such as inflammation, hemorrhage, softening, new-growths, hydrocephalus, laceration, concussion, aneurysm. The situation of the tract at the base of the brain would seem to make it peculiarly susceptible to the operation of such lesions. Infectious processes and toxic influences might also expend their activities in part on the olfactory apparatus. Olfactory hallucinations have been observed in cases of disease of the brain and disorders of the mind. Loss of the sense of smell—anosmia—may be congenital or acquired, unilateral or bilateral. The congenital variety has been observed in idiots, and also in otherwise apparently healthy individuals. The disorder may even be hereditary. In a recent communication, Placzek[1] reports a case of what he believes to be a case of congenital, absolute, bilateral anosmia, occurring in a woman, 60 years old, who had no recollection of ever having experienced the sensation of smell, the perception of odors, but who, strangely, was conscious of her deficiency, and had an intense longing for the exercise of this function. Sensory irritation was appreciated when pungent substances were applied to the nares, but there was no suggestion of smell. There was no evidence and no history of nasal disease, no knowledge of any causative condition, and no other symptom of disease of the nervous system. The derangement is attributed to defective development in the neighborhood of the cornu Ammonis, as this region is said to be frequently found sclerotic on post-mortem examination, and it is believed to constitute a portion of the olfactory center. It is thought there may be also associated atrophy of the olfactory tracts.

CIRRHOSIS OF THE LIVER IN EARLY LIFE.

Although alcoholism is considered the most potent and the most common cause of cirrhosis of the liver, there occur a not inconsiderable number of cases in which no history of excessive ingestion of this substance can be obtained, and not rarely no other etiologic factor can be distinctly ascertained. Malaria is also stated to be a causative factor. It will scarcely be contended that there is anything specific or selective in the action of alcohol in the development of cirrhosis of the liver, but it must rather be concluded that the morbid process is brought about by the irritating action of this substance on the interstitial connective tissues of that organ. It may, however, easily be that the liver is more responsive to the stimulation of alcohol than to that of other irritants. At the same time, it should be borne in mind that the liver, by virtue of its function as a filter of the blood received through the portal vein from the gastro-intestinal tract, is peculiarly exposed to the irritating influence of all sorts of substances, some derived from without and others generated in the process of digestion. Further, there are conveyed to the liver by its arterial supply, irritants generated within the body as a result of deranged metabolism, some of which are certainly not less powerful poisons than alcohol. It is possible that in these facts we have a partial explanation for the oc-

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[1] Cbl. f. Path. u. Path. Anat. 1899 x, 48.

[1] Berliner Klin. Woch., Dec. 18, 1899, p. 1119.

[illegible] of the two varieties of cirrhosis of the liver, the portal and the biliary, the structures involved in the hyperplastic process depending on the channel through which the irritant is conveyed. Cirrhosis of the liver is not an infectious disease, but it does not require any great stretch of the imagination to believe that the toxic substances generated in the course of various infectious processes may possibly, in a predisposed individual, inaugurate, if they do not maintain the hyperplastic process. It may be conceived, further, that the irritant products of gastro-intestinal activity—or inactivity—may act in somewhat the same manner. In one or another of these mechanisms may possibly be found the explanation for some cases of cirrhosis of the liver whose origin can not be traced to the usual, or other, etiologic influences. Some such explanation is needed for the cases of cirrhosis of the liver of obscure origin, that occur in young persons for instance. A case reported recently by Abrahams, before the New York County Medical Association, may be considered as unique in this connection. The patient was a child, 16 months old, who within three months had lost appetite, become pallid, was constipated, and exhibited enlargement of the abdomen; there was no jaundice, and there had been no hemorrhage. The abdominal distension was found to be due to an accumulation of fluid in the peritoneal cavity, and this prevented a determination of the size of the liver and the spleen. There was no edema of the lower extremities, and no derangement of micturition; nor was there any evidence of syphilis. By exclusion, a diagnosis of cirrhosis of the liver was made, and on inquiry it was learned that from an early period in life the child had been permitted to drink beer rather frequently. After paracentesis, the liver was found to be enlarged, hard and smooth, and the fluid did not return.

PRIMARY SARCOMA OF THE PROSTATE.

There are only about thirty instances of primary sarcoma of the prostate gland recorded, the majority being collected in the inaugural dissertation of Gratzer, of 1895. Recently Schalek[1] described an additional case from Chiari's laboratory in Prague; it concerned a boy 3¼ years old. In looking over the material at hand, one is at once impressed with the relative frequency of this localization of sarcoma in early life. Four times the patients were less than 1, and seven were less than 10 years old; the remainder being scattered along in the various decennial periods up to the age of 70. Among the more prominent and frequent symptoms may be mentioned the presence of an irregular or rounded tumor of varying size, between the bladder and the rectum, which produces on the one hand urinary disturbances, at times total obstruction, at times increased frequency, catheterization being often difficult, if not impossible, and often productive of hemorrhage; the tumor is tender, often spontaneously painful, the pain being referred to the root of the penis; on the other hand there may be symptoms pointing to the rectum, and occasionally there has been noted total obstruction of the lower bowel. In one case paralysis of the lower extremities developed. Dilatation of the bladder, which may be pushed to one side, and cystitis, may occur. The size of the tumor may reach that of a child's head; in one case it weighed 1570 grammes, in another case it is described as colossal in size. The growth has often filled the pelvis. In its further growth the tumor may involve, by continous extension, the walls of the urinary bladder, the rectum, the urethra, and it may cause protrusion of the perineum. Hydronephrosis, pyelonephritis, peritonitis have been observed as more remote consequences. Metastases have been noted in the peritoneum, the mesenteric, inguinal and retroperitoneal lymphatic glands, in the kidney, adrenal, lungs, brain and humerus. Sarcoma of the prostate does not seem to have such a marked tendency to osseous metastasis as does prostatic carcinoma. Histologically various types of sarcoma are represented, such as spindle—and round-celled tumors—the most frequent, lymphosarcoma, angio-sarcoma, myosarcoma, and polymorphous forms. The clinical course seems to be a decidedly rapid one from the time that symptoms are first noticed and so far operation has terminated disastrously in every instance.

THE ANTIVIVISECTION BILL AGAIN.

The Senate Committee on the District of Columbia will hear arguments for and against the Gallinger antivivisection bill on some day in February, the exact date not given. We may assume it as certain that the zoöphiles will be there in force, with all the documentary support they can command, to reinforce their personal efforts. It is not too late to ask all physicians, medical societies and organizations that have not yet spoken to exert their influence by resolutions, memorials and direct individual work against the bill. Its possibilities for evil have been well pointed out in the medical press, but it is essential that the committee be collectively and individually enlightened. Whoever, therefore, like Dr. R. T. Morris, whose communication has already been noticed in The Journal, can give his personal testimony as to the value of animal experiments should do so at once. Society resolutions and memorials are good, and we are not likely to have too many of them, but personal influence, arguments, and facts are no less essential. It is to be hoped that no needed efforts will be spared to defeat the bill.

Medical News.

Dr. James A. Kelly has been reappointed county physician for South Omaha, Neb.

A new monthly, the *Seaboard Med. and Surg. Jour.*, Norfolk, Va., began publication this month.

Physicians of Muncie, Ind., have organized an association for the protection of its members against "chronic dead beats."

By the will of the late Robert B. Brigham, $2,500,000 is given for the founding and endowment of a hospital for incurables, in Boston.

Dr. Leon L. Solomon, Louisville, Ky., Chairman of the Section on Materia Medica of the **American Medical Association**, returned from Europe January 1.

Judge Adams, of the United States Circuit Court, recently sustained the Missouri state law in regard to the prohibition of the sale of oleomargarin as butter.

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[1] Prag. Med. Woch., 1899, Nos. 43 and 44.

A MEETING of the Michigan State Medical Board will be held in Lansing, January 22, at which time the issuing of certificates to physicians will be commenced.

DR. M. COURET, New Orleans, La., has been appointed assistant pathologist of the Charity Hospital, to succeed Dr. S. F. Mioton, who has resigned to assume the position of assistant coroner.

THE BOARD of Managers of the New Jersey Hospital for the Insane, near Trenton, in its recent report to the governor, states that the hospital now cares for 1170 patients, a number largely in excess of its capacity.

A NUMBER of medical practitioners of the Straits Settlements have offered to guarantee a prize of 25 guineas to he University of Edinburgh, for special researches in tropical medicine. The prize is open to students or graduates of medicine of not more than two years' standing.

COLUMBUS DRAKE, the oldest resident of Monmouth County, N. J., died on January 12th, at his home near Matawan. He was 100 years and 11 days old, having been born in Ireland, Jan. 1, 1799. He was never married, and lived with a sister who is said to be nearly 100 years of age.

THE SILVER jubilee number of the *Deutsche Medicinische Wochenschrift,* just received, contains reviews of the last quarter-century in surgery, hygiene, etc., each written by a leading specialist, eight in all, Czerny, Fluegge, von Leyden, etc., illustrated with twenty fine portraits of Germans who have contributed most to the progress of the medical sciences during this period, with Lister, Darwyn and others.

THE COMPETITIVE examination for internes at Paris, which was arrested by the destruction of the papers still unexamined, mentioned in THE JOURNAL of Dec. 23, 1899, will proceed by awarding the percentage of positions proportionate to the number of papers examined before the outrage, the perpetrators of which are still unknown. The rest will undergo another examination for the ten places remaining.

BOURNEVILLE comments, in an editorial in the *Progrès Méd.,* on the action of the police of England in seizing, Dec. 19, 1899, all the copies of the translation of C. Féré's "Pathology of the Emotions" and the second volume of Havelock Ellis' "Studies in the Psychology of Sex:" "we are awaiting with interest the opinion of the English medical press on this strange measure which we should have thought impossible at our epoch."

WHEN THE Dreyfus case was in progress, one of the smaller Paris dailies insinuated that Labori had not been shot at all, and that the whole story of the shooting and the bullet were fabricated to arouse sympathy for the Dreyfus side. Labori sued the paper for damages, and nearly a dozen physicians testified in regard to the actual accident. Even a radiograph of the bullet was produced. It is unnecessary to add that Labori won his case.

THE NEWLY organized medical club of Paris issues special cards of membership to out-of-town and foreign medical men visiting Paris. These entitle them to all the numerous privileges of the club during their stay. A special department has been organized to secure rooms for physicians during the exposition and supply information of all kinds. Dr Doléris, 5, avenue de l'Opera, is the secretary. The club has the advantage of the quarters of the *Cercle National.*

A CHICAGO alderman proposes a law that will strike terror to the hearts of hold-up men, foot-pads, burglars and criminals generally. His proposition is to give a reward of $200 for the killing of burglars, etc., by any officer or citizen. The report says that the alderman in question is a devoted church member, and we presume he is. From a medical standpoint the proposition is of interest as an example of male hysteria under certain conditions. A reward for burglar scalps does not look very well in these days and the very thought of such a thing is not a good commentary on the morals of a city that would even suggest this in the last year of the nineteenth century.

ANTIALCOHOL SERUM.—According to *Progrès Méd.,* Broca, Sapelier and Thibaut announced at the meeting of the Paris Acad. de Méd., Dec. 27, 1899, that they had succeeded in obtaining a serum from a horse habituated to the use of alcohol that, injected into animals with a cultivated appetite for alcohol, produced such a disgust for it that they would neither eat nor drink if it were offered them. Clinical tests confirmed this experience. The action of the serum seems restricted to the latent period of chronic alcohol intoxication. The subject loses his appetite for alcohol or any beverage containing it, and may even acquire a disgust for it and renewed susceptibility to its effects. He retains his taste for *wine,* the Frenchmen are careful to add, and retains strength and appetite, but the serum is unable to repair the organic damages already inflicted.

COLLEGES OPPOSE MEDICAL COUNCIL.—At a recent meeting of the presidents of the various colleges of Pennsylvania, the resolution in regard to the recent ruling of the Medical Council, providing that all students would be required to take a four years' course in medicine whether they had previously taken advanced work or not, was considered at some length. Considerable opposition was found to exist to this ruling, and a resolution adopted by the Association of College Presidents of Pennsylvania heartily sympathizes with all efforts to raise the standards in the medical profession, but they are unanimously of the opinion that no harm has been done in this respect by admitting to the second year in medicine men who have taken their bachelor's degree in reputable colleges, and who, during their undergraduate course, have taken work equivalent to that required in the first year of our best medical colleges. A committee has been appointed to confer with the Medical Council in order that the resolutions passed may be rescinded.

MEDICAL ETIQUETTE AND A LEGAL DECISION. We have heard of medical etiquette occasionally being the subject of attack and ridicule in court proceedings, but a recently decided case shows that it has at least a legal sanction. A physician was called to a case and rode six miles only to find another physician in charge. He therefore refused to treat the patient, but sent in a small bill for his time. Being obliged to sue for his pay, he was met with the defense that he had rendered no service and was therefore entitled to no pay. The county judge, however, held that the observance of medical etiquette was legitimate for the physician, and that when called to see a case and finding it in charge of another, the law implied that he was not obliged to take the case. The decision was therefore in the doctor's favor, the judge recognizing even the finer point in medical ethics, which are not always duly appreciated by jurists.

QUACKERY IN AUSTRIA.—The Austrian minister of the interior decreed, in 1898, that charlatans residing in other countries should not be allowed to advertise [illegible] methods and remedies in Austria. In consequence several issues of the Vienna daily papers were confiscated last spring on account of the advertisement of some quack's charlatanry, and the [illegible] journal of [illegible]. The medical society keeps the authorities informed whenever the advertisements try to creep in again. One medical society has made out a list of all the charlatans in its district, and given it to the authorities with the request that they be kept under strict surveillance. The Vienna correspondent of the *Münch. Med. Woch.* adds to the above that a local "nature-healing institute" is now "publishing the names of several physicians as associates in the institution, and we are curious to learn whether the next Medical Chamber will remedy this."

Influenza in Europe.—During the past few weeks an epidemic of influenza has been prevalent to an alarming extent in London and in adjacent cities. The *British Medical Journal* of January 6 reports 193 deaths during the week ended Dec. 30, 1899. Of the 193 deaths nearly one-half of that number occurred in persons over 60 years of age. Deaths due to diseases of the respiratory organs showed an increase of 50 per cent. above the average, 1172 being reported. An epidemic of influenza in Barcelona was reported in the press dispatches, January 15. The statement was made that half the population of that city is affected.

The Plague.—The situation remains practically stationary, according to the official reports which follow: Santos, Brazil, October 15 to December 9, 37 cases and 11 deaths; Hongkong, China, November 16 to 28, 12 cases and 12 deaths; Bombay and Kurrachee, India, to December 12, 6 cases and 107 deaths; Tamsui, Formosa, October 17 to November 28, 36 cases and 6 deaths; one death was reported from Kobe, Japan, December 7; Osaka and Hiogo, Japan, report 3 new cases and 2 deaths, November 25 to December 2; 10 cases and 7 deaths are reported from Tamatave, Madagascar, November 11 to December 3. From Honolulu, 2 cases and 2 deaths were officially reported January 5. Later press dispatches convey the information that there have been 22 cases in all. The disease has been confined almost entirely to Chinese, although there have been cases in the Japanese colony, and at least two among the natives. It is said that none of the Chinese has recovered. The Board of Health has decided to destroy the Chinese quarter by fire. A military cordon has been maintained about the infected districts. The Council of State has appropriated $270,000 for the immediate use of the Board. Press dispatches from Manila state that there have been 6 cases and 4 deaths since the discovery of the disease. Several suspicious cases of the disease at Adelaide, South Australia, have proved to be bubonic plague. At Osaka, Japan, it is reported that two Japanese physicians have died of plague.

Medical Service in the Transvaal.—In the *British Medical Journal* of Dec. 30, 1899, Makins gives extended surgical notes from the Orange River, under date of December 3. He calls especial attention to the fact that the wounds made by the Mauser and Lee-Metford bullets are small, clean, and little disposed to suppurate, while the tendency to suppuration is no doubt decreased by physical condition of the patients and the healthiness of the district. Shock has been conspicuous by its absence, even in the most serious cases, and retained bullets comparatively uncommon, no doubt from the fact that most of the wounds were received during rapid advances. There has been little deformity of the bullets met with, except where they struck stones before entering, and wounds of the soft parts have been, as a rule, simple tracks, with but little difference between the aperture of entry and that of exit, and the wounds of great vessels have been very limited in number. He thinks that the wounds of the individual nerves will be a great feature of the campaign, while fractures are for the most part transverse, or the bones are tunnelled. Joint perforations are common, especially of the knee; wounds of the head are proportionately limited in number, while those of the neck have been very common, as have perforating wounds of the chest. Those of the extremities, especially the upper part of the lower, continue to be much in evidence. The *Journal* also announces that four additional consulting surgeons have been appointed: Sir William Stokes, Mr. Watson Cheyne, Mr. G. L. Cheatle, and Mr. Kendal Franks. The first named was to leave for the Cape the 30th ult. In the *Lancet* for the same date, the special correspondent writing from Wynberg, under date of Dec. 12, 1899, considers the cases in the No. 2 General Hospital, which has now been established at Wynberg, adjacent to No. 1, a description of which was given in these columns last week. He notes that particularly among the Highland regiments spinal wounds have been most frequent, probably from the fact that their kilts afford a target when the men are lying down. No. 3 General Hospital is to be established at Rondebosch, about four miles from Nos. 1 and 2, between Wynberg and Cape Town. When this is complete the three will provide accommodations for upward of 1600 patients. He condemns the action of the Boers in throwing their dead into the Modder River after recent engagements, as this source affords water-supply for several townships and villages, and the practice is contrary to all rules of civilized warfare. Sir John Furley has also embarked for the seat of war, to be connected with the ambulance service. (*Lancet*, January 6).

PENNSYLVANIA.

Dr. A. F. Bronson, Girardville, has been appointed surgeon with the rank of first lieutenant, in the 8th Regiment, P. N. G.

Deputy U. S. Collector C. W. Evans recently seized 100 pounds of oleomargarin sold as butter by a resident in Pottsville. The seller was also fined $200.

At a meeting of the Directors of the Lancaster General Hospital, it was announced that $5000 had been given to that institution by a friend living in Philadelphia, but whose name for the present had been withheld.

The report of the Germantown Hospital announces that during the year the cases treated numbered 14,355, as against 7917 the previous year. In other words, 81 per cent. increase was noted. Two new clinical rooms have been added, and the staff has been reorganized. During the year the total expenses were $34,800, and the income $28,600.

It is said that Frank Martsolf and wife, of New Brighton, have been for several years believers in "Christian Science," and are opposed to the administration of drugs and the care of doctors. Diphtheria in a very malignant form attacked their three children, two of whom are now dead, while the father and one child are at the point of death from the same disease.

POLLUTION OF RIVERS.

The question of the pollution of the rivers of Pennsylvania, including the Schuylkill at Philadelphia, seems to be a very large one. The State Board of Health has for many months tried to remedy the matter, but it appears without avail. As is well known, there is no national health officer to look after affairs of this kind, and the State Board is waiting to see what will become of the bill recently introduced in Congress providing for a United States Commission to investigate the pollution of streams. Attention is directed to the fact that Congress recognizes its responsibility for the condition of inland waters, and that it might also look after that used for drinking water. It is therefore proposed to place matters under Federal control should this bill become a law.

Philadelphia.

DRS. W. W. KEEN, John H. Musser, Charles P. Noble, John B. Deaver and Alfred Stengel were in attendance at the meeting of the Berks County Medical Society, held in Reading, January 9.

THE BOARD of Charities and Correction has appointed Dr. H. Augustus Wilson to the position of orthopedic surgeon to the Philadelphia (Blockley) Hospital.

NORTHWEST MEDICAL SOCIETY.

The meetings of this society are held the first Tuesday of each month. The officers elected at the annual meeting, January 3, are: president, S. P. Gerhard; vice-president, I. M. Koch; secretary, William Egbert Robertson; treasurer, Hugh Hanna.

ALUMNI SOCIETY OF MEDICAL DEPARTMENT OF UNIVERSITY OF PENNSYLVANIA.

During the past five years, the Executive Committee of this Society has been constantly gathering data for the forthcoming matriculate catalogue. Further contributions are still desired, especially biographies of Samuel Duffield of Philadelphia, Humphry Fullerton of Lancaster, Pa., David Jackson of Chester, Pa., and Jonathan Potts of Philadelphia, all of the first graduating class of 1768. The Society has published a list of graduates in the army and navy in the Spanish War, also of the deaths of alumni during the year 1898 and six months of 1899.

PHILADELPHIA POLYCLINIC.

The medical staff of the hospital now numbers 150 teachers and assistants. The reports show that 85,584 visits to the dispensary were made during the past year, while the number of accident cases increased 1883 over the previous year. The following officers were elected: president, William E. Donovan; vice-president, William N. Ashman; secretary, Franklin B. Kirkbride; treasurer, J. E. Sterrett.

PHYSICIAN FINED.

Recently a physician was subpenaed to testify in the case of a boy who had "stumped" his toe and was subsequently taken to the receiving ward of a certain hospital. Suit was brought against a man who had kicked the boy, and so the attendance of the physician was desired. On failing to appear at the proper time the judge fined him $20 and costs.

BOGUS INSPECTOR.

Within the past few days a bogus medical inspector has come to grief. A man called at a private house and told the landlady that he had been sent by the Board of Health to inspect the cellar. On being requested to show his authority the man became angry, and before he could make off the husband appeared and took him to the proper authorities, where he was put under $600 bail.

REPORT OF GERMAN HOSPITAL.

The annual report of this hospital shows 2890 patients admitted during the year, 163 remaining on Dec. 31, 1899. The dispensary visits numbered 37,071, of which 21,274 were surgical cases. During the year 806 ambulance calls were made. At the Mary J. Drexel Home, which is a separate department of this hospital, 5797 dispensary patients received treatment, and 382 were admitted to the home. The total receipts for the year were $85,142, and the expenses $85,078.

MORTALITY STATISTICS.

The number of deaths during the week just closed was 504, a decrease of 9 over the previous week, and of 38 over the corresponding period of last year. The principal causes of death were: apoplexy, 19; nephritis, 35; cancer, 1; tuberculosis, 55; heart disease, 38; influenza, 4; pneumonia, 82; peritonitis, 13; appendicitis, 2; poisoning, 3; septicemia, 3; suicide, 2.

CORONER'S REPORT.

The annual report of the coroner shows that during the past year [illegible] inquests were held in this city, 1636 males and [illegible] females, an increase of 69 over the previous year. Some of the principal causes of death were: burns or scalds, 140; heart disease, 211; tetanus, 20; electric shocks, 6; homicides, [illegible]; suicides, 182; poisoned, 68; alcoholism, 44. The Ladies' Aid Society of the Presbyterian Hospital has announced that the sum of $4000 has already been raised toward the founding of the third children's bed, leaving only [illegible] yet to be collected.

SCHOOL INSPECTION.

Like every other good innovation looking to the interest of the public health, some opposition has become manifest in regard to the inspection by physicians of the different public schools of Philadelphia. Until the method has proven to be useful, and until the people are sufficiently instructed as to the objects of such a plan, complaints from various sources will doubtless be heard on many sides. Already some outspoken words have been made public to the effect that some parents will not consent to have their children "examined" by a strange doctor. The movement is appreciated, however, by the sensible people, who in the end will always prevail.

SUIT FOR INSURANCE.

The widow of Dr. Orange W. Braymer entered suit against the Provident Mutual Accident Company of this city to recover $5000 alleged to be due on an accident policy. It was stated that Dr. Braymer took out a policy with the above-named company on July 5, 1895, and made all payments until the time of his death, Jan. 9, 1898. He was performing an operation on January 3, and inoculated a slight cut. Septicemia developed and he died six days later. The jury rendered a verdict of $5475 for the plaintiff.

NEW YORK.

GOVERNOR ROOSEVELT has appointed Dr. George Elmer Graham, Albany, on the Board of Managers of the Craig Colony for Epileptics.

F. J. H. KRACKE, assistant commissioner for the Eastern division of the State of New York, states in his annual report, which has just been submitted to the legislature, that the past year has been one of marked activity in the detection of food adulteration, 220 violations of the law having been successfully prosecuted.

New York City.

DR. JAMES W. MCLANE, dean of the faculty and emeritus professor of obstetrics in the medical department of Columbia University, was elected a vice-president of the Union League Club, at the annual election held January 11.

THE HOSPITAL Saturday and Sunday Association announces that there is every indication that the collection this season will be the largest ever obtained. The Woman's Auxiliary is especially active, the ladies having determined to raise $10,000.

COMMISSIONER of Charities Keller has dismissed twelve physicians from the staff of the Metropolitan Hospital, who, because of differences with the superintendent, are said to have hanged him in effigy, using a cadaver for the purpose.

ASSEMBLYMAN T. P. SULLIVAN has introduced a new cigarette bill into the legislature. It requires dealers to obtain a tax certificate, signed by five reputable citizens of the locality, and take oath that the cigarettes do not contain injurious drugs or narcotics. The fee for this is $50. The penalty is a fine of $50 or imprisonment for sixty days.

AN UNFORTUNATE JUDICIAL DECISION.

On January 9, the court of appeals handed down a decision in the case of the State Board of Charities against the New York Society for the Prevention of Cruelty to Children. The action was brought to compel the Society to submit to state inspection. The opinion was rendered on a vote of four to three, and is apparently much more far-reaching than most of the judges themselves realized. The question at issue was whether or not the Society was a "charitable institution" in the meaning of the constitution, for, if so, it would be subject to inspection by the State Board. The decision states that the term "charitable" is here used in a very restricted sense, i. e., it applies only to governmental charity, or in other words to those institutions deriving their support wholly or in part from taxation. The original intent of the action has, therefore, been greatly exceeded, for instead of affecting about twenty institutions in the state, it is made to apply to several hundred, most of which have never objected to the visits of inspection of the Board. Many orphan asylums, hospitals, dispensaries and other charitable institutions are, by this remarkable decision, taken out from the list of those subject to the supervision of the State Board. In the minority report of the three dissenting judges, pointed and very significant reference is made to the great difficulty that had been experienced [illegible] this year by the [illegible] to [illegible]. Then follows this: "Nor is it of importance [illegible] to questions of policy that personal friendships and sympathy [illegible] the question before us without any regard to whom it will affect. [illegible] general purposes to serve for a [illegible]."

MARYLAND.

Baltimore.

DR. WILLIAM WHITRIDGE WILLIAMS has been appointed assistant in the Johns Hopkins Pathological Laboratory.

DRS. [illegible] A. M[illegible], H. M. Bagley and H. Baxley have been re-elected physicians to the Baltimore General Dispensary.

DR. JOHN D. BLAKE, professor of surgery in Baltimore Medical College, has been elected president of the Crescent Dental Club.

DR. S. GRIFFITH DAVIS, assistant surgeon of the Fifth Maryland Regiment, has been elected adjunct professor of operative surgery in the Woman's Medical College.

DRS. J. H. M. KNOX, J. M. Lazear, Samuel Amberg and Flora Pollack have been appointed on the resident staff of physicians in the dispensary of the Johns Hopkins Hospital.

DR. WILLIAM H. WELCH has been elected president of the State Board of Health, vice Dr. S. C. DeKraft, who is now a surgeon with the army in the Philippines.

MESSRS. JOHN O[illegible], L. K. Karsted and G. K. Wright, graduates respectively of Leland Stanford, Junior, University, the University of Wisconsin and the University of Michigan, have been appointed assistant demonstrators of the Johns Hopkins Medical School.

HERETOFORE the night watchman at the City Hall Annex of the Health Department has received diphtheria culture-tubes and given antitoxin at all hours of the night. Hereafter culture-tubes will have to be left at the bacteriologic laboratory by 6 p.m. Antitoxin will be given out at the private office of the health commissioner until 11 p.m.

AT THE obstetric ward of the Johns Hopkins Hospital, to avoid mistake by frequent change of nurses, each baby is tagged. On a small square of waterproof adhesive plaster is written the baby's name, and the plaster is then stuck to the baby's back between the scapulæ. The daily baths do not affect it and it is easily pulled off when the child is taken away.

WITH the appropriation made by the city, three summer bathing stations have been maintained and plans are being prepared for keeping the baths open all the year. Through the gifts of Mr. Henry Walters—two lots in the eastern part of the city, valued at $50,000—the Walters Public Baths are now being erected. The first of these two indoor bath-houses will be opened about March 1.

MORTALITY STATISTICS.

For the week ended January 7, there were 212 deaths in Baltimore, the death-rate being 20.27 per 1000, viz., white 18.08, colored 34. The deaths were 108 males and 95 females. From diphtheria there were 68 deaths; measles, 52; mumps, 2; scarlet fever and typhoid fever, each 7; whooping-cough, 2; Bright's disease, 13; cancer, 6; influenza, 3; croup, 1; pulmonary tuberculosis, 18; burns, 2; railway accidents, 1; asphyxiation, 1; hot liquid scalding, 1; drowning, 1. The number of births reported was 602.

MARYLAND HOSPITAL FOR INSANE.

The 102d annual report of the Maryland Hospital for the Insane shows receipts of $149,058, and disbursements of $140,040. The former were the state appropriation, Baltimore's payment for city patients and payments by sundry counties and pay patients. The number of patients admitted during the year [illegible] Nov. 1, 1899, 535—279 males and 256 females. Of 36 discharges, 21 had recovered and 4 were improved; 43 died. Extensive improvements were made during the year.

THE MILK SUPPLY.

The United Milk Producers' Association of Baltimore, composed of farmers and milk producers, and intended to furnish pure milk to consumers in this city, began business on the 15th inst. The capital stock is $20,000. It is claimed that there is much adulteration at present, and that at present prices there is no profit to the consumers. The producers are now receiving only 12 to 13 cents a gallon, and the city test requires 3.5 per cent of butter, which means about 12 per cent of cream. It is proposed to increase the per cent of cream to 16 and upward, and to charge 16 to 18 cents a gallon for the milk. About 25,000 gallons of milk are received daily in this city.

HOSPITAL FOR CONSUMPTIVES.

M. B. F. Newcomer, who gave $10,000 to the Hospital for Consumptives last summer, has offered another $10,000 provided a like amount is raised. The hospital is located in the suburbs and has fifteen acres of land. An annex has just been built, with a number of bathrooms and other conveniences. The management intends building cottages on plans similar to institutions in the Adirondacks and elsewhere. The report shows 41 cases treated during the year, of which 16 left in an improved condition; in 5 the disease was arrested, there are 11 now under treatment. In addition to the first gift of Mr. Newcomer, $4500 has been received on account of the building fund and toward the general expense, and $1500 is appropriated annually by the city.

DISTRICT OF COLUMBIA.

HEALTH OF THE DISTRICT.

The report of the health officer for the week ended January 6 shows the total number of deaths to have been 117, of which 75 were white and 42 negroes. The principal causes were heart and nervous diseases. There were 53 cases of diphtheria, 98 of scarlet fever and 4 of smallpox under treatment at the close of the week.

Washington.

AT THE 309th meeting of the Washington Obstetrical and Gynecological Society, held at the residence of Dr. Cook, Dr. Ballock read an essay entitled "Hernia in Children."

CASUALTY HOSPITAL.

At the recent meeting of the Board of Directors of the Eastern Dispensary and Casualty Hospital, the report of the staff for the past month showed that 741 cases had been treated, of which number 195 were emergency cases. The hospital is doing a good work and generally extending its scope, and expects shortly to reconstruct the present building and equip it with every modern surgical appliance. Its staff and directorate include many of Washington's best citizens and most prominent physicians, but their value to the community is greatly lessened by the lack of sufficient Congressional appropriation.

DENTIST FOR THE ARMY.

Mr. Otey of Virginia has introduced a bill in the House of Representatives (H.R. 972), which provides that the surgeon-general of the army, with the approval of the secretary of war, shall employ and appoint dental surgeons to serve the officers and enlisted men of the regular and volunteer army in the proportion of one dental surgeon to every 1000 of the army. These surgeons shall be employed as contract dental surgeons under the terms and conditions applicable to army contract surgeons, and shall be graduates of standard medical or dental colleges, trained in the several branches of dentistry, of good moral and professional character, and shall pass a satisfactory examination.

DR. SAMUEL C. BUSEY.

The profession recently learned with regret that the president of the Washington Medical Society, Dr. Samuel C. Busey, would not accept re-election to office for the ensuing year. Dr. Busey has served the Society as its president for six years, and feared, on account of failing health, that he would not be able to devote the time and labor which so important a position requires. To Dr. Busey's management and efforts are largely due the recent good work of the Society, and the passage by Congress of many legislative acts of great importance to the local profession. The Society has acted wisely in calling to the presidency Dr. Acker, who has the skill and ability to continue the good work of his predecessor.

OHIO.

Cincinnati.

HEALTH Officer Tenney is preparing a bill for presentation to the legislature to compel barbers to sterilize their tools.

DR. J. C. CULBERTSON, proprietor of the *Lancet-Clinic*, was elected a member of the American Social Science Association.

DR. S. P. KRAMER, late major and surgeon, U. S. V., and Dr.

D. C. Handley, have established a private hospital, exclusively for surgical cases.

THE PUBLIC library is in daily communication with the Health Department, and no books will be loaned where infectious cases are reported, and no books will be received from infected houses, except through the health officers.

THE REPORT of the Bureau of Infectious and Contagious Diseases of the Health Department showed, for December, 1899, 101 cases, against 191 for the corresponding month of 1898. The prevalence of influenza during 1898 is assigned as the cause of the difference.

BETHESDA HOSPITAL ASSOCIATION.

At the annual meeting of the Board of Trustees of the Bethesda Hospital and Deaconess' Home Association, reports were read showing the increased prosperity of this Association. It was announced that the hospital had received a donation of $1000 from Mr. Frank Kreihler of Pennsylvania. The building fund of the hospital is $15,000 in debt, but $5000 of this is at hand and the board hopes to collect the remaining $10,000 by July 1.

Cleveland.

THE ANNUAL report of St. Alexis Hospital shows that 1997 patients were received during the year, and that 1762 were discharged as cured.

ILLINOIS.

THE HEALTH authorities fear a general spread of smallpox throughout the state, as the disease was prevalent for a long time without proper measures being instituted to check its progress. Fresh cases are being reported daily.

Chicago.

DR. J. B. HERRICK has returned from Europe.

THE GREAT sanitary drainage canal was opened January 17.

A BANQUET was given by the Medical Women's Club, January 16.

THE ANNUAL report of St. Anthony's shows that 820 patients were treated in that institution during the past year.

DR. WILLIAM CUTHBERTSON, M.D., has been appointed attending gynecologist on the staff of St. Luke's Hospital.

THE QUARTERLY examinations of the Illinois State Board of Health were held January 16; 11 physicians, 18 osteopaths and 14 midwives were examined.

AN EXAMINATION by the coroner developed the fact that a two-year-old child died from measles while under the care of a disciple of Dowie.

THE RECEIPTS from the ball given by the Young Hebrew Charity Association, January 9, were nearly $33,000. This sum will be divided among the hospitals and benevolent societies.

SCHOOL INSPECTION.

The medical inspection of schools, inaugurated by the Board of Education, resulted in the examination of 3045 pupils during the past week, of whom 323 were excluded from schools because of the danger of infecting the other pupils.

SUIT FOR LOSS OF EYESIGHT.

An employee has begun suit for $10,000 against a local brewing company for the loss of his eyesight. His work consisted in shellacing barrels and kegs, and it is asserted that the wood alcohol fumes gradually destroyed his sight.

PROVIDENT HOSPITAL.

The Esther Freer Hall, the gift of Nathan M. Freer to Provident Hospital, is nearing completion and will be dedicated in February. The structure is a four-story building, to cost nearly $30,000, and will be used as a school and dormitory for the nurses. An addition is now being made to the hospital proper, which will cost $18,000.

MORTALITY STATISTICS.

The total mortality for the week ended January 13 was 7 less than that of the week preceding, and 16 less than the corresponding week of 1899. 129 of these deaths were from pneumonia and bronchitis, or slightly more than 23 per cent. of the total. Compared with the corresponding week of 1899, this is a slight reduction, as the mortality at that time was 127 deaths from pneumonia and 31 from bronchitis, a total of 158. There was but 1 death from la grippe, as against 13 deaths during the corresponding period of 1899. There has been a slight decrease of diphtheria during the past week.

KENTUCKY.

KENTUCKY COLONY FOR EPILEPTICS.

Senator Alexander of Louisville has introduced a bill in the legislature providing for an appropriation of $50,000 to establish a colony of epileptics, in Jefferson County, to be connected with the Central Insane Asylum at Lakeland, near Louisville. This bill should receive the hearty support of the medical profession throughout the state.

Louisville.

THE GOLDEN anniversary of the Kentucky School of Medicine, Louisville, was celebrated with appropriate exercises, January 2.

THE MEDICAL COLLEGES.

The spring and summer medical colleges began their annual session on January 2, all opening with large classes. Kentucky University's medical department holds its first session in its new building, acquired during the summer of 1899.

HOME FOR AGED AND INFIRM.

The report of the superintendent of the Home of the Aged and Infirm has just been presented to the Board of Safety. It shows that the inmates are supported at a cost of 12½ cents a day, there being 356 inmates during 1899. The total expenses were $17,315. The state contributes a sum, yearly, for the maintenance of pauper idiots. During the year 27 patients died, mostly from senility; the oldest that died claimed to be 118 years of age.

REPORT OF ERUPTIVE HOSPITAL.

Dr. Harris Kelly, in his report of the Eruptive Hospital, shows 548 cases treated during the year, with 6 deaths. There were 91 white and 157 colored patients. The epidemic of smallpox began Dec. 4, 1898, lasting until August 29, 1899. There were two cases of scarlatina, six of erysipelas, and 1 of diphtheria, with no deaths.

WISCONSIN.

Milwaukee.

FIRE, THE second in ten days and due to a defective furnace, damaged the Wisconsin General Hospital, in this city, January 10. The loss was $200.

THE CHILDREN'S Free Hospital will receive about $1000 as its share from the receipts of the Twentieth Century Festival recently held in this city.

THE ANNUAL report of the Milwaukee Hospital for the Insane shows that 583 patients were treated during the year. The percentage of recoveries was 33, and the death-rate 7 per cent. The improvements during the year amounted to $3807.

Correspondence.

Mercurial Ointment in Erysipelas.

WASHINGTON, D.C., Jan. 13, 1900.

To the Editor:—Referring to the paragraph relative to Dematteis' observations on the efficacy of mercurials in the treatment of erysipelas (THE JOURNAL, January 13, p. 110), I wish to say that for many years I have used mercurial ointments for the treatment of this disease, successfully. I recall one case about twelve years ago, in which I applied the white precipitate ointment, and it healed the disease so quickly that the patient's friends became alarmed, declaring the doctor had driven the *disease in*, consequently another medico was substituted to draw it out. I give this fact for the benefit of Dematteis, hoping he may not be subjected to a like experience.

Very respectfully,

JOSEPH T. HOWARD, M.D.

Canada.

From Our Regular Correspondent.

TORONTO, Jan. 13, 1900.

SURG.-LIEUT.-COL. WORTHINGTON, Sherbrooke, Quebec, and Surgeon-Major Duff, Kingston, Ont., are to have charge of the medical affairs of the second Canadian contingent.

SURG. LIEUT.-COL. RYERSON, Toronto, goes in the interests of the Red Cross Association, and will not be assigned any professional duties either on the voyage out or on his arrival at Cape Town.

The physicians of Vernon, B. C., have formed a local medical association. One of the most important articles of their constitution is that its members shall not act as lodge physicians.

Kamloops, B. C., still continues to be very much exercised over its general hospital. At a public meeting a short time ago, Dr. Proctor presented the financial report and, after hearing it, the meeting passed a unanimous resolution asking for government assistance in order to support the town in carrying on the institution.

The general health of Vancouver, B. C., has been good the past year. The city has three well-equipped and properly maintained hospitals, and has been entirely free from epidemics during the year. Infectious diseases during 1899: scarlet fever, 34; diphtheria, 7; typhoid fever, 40; measles, 90; rothelia, 4; whooping-cough, 17.

SCHOOL FOR THE BLIND.

A new and spacious school for the blind has been erected in Montreal, and is to be conducted by the Sisters of Nazareth. Owing to the lack of space in the old class-rooms of the Nazareth Asylum for the Blind, so many children were unable to gain admittance to the classes that the sisters, in order to supply this want, have erected this modern building, said to be a model of sanitation destined to prove a great benefit to the blind of the city of Montreal.

TRANSPORTATION OF THE SECOND CANADIAN CONTINGENT.

A number of the crew of the steamship *Montezuma*, at Halifax, have developed typhoid fever, and an investigation into the sanitary condition of the vessel has been ordered, as she was to sail for South Africa with Canadian troops. It is believed that the disease has arisen from the inferior quality of water taken on board at New Orleans, at which port the vessel last touched on her return voyage to Canada. If it turns out that such is the case, Dr. Montizambert is satisfied that by properly cleansing the tanks the danger will be removed.

HEALTH OF MEN ON PUBLIC WORKS.

During the last session of the Dominion Parliament an act was passed giving the government authority to provide, by regulations by the Governor-in-Council, for the proper safeguarding of the health and well-being of workingmen employed on public works. This act confers extensive powers on the government in the making of regulations regarding the medical treatment, sanitary inspection and other matters relating to the proper treatment of these men. The Minister of the Interior is now pressing on his colleagues the desirablity of putting this act in force by establishing these regulations; and it is understood that a very complete set of rules is being prepared, providing for inspectors whose duty it shall be to see that the regulations are properly carried out.

CARE OF THE EYES.

The assistant ophthalmologist of the Royal Victoria Hospital, Montreal, Dr. W. G. M. Byers, delivered a public lecture last week on this topic. After elaborating a set of rules for the guidance of his auditors, he spoke of the laxity of the Dominion Government in regard to the admission of immigrants suffering from granular ophthalmia, and stated that if care were not taken, the question of trachoma schools would have to be faced at no very distant date. He further spoke of the recent renovation of the Montreal General Hospital, which had placed that institution on the most approved modern footing, and referred to the princely generosity of Lords Strathcona and Mount Stephen, which had added greatly to the facilities in that institution, for the sick poor obtaining relief.

TORONTO ORTHOPEDIC HOSPITAL.

During the fifteen months of its existence—July, 1898, to Sept. 30, 1899—there have been 172 admissions and 165 discharges. The collective days' stay at the hospital has been 3306, and the average days' stay per patient 19.22. Of the 172 patients admitted, 100 were under, and 72 over, 14 years of age: 98 were male and 74 female. Of surgical operations performed there have been 174, this number including only those which were sufficiently severe to require an anesthetic; only one death has occurred. There is a training school for nurses and an out-door clinic. The Toronto Orthopedic Hospital is the only institution in Canada which devotes its work exclusively to the treatment of the lame, crippled and deformed; although in Toronto the Victoria Hospital for Sick Children has done great and good work along these lines. Of the 174 patients admitted, 44 resided in Toronto, the remainder coming from the towns, cities and villages of Canada, and in a few instances from across the border. All the apparatus for mechanical treatment is directly under the supervision of the surgeons and is manufactured on the premises; and the hospital is provided with a gymnasium.

Deaths and Obituaries.

Joseph C. Mulhall, M.D., St. Louis, Mo., died January 11. Driven to desperation by a disease from which he did not expect to recover, he shot himself, causing instant death. He was a native of St. Louis, and a graduate of the St. Louis University. He graduated in medicine from the St. Louis Medical College in 1873, and then went to Europe for further study. He received the L.R.C.S., Dublin, in 1874. After studying for several years on the Continent, he returned to St. Louis and began to practice, choosing diseases of the ear, nose and throat as his specialty. He was professor of diseases of the throat and chest and of climatology in Beaumont Medical College, and professor of physical diagnosis in the Alexian Brothers' Hospital.

Thomas King Carroll, M.D., died near Cambridge, Md., January 9, aged 78. He was the son of Governor Thomas King Carroll, and was born at the ancestral home, "Kingston Hall," Somerset County. He began the study of medicine, after graduating at Washington Academy, Princess Anne, in the office of Dr. Samuel Handy, and later of Dr. Samuel Chew. He took his M.D. degree at the University of Maryland in 1846, settled in Dorchester County, was a member of the legislature from 1860, for two terms, and member of the state senate in 1863. He was in active practice over 52 years. He was consulting physician to the Cambridge Hospital (United Charities Hospital).

Dr. Albert Edward Hoadley, of Chicago, died January 16. He was born at Chenango Forks, N.Y., in 1847, and was graduated from the Chicago Medical College in 1872. He immediately commenced the practice of medicine in Chicago, where he remained until his death. He was professor of orthopedics and surgical diseases of the joints in the College of Physicians and Surgeons and in the Chicago Policlinic. He was the author of a number of surgical papers and a member of several medical societies.

Charles A. Siegfried, M.D., Jefferson, 1872, died at Newport, R.I., January 15. He was in charge of the naval hospital at Coaster's Harbor Island. During the Spanish-American War he was in charge of the naval hospital at Key West, and was later appointed to represent the Medical Corps of the Navy at the Paris Exposition. His remains were interred at Peoria, Ill.

Joseph Edgar Arrowsmith, M.D., died in Keyport, N. J., January 3, aged 77 years. He was born near Middletown, N. J., and after his graduation from the New York University Medical College, in 1844, he settled at once in Keyport, where he remained in active practice until his retirement not many years ago. During the Civil War he was a widely known medical examiner.

L. Leo Mingle, M.D., Reading, Pa., died January 9. The Doctor was born in 1839, attended Jefferson Medical College, and Long Island Hospital Medical College, graduating from the former in 1866. During the latter part of the Civil War he served in the emergency service, in Company G, 48th Regiment, Pa. Vol. Inf.

W. C. McFetridge, M.D., Philadelphia, died January 3, aged 35 years. He was a graduate of the medical department of the University of Pennsylvania, class of 1886, and was a member of the Philadelphia County Medical Society and the Philadelphia Medical Club.

Wm. R. Harnan, M.D., New Orleans, La., aged 38 years, and a graduate of the medical department of Tulane University, class of 1887, died the 27th ult. From 1892 to 1896 he was secretary of the Louisiana State Board of Health.

John S. Cook, Hackettstown, N. J., aged 76 years, died January 1. He was a graduate of the medical department of the

University of Pennsylvania, class of 1850, and was president of the New Jersey State Medical Society in 1879.

William A. Cantrell, M.D., Philadelphia, died January 7, aged 58 years. He was a graduate of Jefferson Medical College, class of 1862, and later was surgeon in the United States Army.

Wickliffe C. Smith, M.D., Delphi, Ind., aged 48 years, was killed by a train on the 29th ult. During the recent war he served as surgeon in the 161st volunteer infantry.

Charles W. Ingraham, M.D., Binghamton, N. Y., aged 29 years, a graduate of the Medical College of the University of New York, class of 1892, died January 3.

J. B. Kreider, M.D., Bucyrus, Ohio, died recently, aged 50 years. He was a graduate of the medical department of the University of Pennsylvania, class of 1866.

W. C. Hall, M.D., Franklin, Ind., aged 69 years, died Christmas evening. During the Civil War he served in the 82d Indiana and the 17th Ohio, being surgeon in the latter regiment.

John Francis Bournes, M.D., Norristown, Pa., a graduate of the medical department of the University of Pennsylvania, died on the 21st ult., aged 89 years.

S. C. Rice, M.D., Disco, Ill., died on the 29th ult., from injuries received from a flying bolt in an accident to a fodder cutter.

John M. Turner, M.D., Gardiner, Me., aged 46 years, and a graduate of Dartmouth Medical College, class of 1881, died on the 24th ult.

Edward Batwell, M.D., Ypsilanti, Mich., died the 27th ult., at the age of 71. During the Civil War he served in the 14th Michigan Infantry.

J. R. Finney, M.D., Elbowoods, N. D., for some years the agency physician at Fort Berthold, died on the 27th ult.

Irwin R. Fisher, M.D., Harlingen, N. J., coroner of Somerset County, was found dead the 31st ult.

P. H. Garretson, M.D., Peoria, Ill., a graduate of the St. Louis Medical College, died at his home January 8.

George R. Hall, M.D., Brush Hill Road, Mass., a graduate of Harvard Medical College, class of 1842, died Dec. 24, 1899, aged 78 years.

Charles Kingsley, M.D., Marlboro, Mass., aged 30 years, died the 29th ult. He was a graduate of Jefferson Medical College, Philadelphia.

S. F. Bowers, M.D., Fond-du-lac, Wis., an ex-mayor of that town, died January 2, aged 63 years.

John H. Coker, M.D., New Orleans, La., said to be the first negro physician to practice in that city, died January 3.

We note also the following deaths:

Otho Austin, M.D., Oakridge, Miss., January 9.

John Clark Cleary, M.D., died at Port Chester, N. Y., January 14, aged 31 years.

R. M. Tucker, M.D., Helena, Ala., January 3.

Association News.

Committee on Pathologic Exhibit.—The following unofficial committee on the pathologic exhibit has been appointed. Dr. Joseph Stokes, Moorestown, N. J., chairman; Dr. Alfred Stengel, Philadelphia, and Dr. Frank B. Wynn, Indianapolis, Ind., secretary.

Section on Physiology and Dietetics.—The officers of this Section request such members of the Association as desire to read papers or present specimens or matters of interest in the department of physiology and dietetics, to make early application for a place on the program. The meeting of the Section at the last session was notable for the excellence of its original papers. It is expected that the Atlantic City meeting of this Section will be on the same high order as last year. The program will be open until the middle of February. R. Harvey Cook, Oxford, Ohio, is secretary.

Section on Ophthalmology.—The following is the preliminary program of the Section on Ophthalmology of the American Medical Association, for the meeting at Atlantic City, N. J., June 5-8, 1900:

Tuesday, June 5—Afternoon Session.

1. Address of Chairman. H. V. Würdemann, Milwaukee, Wis.

2. Treatment of Conical Cornea. *a.* Optical Therapeutics. Swan M. Burnett, Washington, D. C. *b.* Operations. Robert Sattler, Cincinnati, Ohio.

Discussion opened by Herman Knapp, New York City, F. C. Hotz, Chicago, Samuel D. Risley, Philadelphia (to be invited).

Volunteer Papers.

Wednesday, June 6—Morning Session.

3. Exhibition of Specimens and New Instruments. *a.* A Double Trial Lens to Balance the Eyes in Presbyopia. Mark D. Stevenson, Akron, Ohio. *b.* Other Demonstrations.

Volunteer Papers.

Afternoon Session.

4. Relation of Ocular Diseases and Visual Defects to Vocations. *a.* What Amount of Visual Defect should Disqualify in Railroad and Steamship Service. Frank Allport, Chicago. *b.* Estimation of the Amount of Injury to the Business Capacity of the Individual from Partial or Complete Loss of Vision. Adolf Alt, St. Louis, Mo.

Discussion to be opened by Wm. Thompson, Philadelphia, and C. H. Williams, Boston.

Thursday, June 7—Morning Session.

5. Exhibition of Specimens and New Instruments. *a.* Demonstrations of Sections of an Unusual Intraocular Growth. Wilbur P. Marple, New York City. *b.* Other Demonstrations and Instruments.

Volunteer Papers.

Afternoon Session.

6. The Rational Use and Limitations of Therapeutic Measures Intended to Promote the Absorption of Exudates Within the Eyeball. *a.* Medicinal Measures. Randolph Brunson, Hot Springs, Ark. *b.* Local Therapeutics. M. Uribe Troncoso, Mexico City, Mex. *c.* Present Status and Value of Massage of the Eyeball with the Consideration, What Diseases of the Eye May Be Favorably Influenced by this Therapeutic Measure and What Are the Best Means of Its Application. Casey A. Wood, Chicago.

Discussion opened by Geo. M. Gould, Philadelphia; Robert L. Randolph, Baltimore, Md., and J. Santos Fernandez, Havana, Cuba. Volunteer Papers.

Friday, June 8—Morning Session.

Exhibition of Specimens and New Instruments.

7. Treatment of Immature Cataract with Special Reference to the Rate of Development and Such Measures as May Check It. G. E. deSchweinitz, Philadelphia.

Discussion opened by John E. Weeks, New York City, and Abner W. Calhoun, Atlanta, Ga.

Afternoon Session.

Volunteer Papers.

Titles of Volunteer Papers Accepted to Date.

1. Secondary Operations on Capsular Membranes. Peter A. Callan, New York City.
2. Lessons Learned from a First Series of 100 Cataract Extractions. F. T. Rogers, Providence, R. I.
3. Glioma of the Retina. G. A. Sulzer, Portsmouth, N. H.
4. Hemorrhagic Glaucoma. W. C. Posey, Philadelphia.
5. Will Relate to Variations in the Size of the Pupil. Lucien Howe, Buffalo, N. Y.
6. Paresis of External Recti Associated with Irregular Tabes. G. Oram Ring, Philadelphia.
7. Effects on the Eye of Flashes of Electric Light. Dunbar Roy, Atlanta, Ga.
8. Keratitis-Bullosa with Report of Case. E. O. Sisson, Keokuk, Iowa.

The officers of the Section request all ophthalmologists who intend contributing to the scientific program of the Section, by papers, exhibition of instruments or specimens and all who purpose attendance on the meeting, to write at once, in order that places on the program, and hotel accommodations, may be reserved, and that an estimate of the probable attendance may be made at an early date. In regard to the program, address the secretary, Dr. Chas. F. Clark, 188 E. State St., Columbus, Ohio. For reservation of rooms, apply to the Chairman of the Committee on Arrangements, Dr. Philip Marvel, Atlantic City, N. J.

Book Notices.

THE SURGICAL DISEASES OF THE GENITO-URINARY TRACT, VENEREAL AND SEXUAL DISEASES. A Text-book for Students and Practitioners. By G. Frank Lydston, M.D., Professor of the Surgical Diseases of the Genito-Urinary Organs and Syphilology in the Medical Department of the State University of Illinois; Professor of Criminal Anthropology in the Kent College of Law; Surgeon-in-Chief of the Genito-Urinary Department of the West Side Dispensary; Fellow of the Chicago Academy of Medicine; Fellow of the American Academy of Political and Social Science; Delegate from the United States to the International Congress for the Prevention of Syphilis and the Venereal Diseases, held at Brussels, Belgium, Sept. 5, 1899, etc. Illustrated with 233 engravings. Pages xvi-1024. Extra cloth, $5.00, net; sheep or half russia, $5.75, net. Philadelphia: The F. A. Davis Co., 1899.

"I have embraced the opportunity herein afforded me for airing a few heresies of my own," is the way the author puts it in his preface. But a hasty reading of his book fails to reveal any of these heresies. His views on certain subjects might have been considered radical at one time, but to-day, as expressed in the book before us, they will be generally indorsed as being in accord with modern practice and thought.

The first chapter, on "Genito-Urinary and Sexual Hygiene," covers the whole subject from normal urine to "sexual starvation"—and beyond. The author, in this chapter, takes the opportunity to give his views on a variety of questions relating to sexual hygiene, and these will be indorsed by most of his readers. He blames modern society for much of the sexual perversion of the day, and his views of marriage as a remedy for certain sexual troubles can be realized from the sentence: "Pure women should not be considered as remedial agents to be prescribed solely with regard to the interests of the consumer." Following this chapter there are four on the urine, in which are discussed uranalysis in its relation to surgery, hematuria, the relation of bacteria to genito-urinary infections, fevers associated with operations on, and disease or injury of, the genito-urinary organs. Two chapters are devoted to the anatomy and physiology, anomalous formations, and diseases of the penis. Diseases of the urethra, including gonorrhea and stricture, occupy three long chapters. The author takes rather strong views regarding gonorrhea as being the cause of pelvic diseases in women. "When freed from pathologic and anatomic errors, pelvic diseases are found to be dependent, in the majority of cases, if not all, upon tubal disease, and tubal disease is unquestionably almost always due to gonorrhea, and its congeners and derivatives." "Almost" is sometimes a handy word. Lydston quotes Nöeggrath, evidently with approval, when he alleges that eight out of every ten men have had gonorrhea. If this is true, then the "almost" is apropos. But is it true?

In Part V, consisting of seven chapters, the author gives us a brief, but classic, description of syphilis, including treatment. While believing in the germ origin of the disease, he does not regard the claims of Lustgarten as yet proved. Syphilis he thinks is a curable disease in a certain per cent. of cases, but he relies more on the judicious use of mercury and the iodids than on any of the newer remedies or combinations so persistently pushed forward. Six chapters are devoted to the diseases affecting sexual physiology. In that on "Diseases of the Sexual Function and Instinct," the author does not hesitate to express himself, though his views on some points may be considered a little radical. While believing that, from a sociologic standpoint, irrespective of arbitrary moral codes, monogamy is best adapted to our social necessities, he does not believe that it is in conformity with natural laws so far as the human race is concerned. The ultraconservative may not indorse this view, but all will agree with the following: "It is not so many years since such books, pictures, and plays as are tolerated to-day were tabooed. Latter-day art, literature, and stage furnish an atmosphere of sexual immorality, to which, sooner or later, every youth—male or female—is inevitably exposed. . . . Vice thinly veiled, or gilded over by the mawkish sentiment engendered by Trilby pink teas and yellow breakfasts, and apologized for by social faddists, is insidious and deadly." The foolishness of keeping the young in ignorance of sexual matters is emphasized, and the physician is rightfully blamed for his neglectfulness in this regard. Quack literature too often sounds the first warning the young man receives; but while the quack overdraws the evil, from purely mercenary motives, respectable physicians are inclined to the other extreme and ignore the subject or pass it over as a matter of trivial importance.

The diseases of the prostate and seminal vesicles occupy five chapters, and four are devoted to diseases of the bladder. The chapter on urinary calculus is well illustrated, and the various operations given. Surgical affections of the kidneys and ureters are covered in three chapters. It would seem that now the kidney has assumed such an important place in surgery, the important operations on that organ might be left to works on that subject. The author has seen fit, however, to describe these operations more or less fully. The last five chapters of the book are on the diseases of the testis and spermatic cord.

On the whole the author has given us a reliable, comprehensive and practical text-book, and it will be a welcome addition to the special works on the subject treated. There is little to criticize, much to commend. It would not have detracted from its value if some of the padding in the way of reports of cases had been omitted. They are a useless encumbrance in the majority of instances, and this remark is not intended to be applied to the work before us only. Lydston's style of writing is a happy one, and it will not be surprising if the reader finds himself reading chapter after chapter when he intended to look up but a single point.

ENCYCLOPEDIA MEDICA. Under the general direction of Chalmers Watson, M.B., M.R.C.P.E. In twelve volumes. Vol. I, Abdomen to Bone. Price, $6 per volume. New York: Longmans, Green & Co. 1899.

The first volume of this pretentious, unique, and important work is before us, and the impression one receives in examining this initial number is that the work when completed will be one of the most valuable publications of its nature that has been attempted in many years, completely covering, as it does, the whole range of medicine and surgery. For this reason it would seem that the title is hardly a correct one, unless it be understood that the word "Medica" is to be used in its old and broad sense. It is an attempt to furnish an authoritative medical and surgical work complete in itself, concise, practical, modern, and in such a manner that it can be easily referred to. As a rule, these large, many-volume works are not an advisable investment, for the reason that much money is locked up in a single work, which, in the rapid changes and progress of the day, soon becomes old. The publishers evidently appreciate this, for they propose to keep it up to date by the issue, from time to time, at a small cost, of supplemented volumes, and with them gummed notes to be pasted on the margins opposite the articles affected. The first volume contains about 580 pages, and includes subjects from "Abdomen" to "Bone." Many of the subjects are quite elaborately covered, although not more so than is necessary. The book is an English production, the contributors including the best writers of the profession in Great Britain. The subjects contained in this first volume are all treated in such a manner that a complete review of the knowledge of them is given, but in such a condensed way that space is economized without sacrificing the value of the article. At the end of each contribution which calls for such, a bibliography is given, which will aid those interested in getting the information necessary to a more complete investigation of the subject.

RECOLLECTIONS OF A REBEL SURGEON (and other stories) or in the Doctors' Sappy Days. By F. E. Daniels, M.D. Illustrated. Price, $1.10. Austin, Texas: Von Boeckman, Schutze & Company. 1899.

Through words spoken by an old Confederate surgeon, who is a myth, into a modern phonograph, which is also a myth, the editor of the *Texas Medical Journal* tells a lot of good stories in a capital manner. Many of these are of the old times, "befo' and durin' the wah," when the doctor was in his "sappy" days. They tell of surgery and surgeons before the words "antiseptic" or "aseptic" were heard of. Most of the stories are full of humor, many of pathos, and a very few are positively sad. But all are good. They will make an excellent remedy for an attack of the blues. When one is tired and weary of life, two or three of these stories, taken on a full stomach—not too full—will remove that "tired feeling" immediately.

A TEXT-BOOK OF DISEASES OF WOMEN. By Charles B. Penrose, M.D., Ph.D., Professor of Gynecology in the University of Pennsylvania; Surgeon to the Gynecean Hospital, Philadelphia. Illustrated. Third Edition, Revised. Price, $3.50, net. Philadelphia: W. B. Saunders. 1900.

In the third edition of his book, which is slightly enlarged, Penrose has brought every subject up to date. It has proved to be one of the best works on the diseases of women for the general practitioner, in that minor gynecology is thoroughly covered and the needs of the non-specialists recognized. The illustrations are many, excellent, and useful, and the book as a whole is worthy of the highest commendation as a practical working guide, in a condensed form.

THE SCHOTT METHODS OF TREATMENT OF CHRONIC DISEASES OF THE HEART, WITH AN ACCOUNT OF THE NAUHEIM BATHS AND OF THE THERAPEUTIC EXERCISES. By W. Bezly Thorne, M.D., M.R.C.P. Illustrated. Third Edition. Philadelphia: P. Blakiston's Son & Co. 1899.

In this third edition, Dr. Bezley Thorne's little volume has been rearranged and two chapters added. One of these deals especially with conditions that should influence and modify the detail of the procedures, while the other gives instances of their application in various cardiac conditions, illustrated by sphygmographic tracings. Though the work is small, it has the advantage of a quite complete index.

Miscellany.

Dispensary-Abuse.—That the lay public has begun to realize the evils and the injustice of the dispensary-abuse is indicated by the following language that appears in the fortieth annual report of the German Hospital, Philadelphia, for the year 1899: "The abuses in the dispensaries continue, and are not only on the increase, but combined with insolence and arrogance of some of the applicants for help, who imagine that the city authorities furnish the means to support free dispensaries."

Not Counted Among the Able-Bodied.—The supreme court of North Carolina has decided that a statutory requirement of all able-bodied male persons between certain ages to work on the public roads is not a tax, but a duty, similar to service on the jury, in the militia, etc., and, being a duty, it holds, in State vs. Covington, that sickness causing inability to perform it is a full defense, as in the case of the other duties which the state may exact.

Metschnikoff's Cell Serum.—In one of the last *Annales de l'Institut Pasteur*, Metschnikoff announced the important fact that he has established that the mononuclear leucocytes or macrophages swallow *living* cells. He reported an interesting research which showed that these macrophages, in guinea-pigs, swallowed live spermatozoa, blood-corpuscles from the goose, etc., the tail of the spermatozoon still keeping up lively motion until it was also absorbed. The macrophages then soon left the peritoneal cavity, where the live cells had been injected, and passed into the omentum, lymphatic ganglia, spleen and liver, and thence into the blood, where they induced the production of a powerful and rapid cell-destroying substance specific for the leucocytes of the animal from which they were originally derived—spleens from rats, abdominal lymph glands from rabbits injected subcutaneously, etc. This agglutinating and hemolytic substance may be a product excreted by the macrophages at the close of their intracellular digestion. It was impossible, however, to produce an antileucocytic serum that would confine its action exclusively to the mononuclears. They were first affected, becoming transformed into transparent vesicles; the polynuclears then underwent the same transformation, and lastly the Mastzellen in their turn. The fact that the macrophages can devour living cells suggests that they play an important part in cellular atrophy. In atrophying morbid conditions of some of the vital organs, nerve centers, kidneys, liver, an accumulation of mononuclear phagocytes is noted, which become transformed into connective tissue, replacing the nobler element as the macrophages swallow everything in their reach incapable of defending itself against their voracity. This leads to the hypothesis that the cells must normally produce a certain substance which protects them against the macrophages. It is easy to conceive, therefore, that the cells of useless rudimentary organs may be able to defend themselves against the macrophages by this means, while others, really indispensable to the organism, may for some reason become deprived of this protecting substance and fall a prey to the macrophages. "We are justified in anticipating the day when medical art will actively and successfully intervene to maintain the integrity of the organism whose harmony has been disturbed by the preponderance of certain cellular elements such as the macrophages in atrophy, and various other elements in neoplastic affections." An antileucocyte serum or leucocidin which would restrict its action to a certain class of leucocytes would accomplish this. The problem can be solved in another way: by stimulating the nobler elements, the nerve cells, liver cells, etc., to spontaneously produce the protecting substance that defends them against the macrophages in youth and health. Metschnikoff is conducting special research in this line, and the announcements of the lay press that he has succeeded in producing a "long life serum" are founded on this research—which as yet is merely tentative. He concludes a recent article in the *Année Biologique* with the statement: "If the lost balance between the cellular elements could be re-established, then senile atrophy and certain other morbid changes would be arrested or attenuated. Old age would become more bearable, and the instinct of death, which is now usually lacking, would develop freely. Man has other resources than "natural selection" to assist development, and encouraged by the fact that human art has already surpassed Nature in the harmony of sounds, science should strive to establish harmony beyond what nature has accomplished, in the functions of the organism."

Queries and Minor Notes.

MEDICAL FACILITIES ABROAD.

SOUTH BOSTON, VA., Jan 12, 1900.

To the Editor: Having decided to spend a part of the spring, summer, and fall in Paris, London, and Berlin, I would thank you very much for any information or literature bearing on the facilities, advantages, etc., of the various medical institutions, also of the various medical conventions that may meet during the spring or summer in any one of the above-mentioned cities, to which I might have access. B. C. K.

ANSWER.—A book was published some years ago by Dr. Henry Hun, of Albany, N. Y., especially for Americans who wished to study medicine in Europe, but we think that it is now out of print. We know of no other work specially devoted to the subject. The following congresses are to be held in Paris this year: The Thirteenth International Medical Congress, August 2 to 9; Fourth International Congress of Dermatology, same date; Tenth International Congress of Hygiene and Demography, August 10 to 17; International Congress of Hypnotism, August 12 to 15; First International Congress of the Medical Press, July 26; and First International Congress of Medical Ethics, etc., July 23 to 28. The British Medical Association meets at Ipswich the first week in August. There are others of which we have not at hand the exact dates and places of session, such as the German Congress of Internal Medicine and Surgery, etc. There are facilities for clinical and other studies in all the larger cities of Europe. In London, in the Medical Graduates' College and Polyclinic, 22 Chenies Street, Gower Street, W. C., and in a similar institution in Edinburgh, will be found facilities for post-graduate work, although nothing in Europe will equal the post-graduate schools in this country.

JOURNALS ON GASTRO-INTESTINAL DISEASES.

TRACY, MINN., Jan. 8, 1900.

To the Editor:—What is the best German journal on gastro-intestinal diseases and on general internal medicine, and the best one in French on the same subjects? Yours very truly, C. J. B.

ANSWER.—If a general résumé of the literature of inner medicine is wanted, the *Centralblatt für Innere Medicin* (Leipsic), which gives the abstracts of the leading German and Continental papers as they appear, would probably give the best satisfaction. The leading German journals on general medicine are probably the *Wochenschrifts* of Berlin, Vienna and Munich. There are also high-class publications that appear at regular intervals and contain elaborate memoirs, but these are probably not what is wanted. It is still harder to name the leading French publications on these two subjects. One of the leading Paris weeklies, the *Presse Médicale*, the *Gazette des Hopitaux*, the *Journal de Connaissances Médicales*, the *Progrès Médical*, etc., might possibly do, or for a monthly, the *Archives Générales de Médecine*. We do not at present recall any journal in either language specially devoted to gastro-intestinal diseases.

WHOSE CASE IS IT?

[illegible], La., Jan. 9, 1900.

[illegible] the physi- [illegible] has been sent [illegible] and that patient No. 2 has [illegible] and [illegible] a few minutes [illegible] What is the duty of these physicians to the patient; and to each other? Who should [illegible]

R. F. H.

ANSWER.—"It often happens in a case of sudden illness . . . that a number of physicians are simultaneously sent for. Under these circumstances courtesy should assign the patient to the first who arrives. . . . In all such cases, however, the practitioner who officiates should request the family physician, if there be one, to be called, and, unless his further attendance be requested, should assign the case to the latter on his arrival."—*Code of Ethics*. When, as in this case, where the patient apparently has no family physician, the first physician has prescribed, and retired, there would seem to be nothing further for the second to do. His further relations to the case would seem to cease, unless he is particularly requested by the patient and his family to act, and then, under the circumstances, it would be necessary for him to see the first prescriber as to the treatment initiated, and to have a mutual understanding with him and the family before he takes charge of the case. In such an event the second comer ought to carefully avoid any line of conduct that might influence that patient and his friends to think that he expects to have further professional relations with them. If this course is honestly followed, there ought to be no chance of professional friction or ill feeling between the physicians called. Certainly there should be none if, with all courtesy, the facts are clearly stated and understood. A physician called, whether his services are requested or not, is entitled to remuneration for the time and trouble, and should send in his bill.

The Public Service.

PRECAUTIONS AGAINST PLAGUE.

AT HONOLULU.

Major Blair D. Taylor, surgeon U. S. A., under date of Dec. 15, 1899, has reported to the surgeon-general the occurrence of bubonic plague in the Chinese quarter of Honolulu. Orders were issued by the commanding officer of the military post, Camp McKinley, suspending the pass list, defining the limits to which the men were to be restricted, and prohibiting all men, employees and servants of the command from entering the city, except when on duty or by special written permission from proper authority. The following was published by Major Taylor for the information and guidance of the command:

"Bubonic plague is an acute, infectious and more or less contagious disease caused by a specific microbe. It can be carried in clothing, food or drink, and is easily inoculable through cuts, wounds or abrasions of the surface. It is propagated and disseminated by rats, mice, dogs and other domestic animals, as also by flies and vermin. It spreads rapidly in the presence of filth, overcrowding, poor food and unhygienic surroundings, but very slowly where there exists good ventilation, cleanliness and sunlight. One of the most characteristic symptoms is the early infection of the glands of the inside of the thigh just below the groin. The glands of the armpit are also generally involved. The specific microbe of this disease is easily destroyed by 1 to 1000 bichlorid of mercury, by milk of lime, by boiling water, steam, sunlight and formaldehyde gas. Quarantine is of little avail, as disease spreads in spite of it, in filthy and foul localities. The complete isolation of the affected localities, their thorough disinfection, and the burning of all objects and articles suspected of infection constitute our weapons for stamping out this disease. For personal prevention: Keep away from an infected locality and avoid those who are known to have been there; be careful to cover and protect all abrasions or cuts of the skin as soon as noticed; wash the hands, face and mouth always before eating; drink nothing but boiled water and eat nothing but clean food; sleep in airy, well-ventilated apartments as far from the ground as possible, preferably on the second floor; see that all the surroundings of yourself and dwelling are strictly clean and sanitary.

By following these directions there will be little danger of acquiring this disease, although living in its midst."

ON AN ARMY TRANSPORT.

On Dec. 12, 1899, as the transport *Warren*, carrying two batallions of the 49th U. S. Vol. Infantry, was about to sail from Honolulu for Manila, it was officially announced that three deaths from bubonic plague had recently occurred in the city. Many of the soldiers had been ashore during the two days of the transport's stay in the harbor and they had mingled freely with the natives. This suggested the possibility of some of them having become infected and the consequent necessity of taking every precaution to avoid an outbreak of the disease on a vessel so crowded with troops while en route across the Pacific. It was therefore decided to drop anchor four miles from the city and remain in quarantine for [illegible] days to await developments. A formaldehyde generator was obtained from the city authorities for use in disinfecting the effects of the men. This was done systematically in one of the holds while the men washed down their quarters with a 1:500 solution of mercuric chlorid and then took a shower bath before recovering their effects from the disinfecting chamber and resuming their clothing. No communication was permitted with the shore except such as was absolutely necessary, and then only by members of the medical department. Major Thomas E. Evins, surgeon, was in medical charge of the troops, with Acting Asst.-Surgeon [illegible], surgeon of the transport. The *Warren* arrived at Manila, all well, on January 2.

ARMY CHANGES.

Movements of Army Medical Officers under orders from the Adjutant-General's Office, Washington, D. C., Dec. 29, 1899, to Jan. 4, 1900, inclusive:

Allen J. Black, acting asst.-surgeon, from East Radford, Va., to Fort Slocum, N. Y., to accompany recruits on the transport *Sumner* to Manila, P. I., where he will report for duty in the Department of the Pacific.

Carl R. Darnell, lieutenant and asst.-surgeon, U. S. A., leave of absence extended.

Louis L. Gilman, acting asst.-surgeon, from Rochester, N. H., to Fort Slocum, N. Y., to accompany recruits on the transport *Sumner* to Manila, where he will report for duty in the Department of the Pacific.

William S. Kidd, acting asst.-surgeon, from New York City to the Department of California.

Patrick H. McAndrews, acting asst.-surgeon, from the Department of Porto Rico to report at Fort Slocum, N. Y., to accompany recruits on the *Sumner* to Manila and to report for duty in the Department of the Pacific.

Allen D. McLean, acting asst.-surgeon, from Fort Wayne, Mich., to the Department of California.

Edward R. Morris, major and surgeon, Vols., (captain and asst.-surgeon, U. S. A.), honorably discharged from the volunteer service on tender of his resignation, to take effect December 31, 1899.

Frederick P. Reynolds, captain and asst.-surgeon, U. S. A., previous orders amended so as to direct him to report at Fort Slocum, N. Y., to accompany recruits to Manila.

Robert A. Seale, acting asst.-surgeon, from Holly Springs, Miss., to the Department of California.

Bert Smith, acting asst.-surgeon, leave of absence extended.

Louis L. Stueber, acting asst.-surgeon, from Lima, Ohio, to the Department of California.

John W. Thomas, acting asst.-surgeon, from Fort McPherson, Ga., to Washington, D. C., for annulment of contract.

NAVY CHANGES.

Changes in the Medical Corps of the U. S. Navy for the week ending Jan. 6, 1900.

P. A. Surgeon A. W. Dunbar, ordered to duty on the *Monongahela*, immediately.

P. A. Surgeon R. K. Smith, detached from the naval hospital, Mare Island, Cal., on reporting of relief and ordered to duty on the *Pensacola*.

Asst.-Surgeon J. H. Payne, detached from the *Indiana* and ordered to duty at the naval hospital, Mare Island, Cal.

Medical Director A. F. Price, promoted to medical director from April 9, 1899.

Surgeon G. M. Pickrell, promoted to surgeon from Sept. 19, 1899.

Asst.-Surgeon R. Spear, ordered to duty in connection with the naval recruiting rendezvous, Philadelphia, Pa., January 9.

Pharmacist I. N. Hurd, ordered to duty at the Key West naval station, January 11.

MARINE-HOSPITAL CHANGES.

Official list of the changes of station and duties of commissioned and non-commissioned officers of the U. S. Marine-Hospital Service for the seven days ended Jan. 4, 1900.

Surgeon W. P. McIntosh, to proceed to Columbia, Tenn., for special temporary duty.

P. A. Surgeon J. C. Perry, to proceed to Manila, Philippine Islands, for temporary duty.

Asst.-Surgeon L. D. Fricks, assigned to duty as assistant to the Director of the Hygienic Laboratory, Washington, D. C.

Asst.-Surgeon Dunlop Moore, relieved from duty at San Francisco, Cal., and directed to proceed to Portland, Ore., and assume command of the Service.

Asst.-Surgeon D. H. Currie, relieved from duty at Louisville, Ky., and directed to proceed to Washington, D. C., and report to the Director of the Hygienic Laboratory for temporary duty.

HEALTH REPORTS.

The following cases of smallpox, yellow fever, cholera and plague, have been reported to the Surgeon-General, U. S. Marine-Hospital Service, during the week ended Jan. 5, 1900.

SMALLPOX—UNITED STATES.

District of Columbia: Washington, Dec. 28, 5 cases.

Illinois: Cairo, Dec. 23 to 30, 12 cases.

Indian Territory: Choctaw Nation, Dec. 18, 80 cases in mining camps.

Louisiana: New Orleans, Dec. 16 to 30, 21 cases; Shreveport, Dec. 16 to 30, 9 cases.

Massachusetts: Chelsea, December 16 to 30, 1 death; Lowell, December 23 to 30, 1 death.

Nebraska: Omaha, December 23 to 30, 1 case.

New York: Amsterdam, December 16 to 31, 1 case; New York, December 16 to 23, 1 case.

Ohio: Cincinnati, December 22 to 29, 1 case; Cleveland, December 16 to 30, 4 cases.

Pennsylvania: Allegheny, December 16 to 23, 3 cases; Pittsburg, December 16 to 30, 2 cases.

South Carolina: Greenville, December 7 to 30, 4 cases.

Tennessee: Nashville, December 23 to 30, 2 cases.

Utah: Salt Lake City, December 16 to 23, 1 case.

Virginia: Portsmouth, December 23 to 30, 10 cases, 2 deaths.

SMALLPOX—FOREIGN.

Belgium: Antwerp, December 2 to 9, 5 cases, 3 deaths.

Brazil: Rio de Janeiro, November 3 to 17, 111 deaths.

Gibraltar: December 2 to 17, 3 cases, 1 death.

Greece: Athens, December 2 to 9, 5 cases, 1 death.

India: Bombay, November 21 to 28, 14 deaths.

Russia: Moscow, November 25 to December 2, 1 case; Odessa, December 2 to 9, 3 cases, 1 death; Warsaw, November 25 to December 2, 8 deaths.

Spain: Madrid, December 2 to 9, 7 deaths.

Turkey: Smyrna, December 3 to 10, 1 death.

YELLOW FEVER—FOREIGN.

Brazil: Rio de Janeiro, November 2 to 17, 6 deaths.

Colombia: Panama, December 19 to 26, 1 case.

Cuba: Matanzas, December 29, 1 soldier.

PLAGUE.

Hawaii: Honolulu, December 11 to 18, 2 cases, 2 deaths.

India: Bombay, November 21 to 28, 137 deaths; Calcutta, November 4 to 18, 77 deaths; Kurrachee, November 18 to 25, 3 cases, 1 death.

CHOLERA.

India: Bombay, November 21 to 28, 4 deaths; Calcutta, November 4 to 18, 25 deaths.

The Journal of the American Medical Association

Vol. XXXIV CHICAGO, ILLINOIS, JANUARY 27, 1900. No. 4.

Original Articles.

SYPHILIS OF THE NERVOUS SYSTEM AND THE USE AND ABUSE OF MERCURY AND IODIN IN ITS TREATMENT.[*]

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Syphilis of the nervous system and its treatment is a subject of such magnitude and universal importance that it can not be satisfactorily dealt with in a brief discourse. My remarks will therefore be confined more particularly to intracranial syphilis, this being the commonest type of the disease with which we have to deal.

Syphilis is one of the most frequent infectious causes of organic nervous disease. Hence, in every patient who appears with symptoms of disease affecting the nervous system, we must ascertain, if possible, whether he has ever contracted syphilis. This is comparatively difficult with women patients. In every doubtful case we are forced to depend on the existence or non-existence of somatic signs of the disease, the collateral symptomatology, and the character and course of the nervous manifestations. When it is discovered that syphilis has been acquired at some more or less remote period, it does not necessarily imply that every morbid condition of the nervous system which develops in the subsequent course of life should be at once attributed to this early infection.

Although such an individual is more apt to develop nervous syphilis, he is in no sense exempt from other (non-syphilitic) nervous disorders.

On the other hand, there are certain rather characteristic symptoms occurring in connection with lesions of the nervous system, which are unmistakably traceable, in almost every instance, to a previous or existing syphilitic process. If the disturbance is evidently of a luetic nature, it does not logically follow that the prognosis is favorable even under the best management.

When confronted with a disease of the nervous system in which the etiology seems obscure on account of the absence of a previous luetic infection, the physician has frequently expressed his conviction to the patient, that the presence of an antecedent syphilis would simplify the treatment, and thereby insure a favorable result. This erroneous idea has unfortunately become more or less prevalent, not only among physicians but likewise among laymen. Such an optimistic view is unjustifiable, and frequently leads to disappointment. It is usually based upon a mistaken conception of the pathology of the disease, or a credulous adherence to ancient and traditional doctrines.

The large majority of clinicians agree that thorough treatment in the early period after infection is the most efficient means of protection at our command, and that those who are either inadequately treated, or not treated at all, form the greater contingent of the class who pass into the so-called tertiary stages. This view represents the consensus of opinion of many reliable observers, and is based on an overwhelming mass of statistic material collected in all civilized countries.

In spite of this, several observers assume a heterodox attitude, in stating that recently acquired syphilis, whether thoroughly treated or not, uniformly passes into the tertiary stages of the disease. No matter how much polemic argument is indulged in on this point, we are forced to acknowledge from practical clinical experience, that patients in whom a thorough and systematic antiluetic treatment was carried out during the early stage following the primary infection, are not insured thereby against subsequent syphilitic disease of the nervous system. In these patients, however, it would seem that the symptoms appear in a milder form as compared with those who had never received suitable early treatment.

That the so-called degenerative types affecting the cerebrospinal system often appear in spite of vigorous early treatment is too well known to be denied. It will thus be seen that we possess no sure remedy which will protect the nervous system against its ravages when syphilis has once been acquired.

It is a remarkable fact, familiar to all neurologists, that in many patients whom we see with unmistakable signs of nervous syphilis, the primary infection has not been followed by any recognized secondary symptoms. Careful interrogation results in the information that there was an indurated chancre on the prepuce, with or without enlargement of the inguinal glands, and that is all. It is probable that a roseola was present but was overlooked. The absence of early treatment in these mild cases of acquired syphilis may account for the frequency of such conditions.

The syphilitic poison, when it invades the nervous system, affects it in several characteristic ways. 1. It may attack the intracranial or spinal arteries, producing an endarteritis, which gradually leads to thrombosis and occlusion of vessels, thus cutting off the blood-supply to the corresponding area. 2. It may give rise to a gummatous growth, or to a local or diffuse gummatous exudate, involving the meninges and infiltrating the adjacent brain structures. This specific inflammatory process may gradually press upon, or ultimately destroy by new tissue formation, conducting fibers or nerve-cells. 3. The nutrition of specially susceptible cell structure may be slowly interfered with, the cell substance and its processes undergoing gradual degeneration.

The first two forms are known as "inflammatory" or "exudative," and are usually more or less acute in their onset. They are not always late manifestations, for they often occur within the first two or three years, and may arise within a few months after infection. The latter has been characterized as "degenerative" or "post-" "para-" or "meta-syphilitic," and is essentially chronic.

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[*] Read before the New York County Medical Association, Dec. 18, 1899.

The gummatous meningitic exudation most frequently attacks the base of the brain, involving the cranial nerves. The forms of brain syphilis most dangerous to life are: 1. That which attacks the cerebral arteries, producing obliterative endarteritis. 2. Basal meningitis and meningo-encephalitis extending to the posterior fossa.

While it is virtually admitted that syphilis is an incurable constitutional disease, paradoxic as it may seem, it is the most amenable to treatment under certain conditions. The fact should be well understood by all, that while many of the effects of the disease are thus amenable, there is no method known at the present time by which we can eradicate the virus or its toxins from the system, and be enabled to say positively that the patient will remain free from further attacks. The *materies morbi* remains latent for years, unexpectedly manifesting its potency through some unknown exciting cause.

A clear comprehension and appreciation of the following important facts, which will bear repetition for the purpose of emphasis, may be the means of saving many a patient from useless, if not dangerous, medication.

1. Syphilitic inflammation produces more or less exudation, which terminates in the formation of connective tissue. Should this fibrous tissue entangle nerve-cells or fibers in its meshes they may be permanently destroyed. The symptoms that result from this interference with innervation or conductivity, when they have persisted for months or years in spite of active measures, are those that prove unamenable to further antisyphilitic or any other form of treatment.

2. When a cerebral artery becomes the seat of thrombosis, and this is most frequently the middle cerebral or its branches, whether such obstruction be superinduced by syphilitic endarteritis, atheroma or otherwise, the immediate results are similar. The interference with the nutrition of the corresponding cerebral area is shown by either partial or complete loss of physiologic function. The degree of the disturbance depends, *a,* on the size of the vessel involved, and the extent of structure which it supplies; *b,* its partial or complete occlusion. When the caliber of a small vessel is obstructed or obliterated, there may be some restitution of function through the early establishment of a collateral circulation. This does not occur, however, when a large artery becomes closed. The result of this cutting off of the blood-supply is necrotic softening. This dead brain-tissue can not be restored by antisyphilitic treatment. In many of the patients in whom occur transient monoplegia or hemiplegia, or aphasia, or attacks of petit mal or other loss of consciousness, these symptoms are occasioned by beginning thrombosis of cerebral blood-vessels. The distinction should be made in every instance, between those due to simple atheroma and those due to syphilitic endarteritis.

3. Cerebral hemorrhage of the familiar form, destroying the motor fibers of the internal capsule, may be the result of the rupture of a syphilitic artery. This is of much rarer occurrence than thrombosis. It is the hemorrhage that has done this damage mechanically, and the resulting paralysis can no more be correctly termed "syphilitic hemiplegia" than the hemiplegia resulting from necrotic softening in the same location. In both instances, certainly, syphilis is recognized as the remote cause, but the destruction of this portion of the motor tract is irremediable, and can not be modified by the use of antisphyilitic remedies.

I have thus endeavored to show that such residual symptoms indirectly due to syphlis can not be favorably influenced by antisyphilitic treatment, or by any other measures at our command. It is not only useless, but harmful, to persist in giving such patients either mercury or iodid of potash for an indefinite time, with such an object in view.

We must, therefore, direct our attention to the removal of the specific process itself, and in this accomplishment often lies one of our most brilliant therapeutic achievements. Recent exudative inflammation, gummatous growths, gummatous meningitis and meningo-encephalitis, pachymeningitis, obliterative endarteritis and periarteritis are *the* conditions which are most amenable to antisyphilitic treatment. It is not sufficiently recognized that there are extreme variations in the natural character and course of the disease. In some, it is brief and the symptoms disappear spontaneously. In others, it is extremely virulent, and there is a tendency to frequent recurrence, which may or may not be influenced by treatment. As individuals differ in personality, constitution, idiosyncrasy, etc., so does the activity of the syphilitic poison and the reaction to treatment vary in different individuals. The same is true in regard to all other infectious diseases. Much satisfaction will be gained by the knowledge that, in general, the good results of antisyphilitic treatment are shown early in the first or second week, improvement being at times marvelously rapid. Occasionally it takes from two to six weeks before improvement begins.

The rapidity of relief depends on several important factors: 1. The virulence of the disease. 2. The duration and character of the symptoms. 3. The susceptibility of the patient to the action of mercury and iodin.

The only drugs known to possess a specific influence on the disease and its pathologic products are mercury and iodin. The customary and preferable method of administering mercury is by daily inunction, until some of the familiar signs of mercurialization are manifested. The time required for this effect may be from a few days to two or three weeks. In rare cases, where a more rapid action is desired, we may resort to subcutaneous injections of calomel or bichlorid. Iodin, in the form of iodid of potassium, is given in saturated solution, usually beginning with ten minims three times a day, well diluted, and the dose gradually increased daily to the point of intolerance. Some patients can take with benefit, and without discomfort, as much as two or three drams or more, three times a day. It has always seemed to me that the iodid is quicker in its action than mercury, the alarming symptoms of cerebral syphilis sometimes disappearing like magic under its use. As a rule, it has been my custom to begin with mercurial inunctions, followed by increasing doses of iodid of potassium. When a rapid effect is required, the iodid is given in conjunction with the mercurial treatment. The duration of treatment with iodid of potassium varies with the individual patient. Generally speaking, its use should be continued until all active symptoms have subsided. Two or three months, however, is about the average length of time. Early, energetic and persistent treatment should be the rule; the earlier the better. Much harm may be done to the general health by the excessive, prolonged and injudicious use of these remedies. As a special illustration, I may mention that primary optic nerve atrophy progresses more rapidly to complete blindness under the protracted use of mercury.

The choice of preparation, the method of administration, and the dosage should be governed by the exigencies of the case and the judgment of the attending physician. For further details I must refer to the various modern text-books on this subject.

The syphilitic virus, like the virus of other infectious diseases, by diminishing the resistance, i. e., the vitality of the cell, more readily predisposes the patient to degeneration in the nervous system. It is this broad principle which should guide us in the general management of every case, whether it be of the degenerative or the exudative variety. We should, therefore, invariably institute a suitable tonic régime, in conjunction with and following the specific medication.

Tonic measures, such as nutritious food, baths, massage, electricity, and all other means directed toward improving the general health, must not be considered simply as adjuvants, but as constituting a most important therapeutic element, and continued as long as necessary.

As a prophylactic against recurrence, moderate doses of iodid should be administered daily for several weeks, three or four times a year, and the general health conserved as much as possible. In no other affection of the nervous system is a comprehensive knowledge of neurology more essential, our measure of success in the treatment depending on the early recognition of the cause of the symptoms.

When the diagnosis of syphilitic disease is doubtful, too much dependence should not be placed on the so-called therapeutic test, or, as it is frequently termed, the diagnosis *ex juvantibus.* While it possesses at times a certain value, it is more often unreliable, for we all know that mercury influences simple as well as syphilitic inflammation, and that iodin also promotes the absorption of non-syphilitic inflammatory products. On the other hand, the presence of syphilis can not be positively excluded when improvement *fails* to follow the administration of these remedies.

In this connection, the following illustrative and characteristic case will prove interesting in demonstrating many of the points above mentioned:

L. T., 32 years of age, born in the United States, was first seen by me Oct. 21, 1897. She was married sixteen years ago, and has one child, now 15 years old, in perfect health; no miscarriages. She has been separated from her husband for ten years, owing to his dissolute character. She was well until five years ago, when she began to have pain in the course of the left sciatic nerve. During this period there were occasional intervals of freedom from pain, the longest being three months. About a year ago, without any previous injury, large ulcers developed on both legs, which were slowly healed after prolonged treatment. Three months ago she was attacked by severe paroxysmal general headache about every half hour. Sometimes it was almost continuous day and night. This was accompanied by failing vision. During the last four weeks there has been persistent and continuous pain on the left side of the face and in the left eyeball. This was associated with frequent, sudden, and apparently causeless vomiting. She also complained of diplopia, somnolence, general weakness and extreme sensitiveness to cold. There was no history of primary syphilitic infection, alcoholism, or injury to the head. The menstrual function was regular. The bowels are always constipated. During the last four weeks she has been under medical treatment for trigeminal neuralgia and has taken antineuralgic remedies galore without relief.

The patient, who was accompanied by her mother, appeared in dire distress, with her head almost completely enveloped in several large wraps, her eyes only being partly exposed. She moaned most of the time, frequently uttering a sudden agonizing shriek. She was admitted to the hospital, under my care, for further examination and treatment.

On admission, the pulse was 76 and regular; temperature and respirations normal. The heart, lungs and abdominal organs showed no evidence of disease. There was considerable mental hebetude and somnolence. She suffered from paroxysms of intense pain, affecting the two upper branches of the left trigeminus distribution, and the frontal region on both sides. The scalp was hyperesthetic, especially on the left side. There was tenderness on pressure over the spinous processes of all the cervical vertebræ, but no rigidity of the neck muscles. Slight convergence of left eyeball was evident, as a result of paresis of the external rectus muscle, which required a prism of 30° to overcome the diplopia. The pupils were unequal, the right measuring 5 mm. and rigid; the left 3 mm., but reacting well to light, although there was no reaction consensually or in efforts at convergence. Vision: R. E. =20/30—; L. E. = 20/30—.

There was "choked disc" of 3 D. in the left eye, and receding papillitis in the right. Right homonymous hemianopsia was present, and right facial paralysis, affecting only the lower branches. The tongue protruded well, but deviated slightly toward the right. There was no objective sensory disturbance in the course of the fifth nerve. Hearing and sense of smell were normal. There was right hemiparesis, with exaggeration of all reflexes and ankle-clonus on the same side; left side normal; no sensory disturbance. There were marks of old ulceration over the calf muscles on both sides. Examination of the urine was negative.

Diagnosis.—Syphiloma, involving the left crus, destroying the left optic tract, and making pressure on the pyramidal fibers, and the fifth and sixth nerves, on the same side.

She was given a large enema and 5 grains of calomel, which proved effective in relieving the constipation. In addition to general management, mercurial inunctions were begun at once and continued twice daily, in conjunction with increasing doses of iodid of potassium, beginning with 12 gr. three times a day.

Within three or four days, the vomiting, pain, and hebetude began to subside, and gradually disappeared a few days later. She remained in the hospital two weeks. During this time the pulse, temperature and respirations were normal. The mercury was discontinued at the end of three weeks, the iodid being given for ten weeks longer, the maximum dose being 70 gr. t. i. d. The optic neuritis, and the paralytic symptoms had entirely disappeared at the end of five weeks, the pupilary rigidity and the hemianopsia remaining unchanged.

She has been under my observation from time to time during the last two years, and there has been no recurrence.

At the last examination, made Nov. 20, 1899—over two years since her illness—it was noted that she was in perfect health. The left pupil did not react to light, and vision was: R. E. = 20/20; L. E. = 20/20; and the hemianopsia was still present.

It will be observed that all of the active symptoms disappeared rapidly under treatment, while the residual symptoms, such as the loss of pupilary reflex and the hemianopsia have remained permanent.

It has been said that there is no form of syphilitic nervous disease which should exclude "specific" treatment. From such a misleading statement, it would be inferred that mercury and iodin are also beneficial in all cases of the so-called parasyphilitic affections, among which have been included a large percentage of cases of tabes, paretic dementia and progressive ophthalmoplegia. As previously mentioned, these diseases are degenerative in character.

When uncomplicated by a specific inflammatory process, they are not benefited by such treatment. One difficulty in this matter lies in the possibility of mistaking cases of exudative cerebrospinal syphilis for true tabes, i. e., an inflammatory for a degenerative condition. I speak of tabes because it is the most common and representative type assumed to belong in this category. When such a differentiation is not clear, or is impossible, the patient should be given the benefit of any reasonable doubt, and these drugs administered.

What I wish to emphasize is that patients with tabes, for instance, who have had syphilis, but have never received antiluetic treatment since their tabetic symptoms have occurred, should be given a course of active medication for several weeks. If this has already been carried out without relief, it is useless, nay, even harmful, to repeat the procedure. Not only have I never seen such patients improved by this means, but I have repeatedly noted an increase in the degree of many of the symptoms, presumably as a result of interference with the general nutrition. For several years many writers have endeavored to prove, by a formidable array of statistics, that "syphilis is *the* cause of tabes," and that "without syphilis there would be no tabes." It is to be deplored that the majority of practitioners, in blindly following this extravagant dogma, look on "tabes" and "syphilis" as almost synonomous terms, their consecutive thoughts on this subject when expressed laconically being locomotor ataxia, syphilis, mercury and iodid of potassium. Among many others, I must still maintain the opinion that tabes is *not always* due to syphilis, and that many cogent reasons are forthcoming which will sustain this view.

With the positive knowledge of an antecedent syphilis, we are by no means certain that these degenerative diseases are always the result of such early infection. From careful observation in a large number of cases, it has always seemed to me that there are additional causative factors, such as alcoholic, sexual or other excesses, or a congenital or acquired neuropathic constitution, which favor the development of degenerative processes in the nervous system, even in those patients who have contracted syphilis at some remote period. But this is neither the time nor place for the exploitation of the facts bearing upon this interesting and important topic. Let us all look forward with the hope that rapid advance in the modern methods of bacteriologic research will be the means of discovering the specific germ of syphilis, and its antitoxin, and thus prove the salvation of humanity from one of the greatest scourges of civilization. At the present time, then, the prevention of syphilis is practically an unsolved problem. For men may come and men may go, but syphilis goes on forever.

[illegible] East Fifty-Eighth Street.

DISCUSSION.

Dr. Edward D. Fisher said that cases of nervous syphilis yielded the best results under antisyphilitic treatment when the process was a rather acute one. Thus, in pseudogeneral paresis and in cases of rapidly developed paralysis of the ocular muscles, occurring independently of rheumatism, one might expect satisfactory, and sometimes even brilliant, results from specific medication. Spinal syphilis is often confounded with tabes, though usually easily differentiated by remembering that tabes is never so rapid in its development. He would recommend a trial of antisyphilitic remedies in all cases of tabes characterized by sudden exacerbations, as such fluctuations are generally regarded as evidence of fresh gummatous infiltrations.

Dr. Edward G. Janeway cited several cases in illustration of the importance of the physician endeavoring, in cases of cerebral syphilis, to determine both the nature and the site of the lesion. Thus, in a case diagnosed by an eminent neurologist as one of tumor of the brain, no new growth was discovered at operation, and the autopsy showed instead a syphilitic hyperostosis of the skull. It is well to remember that in cases exhibiting a peculiar intolerance to iodid of potassium, iodid of sodium or of strontium may be better borne, and if these also fail, excellent results may still be achieved by giving iodid of potassium by the rectum. The diagnostician should bear in mind the liability of mistaking a persistent fever, coming on in tertiary syphilis, for tuberculosis. Regarding the relation of syphilis to tabes and general paresis, the speaker stated it to be his firm conviction that, in the great majority of instances, these diseases are of syphilitic origin, and he, therefore, advised in doubtful cases, a resort to the therapeutic test, claiming that it is fully justified by the circumstances.

Dr. Charles I. Proben thought one could not reasonably expect much benefit from antisyphilitic treatment in cases of the degenerative type. Sometimes iodid caused marked emaciation and when this was observed, the dose should be reduced, or the drug entirely discontinued. This reduction in the body weight is especially noticeable in persons suffering from tuberculosis.

Dr. Boleslaw Lapowski favored the use of mercury in the metallic form, as this imposes the least work on the system. It is his practice to use mercurial inunctions whenever possible, with due attention to the state of the kidneys and their ability to eliminate the mercury. In cases of such urgency that even mercurial inunctions are too slow and uncertain, he would be willing to employ calomel injections, or even the admittedly dangerous method of administering sublimate by intravenous injection.

Dr. H. M. Leszynsky, closing the discussion, took issue with Dr. Fisher regarding the harmlessness of the iodid, claiming that it not only interferes with the nutrition of the individual, when continued for too long a time, but renders the patient less susceptible to its action, so that in the event of the development of new and urgent complications, the physician would be unable to stay the progress of the disease. Moreover, it has seemed to him occasionally that he had actually hastened connective tissue formation by giving iodid.

EVIDENCES THAT BOVINE TUBERCULOSIS IS COMMUNICABLE TO MAN BY DIRECT CONTACT, OR BY FOOD INFECTION.*

BY JOHN A. ROBISON, A.M., M.D.

CHICAGO.

During the past two years the subject of the cause and prevention of tuberculosis has occupied the attention of the medical and lay public, and the medical journals and newspapers have been teeming with literature on the subject. The possibility of man deriving the infection from cows has been emphasized and reiterated until the public is frightened, our boards of health are advocating stringent methods for the extermination of bovine tuberculosis, and our legislatures are considering the passage of strict laws to this end, the regulation of dairies and the sale of tuberculous flesh and milk. The main proposition seems to be that bovine tuberculosis is one of the principal causes of the spread of tuberculosis among man; eradicate it, and you prevent its spread among the human species.

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* Presidential Address to the Chicago Society of Internal Medicine, delivered Oct. 31, 1899.

Considerable yellow literature has been issued on this subject, and I wish to review the arguments in favor of and against the proposition, and quote freely from authorities on both sides of the question.

What are the evidences in favor of the belief? Those who favor this base their faith on the following reasons: 1, the identity of the pathology of tuberculosis in cattle and man; 2, the similarity of the bacilli of the respective tuberculoses as observed under the microscope, their growth in the various culture-media, and the identity of their biologic characteristics; 3, the behavior of animals infected with cultures from the respective sources; 4, the reaction of tuberculin on cattle and the human subject, and, 5, statistical evidence of its production in the human subject by direct contact with infected animals, or by the ingestion of tuberculous flesh or milk, and the alleged immunity of persons who are vegetarians, or at least who do not partake of tuberculous flesh.

As to the identity of the pathology of the disease in the respective species, man and cattle, bovine tuberculosis has long been known to present pathologic similarities to the appearances found in the tuberculosis of man, the distinctions being that the tubercles of bovine origin are located by preference in the serous membranes, and consist of giant cells in a coarse reticulum, with less tendency to cheesy degeneration or calcification than in the human subject. In 1865, Villemin proved that tuberculosis might be induced in animals by inoculation, this proving being corroborated in 1877 by Cohnheim. The pathologic appearances in the inoculated tuberculoses being almost identical with the spontaneous forms of the disease, it was easy to argue that the same bacillus doubtless caused the disease in all species of mammalia, and it was only one step further to argue that if the disease can be transmitted from the human subject to other species, it is possible for the former to be infected by another animal.

Later experiments demonstrated the fact that tuberculosis could be induced in animals fed with tuberculous food. If this is true, why should not the converse be true, and the human be susceptible to the disease through contaminated food? The argument was brought forward, after it was demonstrated that the bacillus could be found in the milk of tuberculous cows, that the frightful infant mortality from tuberculous diseases must be due to the inoculation of children through the food. The hospital records showed that about 40 per cent. of deaths in infants was due to tuberculous diseases. These were supposed to be due in a large measure to the fact that infection gained entrance through the digestive tract.

As to the second reason, the identity of the bacilli in the various forms of tuberculosis as found in the different animals, fowls and fish, it has been only recently that a belief has grown that there may be various forms of bacilli producing the various forms of tuberculosis, instead of the various tuberculoses being manifestations of the same bacillus under different environments. Koch himself did not stop to clear up the question; and the profession was so impressed with his brilliant discovery that it did not try to answer the query, but later we will try to demonstrate that the morphology and biology of the various bacilli are not identical according to the most recent light on the subject. The behavior of animals infected by cultures from various sources was thought to be the same, but to this point we will later call your attention.

When Koch's tuberculin was presented to the world, it was hoped an efficient agent had been found to combat the ravages of consumption, but we have found we must be content with its value in diagnosis. It is now acknowledged to be of great value in the diagnosis of bovine tuberculosis, and of less utility in that of obscure cases of tuberculosis in man. However, its reaction in man and animal being so nearly identical, has led many to believe that the use of tuberculin is a powerful argument in favor of the identity of the various forms of tuberculosis.

Lastly, we come to the statistical part of the argument. A long array of statistics seems to prove the great danger which exists in the transmission of the disease from animals to man when he is brought in direct contact with the diseased animals, or partakes of the food from these animals. That not only the laymen, but our state officials, are imbued with this doctrine is illustrated in the following extract from the report of the Live Stock Commissioners for 1895: "In tuberculosis, either in animals or man, the specific germ, the bacillus tuberculosis, is always found, and this can be artificially transmitted by introducing this germ into the blood of the healthy individual. It is thus that tuberculosis has gained such a fearful hold upon mankind and our domestic animals, by contact with the germs from a previously affected person or animal, or by using the milk or flesh from a diseased animal."

The United States Veterinary Medical Association met in Chicago in 1893, and the report of its Committee on Diseases has the following: "Tuberculosis, so common in the thickly settled parts of this country, is readily diagnosed to-day, and, with these centers of infection eradicated, there will undoubtedly be a marked difference in the death-rate of mankind."

Dr. James Law, V. S., of Ithaca, N. Y., in an address before the United States Veterinary Medical Association, in 1898, on the "Dangers to Mankind from the Consumption of the Flesh and Milk of Tuberculous Animals," says: 1. The bacillus tuberculosis, from whatever animal derived, has a similar, apparently an almost identical, morphology. 2. All alike have peculiar staining properties, which distinguish them from all other pathogenic organisms except the bacillus lepræ and the smegma bacillus, the lesions of which can not be confounded with tubercle. 3. Its viability and destructibility; its thermal death point; its destruction by light; its survival of drying, freezing and putrefaction; its propagation through dust, agree, no matter from which source obtained. 4. In the general susceptibility of a great number of genera of animals to the inoculated germ, and in the special susceptibility of the common experimental animals, like rodents, to the germ as derived from different animal sources, we have another strong evidence of an essential unity. 5. In the usual seats of election for the propagation of the bacillus in the bodies of different animals, and irrespective of the animal from which the virus was drawn, we find another indication of primary and essential identity. The preference of tubercles for the lymph glands, lymph plexuses and lymph sacs or serous membranes is a characteristic that need not be specially insisted on. 6. The close similarity of the lesions caused in different animals by the bacilli drawn from the different genera bespeak an essential identity. 7. In all forms of the disease, and from whatever source the bacillus may have been derived, there is the same tendency to a slow evolution of the morbid lesion. 8. The bacillus tuberculosis from any genus of animals demands for its artificial culture a special culture-medium, glycerined or glucosed as the case they are, while it refuses to grow readily on the common culture-media of the laboratory. 9. The bacillus drawn from any genus of these diverse animals grows with relative slowness, and does not attain a full development until at the end of about two months. 10. The culture-medium of the bacillus from any genus of animal, whether man, ox or bird, becomes charged with those products, which are collectively known as tuberculin, and in all cases alike these act on the tuberculous system in the same way, causing hyperthermia and other nervous disorders. It matters little whether the bouillon had been seeded from the tubercle of man, ox, bird, swine or beast, the resulting tuberculin can be used with confidence in testing for tuberculosis, in any animal.

The establishing of these facts should be sufficient to prove the unity of the germ. As corroborative proof, this author submits a list of cases of accidental infection of man from the ox. In only one of this list did the victim die of pulmonary tuberculosis where the infection was supposed to be due to direct contact with a diseased animal. He records twenty cases of ingestion infection, also, in which generalized tuberculous infection ensued. Shakespeare, Osler and other prominent physicians are quoted as remarking on the prevalence of intestinal and mesenteric tuberculosis in children as the result of vitiated food-supply, while Comby is stated to have shown[1] that tuberculosis of the intestines and tabes mesenterica are diseases occurring especially between early and late childhood, between two and five years. Dr. Law then argues for the intertransmission of tuberculosis between cattle and men by the geographic distribution of the respective forms of tuberculosis being similar. In the Scottish Hebrides, Iceland, Newfoundland, coasts of Hudson Bay, Norway, Sweden, Lapland, Finland, the Pacific Islands, the Kirghiz Steppes, Colombia, Ecuador and the interior of the Argentine Republic, it is claimed tuberculosis is rare on account of the scarcity of cattle. Formerly it was seldom found in Australia, Tasmania, Minnesota and Dakota and among the North American Indians, until cattle were introduced; since then the disease has rapidly spread. In China and Japan it is seldom found among the poorer classes, who live chiefly on rice, while among the mandarins and the aristocrats it is prevalent because they are beef-eaters.

Hirschberger declares that 25 per cent. of all the children dying under 1 year of age, die of tuberculosis. J. Burden Sanderson says 40 per cent. of the hospital cases are tubercular. Von Wesner, Fischer, Baumgarten, Bollinger, Johne, Martin and scores of our American observers come to similar conclusions. These observers believe the infection is due principally to the use of infected milk, as they are not convinced that the danger is great from the use of tuberculous flesh.

Let us look at the opposite side of this question. First, as to the identity of the bacillus found in bovine and human tuberculosis.

Dr. Theobald Smith[2] has made a comparative study of bovine tubercle bacilli and of human bacilli from sputum. In this seven sputum and six bovine cultures were used, also one animal culture presumably from sputum, and one each from the horse, the cat and the pig. His results may be summarized as follows: *Microscopic and biologic characters.*—1. Bovine and other animal bacilli grow less vigorously for a number of generations than the sputum bacilli. 2. Bovine bacilli are much less influenced by certain modifications of the culture-medium. 3. Bovine bacilli tend to remain short; human bacilli are either more slender from the start or become so during the cultivation. *Pathogenesis:* Bovine are more virulent than the human bacilli; the lesions they produce are more grave and more bacilli are found in them. As to the intertransmissibility of the two forms of the disease, Dr. Smith lays down two propositions: 1. The sputum bacillus is incapable of finding a foothold in the bovine body. 2. The bovine bacillus may pass to the human subject on account of its higher pathogenic power. He states that the second proposition has been discussed for many years, without bringing us any nearer to any definite knowledge, but after reviewing some of the supposed cases of infection of man from cattle, he remarks: "If bovine bacilli may invade the human body without let or hindrance, we have not only food infection through milk and products to guard against, but also the inhalation disease to which men are exposed in stables containing tuberculous cattle. What proportion of tuberculous subjects derive their infection from these sources we do not know. Now that we have established some fairly pronounced differences between the bovine and sputum bacilli, the whole discussion might be cut short by the suggestion that the time has come to stop citing old and doubtful cases and go to work to study with care the tubercle bacilli from cases of supposed animal origin, so that some experimental, trustworthy basis may be formed upon which to found statistics. In the meantime the relation of bovine to human tuberculosis must be somehow defined before a fairly helpless and frightened public. It seems to me that, accepting the clinical evidence on hand, bovine tuberculosis *may* be transmitted to children when the body is overpowered by large numbers of bacilli, as in udder tuberculosis, or when certain unknown favorable conditions exist. To prevent this from occurring, a rigid periodic dairy inspection and the removal of all suspicious udder infections and all emaciated animals is as much as public health authorities can at present demand."

Smith says the accumulated evidence of bacteriology is opposed to the view that the bovine bacillus may enter the human body and change into the sputum variety of bacillus, but the question of pulmonary phthisis being secondary to infection by the digestive tract is one which must be studied more scientifically in the future. Tubercle bacilli tend to gravitate toward the lungs, no matter by what portal they enter the body. In closing, he says the main questions to be studied are: 1. The study of tubercle bacilli from different types of tuberculosis to determine their relation to the sputum bacillus and the bovine bacillus as regards their virulence. 2. The study of the bacilli in primary intestinal disease and in all tubercular disease in children, where the source of infection is assumed to be outside of the family and possibly in the milk.

While the value of tuberculin as a diagnostic agent in bovine tuberculosis seems to be well established, it is not so clearly shown in human tuberculosis. Dr. Edward O. Otis, Boston, is one of the most enthusiastic advocates of tuberculin for this purpose, and summarizes his observations in cases as follows: 1. The tuberculin test indicates early tuberculosis by a general reaction before it can be detected by other means, except the X-ray, in the large majority of cases, with a dose of from 5 to 10 mg. of Koch's original tuberculin. . . . 2. Proved tuberculosis in a more or less advanced stage may fail to give the reaction from doses of 10 to 12 mg. 3. Syphilis gives the reaction in an undetermined proportion of cases. 4. There is a dose, undetermined, at which a non-tuberculous person may react or simulate a reaction. Therefore, we must admit that the reliability of the tuberculin test is not proven to be equally accurate in bovine and human tuberculosis. Accordingly, we will pass this point to the consideration of the statistical evidence of the transmission of the disease by direct contact with diseased animals, or the use of food products from such diseased animals.

In the diagnosis of tuberculosis in children it must be acknowledged that it is difficult to prove the route of the infection. Dr. George F. Still[3] opposes the common theory that the frightful mortality among children from tuberculosis is from intestinal infection. He found that in 89 autopsies of children under 3 years of age, 63 appeared to have been originally infected through the lung, and 26 through the intestine, while in 91 between 3 and 12, the pulmonary infection was apparently prior in 55, and that of the intestines in 36. The conclusion must be that the infection by inhalation is more to be dreaded than from food. The apparent danger of infection through the food may lead to the neglect of preventing infection through the air.

I quote freely from a paper by Edward Moore, V. S., Albany, N. Y., who forcibly and graphically opposes the theory of the transmission of the disease from cattle to man. Speaking of the reported cases of direct infection of man by the ox, he says: "I have read of cases of accidental inoculation of the human from the bovine, and if they occur they must be rare, inasmuch as none have come under the writer's observation, and probably no one has had greater experience with tuberculosis in cattle. I am positive that many supposed cases have been incorrectly interpreted. Suppose one member of a family on a farm develops tuberculosis, and there are one or twenty tuberculous cows on said farm, it does not prove that the individual obtained the infection from the bovine. It is quite probable that he has been exposed to infection from human tuberculosis hundreds of times. Many reported cases hang on just such vague evidence as this. . . . Just as positively must we know that infection passes to the human adult or child from cow's milk or its products, or from beef, or through ingestion in other ways, or by inhalation of bacilli from the bovine, and that they alone establish the disease ere we can truthfully say there is such transmission. How may we know that a human being is tuberculous when no germs can be obtained from the subject, and no marked symptoms are observed? If an adult or child has tuberculosis, and it is proved that such patient has partaken of milk for any length of time from a cow known to be tuberculous, it is by no means certain that infection came from the cow unless there is proof that it did *not* come from the human, and that it did not exist prior to his ingestion of the milk. Let us take cognizance of the difficulty of establishing such a fact. Humanity wanders incessantly. The germs of human tuberculosis are wafted on the winds, are carried by the waters, may be brought home in food or clothing, may be inhaled at church, theater, or hotel, in motor or parlor cars. They do not stand out in large black masses, like the rocks the mariner is ever alert to avoid, but without our ken, noiseless, imperceptible and intangible they surround and invade us. They do not sting when they capture a victim; then how can we know the time, the place, and the source of infection? Even the milk from that tuberculous cow just mentioned may be further contaminated by bacilli from a human being before it reaches the consumer, and the bacilli from the human being may establish disease, while those from the cow prove inert. Consumption in people is so common that physicians have unlimited facilities to study its etiology. For instance, in New York State the deaths from this disease for eight years from 1888 to 1895 were 104,804, an average of 13,100 a year, and it averaged about 11 per cent. of all deaths. The annual report of our state board of health for 1896 says: 'Tuberculosis in some form or other accounts for a very large percentage of the deaths in the state, and when it is known that there is at the present time a large amount of meat consumed from tuberculous cattle, and that milk from such cattle enters into the dietary of the people, and that there is danger when the bacillus is ingested, it is believed to be a most potent source of infection, especially in children.' Note the expression, *believed to be,* and if we read from scores of writers on this subject we shall find that when they come to this point they all hide behind just such terms. Where are their facts, and why do they not give us some positive statements, with convincing illustrations of the methods by which they proved to themselves that such was the case? Too long have writers worn the thinking caps of others, too confidingly have they accepted the statements of supposed authorities. There has been too much heredity in ideas and quotations. Practically all the people of the State eat the products of cattle all their lives, and tuberculosis in cattle is well distributed throughout the State. Now, then, if the disease passes readily to man, even laymen should be able to note the fact where large numbers of cattle are infected. But they, and their physicians, and their veterinarians have merely presumed, imagined, believed, supposed, and concluded that such 'might be the case.' One thing is well known, viz., that 13,000 human consumptives give off enough infective material annually to account for all the human tuberculosis in the State without the aid of a single bovine. It is of less interest to physicians whether tuberculosis is transmitted from the human to the bovine; still, if the disease is intercommunicable, as we are assured it is, then it is equally important either way. I have not been able to learn of a case where the disease was established in a cow or a herd from human sputum.

Dr. Cooper Curtice says: "In 1897 I tested two hundred and forty cattle in the vicinity of Saranac Lake, N. Y. Every one there supposed that I would find tuberculosis in herds that fed in the fields where the consumptive patients that resort to this place take their exercise. Not one case was found. Not only this, but the herd of the sanitarium had been previously tested with like results.' If tuberculosis could be transferred to cattle from human beings, it should certainly occur at such a place as Saranac Lake, a sanitarium where thousands of consumptives resort. Thus, while feeding experiments may have been interpreted as showing in some instances that infection from human to bovine were possible, it seems very well established that the infection from man to cattle does not obtain when consumptive people and healthy animals occupy positions toward each other daily which are calculated to offer every opportunity for such transmission. . . . I will presently offer some practical evidence from the everyday lives of people who are constantly exposed to the infection from bovine tuberculosis. I know the cattle, know the percentage of diseased animals in herds, and have been aware of the existence of disease in the herds for from several to eighteen years. I have visited the people, dined with them when there was plenty of bovine bacilli on the table to satisfy any ordinary craving, and I have noted the health of those families, especially that of the children, many of them having all of their lives used the products of herds largely infected, and I have not yet discovered a single case of human consumption therefrom. It is axiomatic that if transmission is common, or even possible, the farms where large numbers of infected cattle are kept are the places where the fact can be best observed; because nowhere else in the world is there so much infective material, nowhere else are the bacilli so potent, nowhere else are people so exposed to the danger, if any exists, and at these places feeding and inhalation experiments, so to speak, are constantly going on; and you will bear in mind that it is the mature cow that is oftenest affected, and it is from her that the largest amounts of milk, butter, etc., are used. A vast amount of work has been done by scientists to demonstrate whether milk from tuberculous cows whose udders were not diseased contained bacilli, and it may be conceded that it does in some cases; they are also present in milk frequently when such milk is obtained from tuberculous udders. Sternberg, in his "Manual of Bacteriology," says: 'A more common mode of infection, especially in children, is probably by way of the intestinal glands from the ingestion of milk from tuberculous cows. That infection may occur by way of the intestine has been proved by experiments upon rabbits, which developed tuberculosis when fed upon tuberculous sputum.' This is the sill in the doorway of investigation, over which many a bright man has fallen. It is assumed that the infant will do exactly that which rabbits and guinea-pigs have done. All the evidence I have thus far collected indicates that it does nothing of the kind. . . . What chances are there in cities for people to obtain infection from cattle, as compared to those just pictured in the country? Even the milk is most infective when freshly drawn from the cow, so far as bovine tuberculosis is concerned; the only way it can be more dangerous to people when served in cities and towns is through its contamination by bacilli from human consumptives. Yet your health laws all aim to protect the citizen; no one has ever suggested a law to protect farmers from infection by bovine tuberculosis. Again, the percentage of deaths from consumption is much higher in cities than in the country or in country towns."

Dr. Moore appends letters from a large number of veterinarians, herd owners and state veterinarian officials, none of whom admit having ever seen any evidence of tuberculosis being the result of using tuberculous milk. In closing he says: "If we have succeeded in purging the bovine of responsibility for human tuberculosis we have severed the relation supposed to exist and which gave origin to the title of this paper. People everywhere will feel relieved. Cattle-owners will vie with the cow-milk drinkers and the beef-eaters in their appreciation of the fact that their minds are now freed from the terrible menace that has heretofore haunted them. The cattle industry will receive new impetus. Physicians will have to educate consumptives to appreciate the necessary precautions they should take, nay, they must take, for the protection of their fellow beings, and healthy people must be made to understand in what ways tuberculous subjects are dangerous to them. The imperative need is for measures for the protection of human from human. Such education will cut down the death-rate more rapidly than medical treatment. The establishment of hospitals and retreats for the treatment and isolation of consumptives is the best step physicians have yet taken for the prevention of the spread of this disease."

In 1896 our able secretary, Dr. E. F. Wells, published a paper in which he proved by statistics, which I have every reason to believe trustworthy, that pulmonary tuberculosis is diminishing in prevalence. In New York, in 1805, there were 5.72 deaths per 1000 from tuberculosis, which ratio had decreased in 1894 to 3.29. In Baltimore, in 1815, the ratio was 4.10; in 1894, decreased to 2.71. In Philadelphia, in 1835, it was 3.52; in 1894, 2.65. In Providence, R. I., in the same year, it was 4.38; in 1894, 2.63. In England and Wales, in 1845, it was 2.77; in 1894, 1.65. In St. Louis, Mo., in 1845, it was 3.60; in 1894, 1.87. In Chicago, in 1845, it was 2.62; in 1894, 1.58.

These figures corroborate the observations of others, that tuberculosis is gradually decreasing in virulence, owing to the improved conditions of living.

Statistics show, on the other hand, that bovine tuberculosis is constantly increasing, and if they are markedly interdependent on each other, they should increase or decrease *pari passu*. The claim does not hold good, however, when we examine the statistics of countries where cattle are not afflicted with tuberculosis to any marked degree. In South Africa, human tuberculosis is extremely prevalent, but a royal commission[5] appointed to examine into the prevalence of bovine tuberculosis has reported that the herds are almost entirely free from the disease. The Gauchos in South America, who subsist almost entirely on beef, are remarkably free from tuberculosis. On the other hand, the Hindoos, who abstain from meats on religious grounds, are being decimated by tuberculous disease. It is the children of the affluent who consume more milk than the poorer children, and yet tabes mesenterica finds its victims largely among the latter class.

A wide review of the literature of the subject leads me to the following conclusions: That we have not sufficient evidence to teach positively the doctrine of the intertransmission of bovine and human tuberculosis by contagion or ingestion of tuberculous flesh, while we must admit there *may* be an element of danger in the use of tuberculous milk. This danger is sufficient to justify us in demanding such laws as will ensure the consumer pure milk, and pure food products, for esthetic if no other reasons. But until the exact degree of danger which attends the use of the milk of tuberculous cows is proven, it is better to teach the public that there are other predisposing and exciting causes of human tuberculosis which, if removed, would tend to eradicate the disease from the human race more rapidly than trying first to eradicate it from the domestic animals. In other words, while we do not attempt to conceal the possibility of the intertransmission of the disease, let this possibility be placed in its proper perspective.

Again, in our fight against tuberculosis, the profession and the public must be a unit. It would be unwise for us to antagonize the masses, as for instance the farmers. That will certainly be the result if we spread broadcast such doctrines as have been almost universally accepted in the past without having been scientifically demonstrated. There is open to us a field of investigation. Let this Society appoint a committee to investigate this question. We have, as members, expert bacteriologists, chemists, sanitarians, pediatrists and internalists, who are competent to grapple with this problem. Let such a committee work in harmony with similar committees from the Illinois Society for the Prevention of Consumption, the Board of Live Stock Commissioners, and the representative farmer associations, and demonstrate, if possible, to scientific exactness, the degree of danger that exists and the best possible ways to avoid the danger without working hardship to the owners of vitiated stock. At the same time, let the work of educating the public as to the best methods of preventing the spread of tuberculosis among man be carried forward. I believe the best method of educating the public is through the media of home sanitaria. The education which patients get at these is spread broadcast when they return to their homes, for example is better than precept. I also believe we should have a state sanitarium where the consumptive poor of the state could receive the proper treatment, modeled perhaps after the Massachusetts State Sanitarium, where they receive treatment for fifty cents a day. There is already a movement in this direction. Last year, at my suggestion, Col. George C. Rankin, a member of the state legislature, introduced a resolution which authorized the State Board of Health to investigate the advisability of establishing a state sanitarium for consumptives, and report thereon to the Governor before Jan. 1, 1900. In accordance with the spirit of this resolution, a committee of the State Board of Health will report in favor of its establishment. Such an institution would do much to head off the free dispensaries for the treatment of consumptives, which tend only to pauperize the public, and are wholly inefficient as institutions for the treatment of tuberculosis. I would ask the members of this Society to co-operate in all the means which may be employed toward the establishing of a state sanitarium.

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DISCUSSION.

DR. J. M. PATTON—If the Doctor intends his remarks to emphasize his disbelief in the possibility of communication, then I would not agree with him, because the evidence of indirect communication, direct as far as conveying infection through the milk or meat is concerned, is too vast to admit of this belief. While there may be considerable doubt as to its extensiveness, it has an extent which well merits careful investigation. The establishing of some kind of an institution under the state or local government is certainly very timely. There is nothing that we are more in need of than some place of this kind, and there is nothing that brings out so forcibly the paucity of our public institutions as does this one thing. The indigent suffer mostly from tuberculosis, and they are the ones who seek these institutions. It is a crying shame for a civilization such as ours, that we should be without them. It is another question as to what form of government they should be under. The results obtained in the public sanitaria of this country, Canada and Europe fully justify the ground which the essayist has taken. The result in the public institution in Glasgow, one which is located in a climate which is decidedly not the best for tuberculosis, and where the average residence of each member is not over three months, and where the majority admitted are advanced cases, shows very forcibly what can be accomplished by an institution of this kind. It teaches the people how to take care of themselves. It is not necessary to have patients resident all the time in a sanitarium, as one of the greatest benefits to be obtained is, when the patient can come for a time only, staying until he is over the dangerous period in his career as a tubercular patient. Another thing is the knowledge which they gain of how to take care of themselves in their daily life. We could do fully as much, and more, toward controlling tuberculosis by institutions of this character, than in any other way. There are no restrictions which could possibly accomplish as much as an institution such as the Doctor has recommended.

DR. H. M. LAMAN—Human tuberculosis is unquestionably, in the vast majority of cases, due to inhalation of infected matter, and the disease usually begins in the root of the lung, in the lymph glands, whence it spreads to other parts of the body. Its commencement in the alimentary canal is very rare. In connection with the subject of cattle tuberculosis, it is well to remember those cases which Dr. Robison has alluded to. Tuberculosis was a very common disease in the Hawaiian Islands fifty years ago. I remember that the natives were very prone to the disease, but the cattle of the islands were not tuberculous. Neither did the natives use the milk nor the flesh of cattle to any great extent. The foreign residents, who used these articles, were not tuberculous. Among all the young people who grew up there, when I was young, I do not remember a single one who was tuberculous, hence I believe that we must accept cautiously some of the statements that tuberculosis in cattle is communicable to man, unless they are both subjected to the same conditions. Statistics show that tuberculosis has been most dangerous among people who live unhygienically, in illy-ventilated, dark houses, and just as soon as you deprive people of a free open life, you increase the occurrence of tuberculosis. The same thing is true of cattle. As long as they live in the open air, they remain healthy; as soon as they are taken captive and made to live in unventilated stables, they become tuberculous. Cattle kept in the open air generally have owners who live in the same manner, and tuberculosis is rarely found in either man or beast under such circumstances.

DR. J. A. ROBISON, closing the discussion—I wish to correct a misapprehension of my views, as I do not believe that my paper conveys the belief that I am a skeptic in this matter. I believe in the possibility of infection from cattle, but I do not believe that the probability is very great. I would prefer not to make up my mind either one way or the other, until the question has been more scientifically demonstrated. The point which I wish to emphasize particularly is that I do not believe we ought to continually place before the public the idea that the great danger, the one increasing the spread of tuberculosis, is tuberculous milk. I believe that it is one of the secondary causes. Until we have absolute proof of the disease being conveyed from cattle to man, let us keep it in the background and out of the papers. The result of this extensive writing is that the public is positively frightened. As Dr. Evans said, there are nine million dollars worth of cattle in this state that are liable to be condemned because they may be tubercular, and if you kill these without remunerating their owners, what is the result. You block the wheels of progress and you have a fight on your hands; an obstacle which is simply overwhelming. Following out the suggestions, which I made in the paper, you might appoint a committee, calling it the Committee on Tuberculosis, whose duty it shall be to investigate this subject as thoroughly as possible, in order to establish whether or not there is a possibility of communication of the disease.

INFLUENZA.*

BY G. E. CRAWFORD, PH.D., M.D.

CEDAR RAPIDS, IOWA.

I have chosen a somewhat commonplace and hackneyed subject, but it is that which we meet most frequently that is of the most importance to us as physicians.

The people have long since ceased to regard influenza as a joke; and the profession is coming to realize that it ranks among the more serious maladies with which we have to deal. The percentage of reported death-rate is small, yet on account of the vast number of cases the aggregate is very large. Besides, a large majority of the deaths directly due to influenza are reported under the names of the so-called complications and sequelæ which are in fact essential parts of the disease. The average death-rate of a community during the prevalence of influenza is always greatly augmented, and frequently doubled. This comes the nearest to the facts in the case, and shows that during certain periods there are as many deaths from influenza as from all other causes together.

During the first four months of this year there were in Cedar Rapids, a town of 27,000 people, ninety-five deaths, according to the board of health's report; and although in only eleven of this number is influenza given as the cause, yet the total number of deaths during these four months when influenza was very prevalent, was [illegible] more than double the deaths during the corresponding period of 1898, when influenza was only prevailing in a slight degree. Besides, during the past winter there was comparatively little sickness in the city other than influenza.

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*Read before the Iowa State Medical Society, at Cedar Rapids May 17, 1899.

Nine years ago last December, when the great pandemic of influenza, or la grippe, swept over this country on its way around the world, the public in general and the lay press in particular jumped at the conclusion that it was a new disease, as they had done before in every previous epidemic. With the exception of the great epizootic of 1872, which affected almost every horse in this country, and a great many people at the same time, the "epizutic," as it was popularly called, only the older members of this generation had witnessed a general epidemic of contagious catarrh. The first half of this century was attended by numerous epidemics of influenza, many of them being world-wide in extent, and after spreading over Europe, invaded this country through the various ports of trade and immigration.

From 1837 to 1851 these epidemics were especially prevalent. Old men who took part in the exciting political campaign of "Tippecanoe and Tyler too," in the fall of 1840, still talk about the "Tyler Grippe," which everybody had at that time.

Influenza is not a new disease. As early as the ninth century widespread epidemics of "catarrhal fever" or "Italian fever" are matters of history. The disease seems to be referred to by Hippocrates. The very name which has been generally adopted in modern medical literature savors of the superstition of the Middle Ages, when the occult "influence" of the stars and other heavenly bodies was believed to have much to do with the affairs of men. On account of the sudden and mysterious prevalence of the disease, it was termed the "influence"—the "influenza"—which is the simple Italian noun for influence.

The earliest epidemic in England of which we have a full and accurate description occurred in 1510. The earliest one recorded in America occurred in 1647. Most or all of the numerous epidemics which have prevailed in Europe in the past three hundred and fifty years have visited this country.

Scores of names more or less suggestive or facetious have been applied to the disease at different times and places. Cullen and the earlier Latin writers called it *catarrhus a contagio*. The Russian term, la grippe—the seizure—has become the most popular name among the people at the present time, and much employed in medical literature of late years. The great epidemic of 1782 affected the people of Vienna so suddenly and so generally that it received the name of "Blitz Katarrh"—lightning catarrh—and the term is still in use among the Germans. The term "contagious catarrh," or "epidemic catarrh," would be the most suggestive and scientific, were it not for the fact that it describes but one type of the disease, which in many cases is almost or entirely absent. So that after all the old term "influenza," handed down from the superstition of the past, as have been so many of our scientific terms, made classic by long usage, should be set apart exclusively to designate this most interesting and polymorphous disease.

Influenza is so variable in its forms that clinical pictures of typical cases of the different forms would appear to have but little in common excepting the initial head-pain, which seems to radiate to all parts of the body. An intelligent description of the disease therefore would have to begin with a consideration of the types and forms.

Various divisions have been suggested, based mainly on the organs affected. To my mind, the most natural and rational division is into the two types of the disease so constantly observed—the catarrhal and neurotic. These types may in turn be subdivided into forms according to the leading symptoms or parts principally affected; besides the various combination of forms, for there is every shade of blending of these contrasting types and various forms.

The catarrhal type of the disease divides itself into the respiratory and the gastro-intestinal or abdominal, according as the disease spends its force on the respiratory or alimentary muscosæ. The neurotic type may be divided into the cerebral, the neuralgic, the cardiac and the rheumatic forms. And a blending of these types and forms produces a common and serious variety, the typhoid form.

The literature of influenza would indicate that in most epidemics the prevailing type has been the catarrhal. But during the last nine years and five months since influenza has been constantly prevailing here, the two types have been pretty evenly divided, with perhaps a preponderance in favor of the neurotic type.

Influenza is usually described as appearing suddenly and, after a prevalence of a few weeks, subsides as rapidly as it came, and entirely disappears. This latter statement is in my judgment not true. The past nine years have certainly been a marked exception. While it is true that the very general prevalence only lasts a few weeks or months, spending its force and then abating, mainly for lack of material to work on, it still lingers in the locality in scattering cases, firing up into a general epidemic again as the external conditions, whatever they may be, favor its propagation and the persons formerly affected lose their immunity. I think the history of influenza will show that it has prevailed in groups of epidemics covering periods of a number of years. From 1837 to 1851 epidemics were in almost constant progress as has been the case from 1889 to the present time, although during the first year and the last year of the period there was a much greater prevalence of the disease. During this period I have had the personal experience of about 4000 cases of influenza; about 1000 during the fall and winter of 1889-90, and something more than that number during the past year, with a gradually diminishing number each year between, until last fall, when the disease became as prevalent as in the winter of 1890.

The idea has been almost universal in the profession that influenza only prevailed in the winter, and entirely subsided when warm weather came. This is true in a measure, as it is of diphtheria. There are certain known and unknown external conditions which favor the spreading of epidemics more at one time than at another. A disease whose point of invasion is the mucous membrane of the respiratory organs would naturally have an advantage when these membranes are irritated and congested by cold, and changeable weather. But influenza is not at all confined to winter weather or cold climates. It prevails alike on the snowy steppes of Siberia, or under the soft blue skies of Italy, along the palm-shaded banks of the Nile, and among the fragrant orange groves of Southern California. While it is true that for the past nine years the disease has been more prevalent in winter, there have been numerous cases during the summer months, many more doubtless than have been recognized. The close resemblance to the milder manifestations of malaria, and the preponderance of the abdominal type of the disease in summer, both tend to obscure the diagnosis. Have you not all experienced a difficulty in determining just when malarial attacks began in the spring, and when la grippe returned in the fall? And those of you who had not thought of influenza prevailing in the summer, do you not recall the fact that last summer you prescribed for an unusual number of "bad colds" and coughs?

Until six years ago the specific cause of influenza was unknown. The numerous descriptions of the disease for the past three centuries agree substantially in the narration of the phenomena and course; and influenza has in all times been regarded as fulfilling all the conditions of a true epidemic. Cullen, writing in the eighteenth century, and who witnessed the great epidemics of 1762 and 1780-82 clearly recognized its contagious character and classed it among the "zymotic" diseases. Notwithstanding the general acceptance of the germ theory of disease for the past fifty years, there still lingered in the profession something of the medieval "influence," if not of some occult power of the stars, some equally unknown telluric or meteoric conditions; and during the epidemic of 1890 various old theories were reiterated, as an excess of moisture, ozone, etc., and little was said or thought about the personal infectious and contagious character of the disease.

Renewed investigation in the light of bacteriology fully confirmed its specific and contagious character. Pfeiffer of Berlin discovered the diplobacillus of influenza in the winter of 1893. His discovery has been verified by numerous investigators since, and is now readily demonstrated by any bacteriologist. The bacilli are found in enormous quantities in the nasal secretions at the beginning of the disease, and later in the bronchial sputum and in the blood, and the greater the number the more serious the case. Post-mortem, they are found in every tissue and fluid of the body, but seem to have an elective preference for nerve tissue. The germ is strictly anaërobic, and in cultures grows readily on blood-agar, or culture media containing hemoglobin, which seems necessary to its development. Primarily a diplobacillus, it changes its form somewhat in successive cultures, first assuming more nearly the form of a true bacillus and later that of streptobacilli. The Pfeiffer bacillus is frequently found associated with other pathogenic germs. The recent very valuable investigations of Dr. Wynekoop of the Chicago Department of Health have shown the influenza bacillus present in cases of diphtheria, scarlet fever, measles and pneumonia; and the clinical behavior of the cases was difficult to understand until microscopic examination revealed the presence of mixed infection. And in cases where mixed infection was discovered in the beginning, the subsequent clinical course of the cases fully coincided with the diagnosis.

Influenza is extremely contagious and infectious. It is communicated by direct contact with a person affected with the disease or by infected fomites, as are measles, whooping-cough and scarlet fever. There is no evidence that the atmosphere is ever a medium of communication further than it conveys the breath or emanations of an affected person. The disease spreads not by the wind, as was formerly supposed, but from person to person; and in our day of rapid transit it may be carried to opposite sides of the continent within a single week.

The beginning of the present group of epidemics, starting out from the region of St. Petersburg, where influenza is always endemic, in September, 1889, reached the confines of civilization before the close of the year. The disease was in full blast in Cedar Rapids before Christmas; and appeared almost simultaneously throughout the United States along the main routes of travel. When we realize that Chicago is only twenty-four hours from New York, and points throughout the Middle West but a few hours' travel from that metropolis, and that a single person may infect a whole train-load of people, and they in turn as many homes and hotels, we can form some idea of the marvelous rapidity with which so contagious a disease can be spread about, simply by immediate presence.

The characteristic clinical picture of influenza is so familiar to all that a detailed description is unnecessary; besides the narrow limits of this paper will only permit a mention of the more contrasting symptoms of this many-sided disease. The length of the incubative stage is difficult to determine, as it is without symptoms, and the time of infection is generally unknown; but it is short, and probably varies from one or two days to a week. When a case enters a family all of the household are usually affected within a week, and often all are sick at once. The disease almost invariably begins with rigors, or a distinct chill, a dry sore throat, and headache which soon becomes excruciating, the pain radiating to every part of the body, with a condition and degree of prostration entirely out of proportion to the general symptoms and duration of the illness.

In the catarrhal type and the bronchial form, coryza and the general train of symptoms of a severe bronchitis rapidly supervene; a hoarse, tight, painful cough, which in many cases is very distressing. The fever is usually quite high, ranging from 103 to 105° F. during the acute stage. The initial headache, present in all forms of the disease, is not generally so severe in the catarrhal as in the neurotic type, the muscle pains and bone-ache causing the most suffering at the onset. There is tumefaction of the cervical glands, and occasionally the swelling at the angles of the jaw simulates mumps. The pharyngitis, always present in some degree, is very severe in some cases, with a tonsillar exudate greatly resembling some cases of diphtheria. Dr. Wynekoop, in his report previously alluded to, mentions cases of this kind which had been clinically diagnosed as diphtheria, in which a bacteriologic examination revealed the presence of Pfeiffer's bacillus; and the subsequent course of the cases confirmed the diagnosis of influenza.

One of the most distressing extensions of the catarrhal process is the invasion of the Eustachian tubes, and inflammation of the middle ear. The most serious of the catarrhal processes are bronchitis and pneumonia. The pneumonia of influenza is a peculiar specific affection, and an essential part of the disease. The bronchitis and bronchopneumonia and the peculiar circumscribed pneumonia of influenza are specific inflammatory processes directly due to the Pfeiffer diplobacillus. Real lobar pneumonia due to the diplococcus pneumoniæ is not a common accompaniment of influenza; and when it does occur is a coincidence and not an essential part of the disease. Circumscribed pneumonia occurs in a very large percentage of catarrhal influenza and is very often overlooked. Most of the physical signs of pneumonia are lacking. The area of solidification is usually deep seated, and inside of and just below the angle of the scapula. Auscultation at that point will detect bronchial breathing. It can seldom be heard in front. When the area is small, resonance is rather augmented, and has something of a tympanitic character. When the area is large, it is attended with the usual physical signs of hepatization.

When the temperature persists in keeping up to 104 or 105 F., in spite of the ordinary measures, for three days, with pain in the chest, and difficulty in breathing, you may be sure you have this circumscribed pneumonia, although repeated physical explorations had failed to reveal it; and you will generally find it hiding behind the shoulder-blade. Both lungs are frequently affected. I know of no lung lesion of the same extent attended with such marked general symptoms. Bronchopneumonia or lobular pneumonia of influenza, where numerous lobules and small areas all through the lungs are blocked, is the most serious condition of catarrhal la grippe, and is very fatal in old people and young children. Convalescence is very slow; the lung may be permanently damaged, and presents a most inviting condition to subsequent tubercular infection.

The cough in many cases of influenza is very hard and spasmodic in character and simulates whooping-cough.

The abdominal form of catarrhal influenza has been unusually prevalent the past year. Added to the primary headache and fever and prostration, there is vomiting, cramping pains in the abdomen, and frequently profuse diarrhea—the general symptoms of cholera morbus. Small children are very likely to have convulsions.

In the contrasting type of influenza, the neurotic, the catarrhal symptoms are very slight or entirely wanting. There is, however, usually a sore throat. The headache is more intense and severe. Mental depression and general prostration are more marked than in the catarrhal, and are especially manifest in that variety classed as the cardiac form. Pain and distressing sense of constriction of the back of the neck is a frequent symptom of the neurotic type of the disease—a feeling as though the base of the brain was in a vise or a veritable giant's grip. This symptom is a very persistent one, and denotes serious damage to the lower centers of the brain or the medulla, often of a lasting or permanent character. I know persons who suffered from this condition nine years ago, whose nervous systems were so permanently damaged that a little overdoing, or too close application, can bring back this pain any day, with its attending languor and prostration.

The cerebral form is comparatively rare, but a very serious variety of influenza. The condition is probably usually toxic, but meningitis, and various inflammatory conditions of the brain, not well understood, are met with. I have recently had two fatal cases occurring in my practice. There is marked mental hebetude, delirium, and even mania, and in children, convulsions. In addition to the encephalopathies, myelitis, neuritis, and various nervous affections may appear. Apoplexy and paralytic strokes are frequent results of influenza in persons predisposed to these conditions. Well-marked cutaneous eruptions simulating the eruptive fevers are not of infreqent occurrence, probably due to the toxic effect on the trophic nerves.

The rheumatic form takes on the symptoms of either myalgia or inflammatory rheumatism, and occurs in persons of a lithemic or rheumatic diathesis. It is an obstinate form of rheumatism and very prone to relapses.

The cardiac form, so-called, is manifested by great prostration, and heart weakness. It may be associated with the rheumatic form as an endocarditis; but it is usually an extreme functional weakness, which does not readily respond to heart tonics. It is probably a toxemia as is the general prostration of influenza. In persons with fatty muscles and atheromatous cardiac vessels it is very serious and often fatal. Few cases of influenza present one single typical form of the disease. There are endless combinations of these various forms, and some severe cases have them all during the progress of the disease.

There is a wide difference of opinion concerning immunity from subsequent attacks. Some go so far as to assert that one attack predisposes to other attacks rather than immunizes. I think this is an extreme view, and has its origin in confounding relapsing and chronic cases with new attacks of the disease. Influenza, like malaria, may remain in the system a long time, with frequent outbreaks and manifestations. A person who is said to have had three or six attacks of influenza within as many months has never recovered from the first attack, and has simply had relapses.

Immunity, while not permanent or of long duration in many cases, probably varies from several months to several years. I believe it is quite unusual for a person who has really recovered from the disease to have another attack in less than a year. Those who do are nearly all chronic or relapsing cases and if careful inquiry is made it will be found they have had manifestations of the disease during the interval. Tilaloff has observed several cases of influenza where there was "continuous slight fever for five months, and in two, intermittent relapses occurring at intervals for several years."

Every case of influenza should be regarded as serious, and the patient should be confined to bed until the fever and active symptoms have completely disappeared. Complete rest and proper treatment at the very beginning is of the utmost importance. The foolish notion so often tried, of "working it off," greatly aggravates the case and often precipitates the most serious forms of the disease.

The treatment of influenza is mainly symptomatic; but there are few diseases where judicious treatment is more important or beneficial. We know of no specific, in a true sense. Quinin has been given largely with that view, but, except in small tonic doses, it is useless and adds greatly to the discomfort of the patient during the acute stage. Quinin and whisky, formerly so much used by the people at the beginning of the attack, is worse than no treatment, and has sent many a case to the doctor which otherwise would have recovered unaided. Some of the coal-tar derivatives give marvelous relief from pain during the onset of influenza; but if not carefully employed will add to the prostration and cardiac weakness. Phenacetin as an analgesic and antipyretic is the best and safest of this class of remedies when large doses are required.

A favorite prescription of mine, which I have used very largely and have prepared in quantities in gelatin-coated pills, is the following: each pill contains

Acetanilid	gr. ii
Caffein	gr. ss
Camphor monobromid	gr. i
Capsicum	gr. ss

One of these, repeated every hour, for two or three times, gives almost complete relief from the suffering in ordinary cases, and produces no depression. When the fever is high and headache severe, a single full dose of phenacetin, followed by these pills as required, has been the most satisfactory palliative treatment I have found, for the large majority of cases.

European writers especially have lauded the curative virtues of salophen. I have tried this remedy repeatedly, but have been invariably disappointed. In the rheumatic form, where it would be expected to do the most good, I have found it in every way inferior to salicylate of soda. Small repeated doses of calomel, carried to mild purgation, are beneficial at the beginning of almost all cases. The main indication for treatment, after the relief of suffering, is supportive, from the beginning, to counteract the extreme prostration which sets in almost immediately with the attack. Tonic doses of quinin, iron and strychnia meet this indication better than anything else in a majority of cases. Another favorite prescription which I use in almost every case in adults is a little "No. 3" capsule containing

Quinin	gr. i
Cinchonidia	gr. i
Pyrophosphate of iron	gr. ii
Strychnia sulph	gr. 1/40

One of these is given four times a day, or every four hours as indicated. Some cases require special nerve and cardiac tonics. A useful prescription in heart weakness is

Tr. strophanthus	gtt. iii
Tr. cactus grandiflorus	gtt. xii

Give three to six times in twenty-four hours. In children, with whom bronchitis is usually the leading feature, muriate of ammonia with ipecac in syrup of tolu is a most valuable remedy. Opiates are not often indicated in influenza, excepting morphia with atropia hypodermically to relieve obstinate neuralgic pains; and Dover's powder in some cases of painful cough. The pharmacopeia is very rich in general and special tonics, and may be drawn upon to meet the requirements of the various conditions, or suit the fancy of the prescriber. Bark, iron, strychnia, arsenic and phosphorus represent about all the virtue of this class of restoratives.

PHYSICAL STANDARDS OF NATIONAL GUARDSMEN.*

BY GEN. J. FRANCIS CALEF, M.D.

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The object of this paper is to elicit discussion and lead up to uniformity of action in all the states. That I may conserve your time, I shall be brief, and beg that my brevity may not be mistaken for dogmatism.

Political history demonstrates that every nation has frequent crises in its affairs when the show of armed force is necessary. Ability to rapidly mobilize a formidable fighting force makes for peace. Industrially and commercially that country is the strongest which can spare the largest per cent. of its men to civil employments. The policy of territorial expansion beyond seas, by whatever form of government adopted, has always required a larger military establishment than would have been required had the same territory been contiguous to the mother land.

This counry must then in its present situation be either equipped with a large standing army or cultivate within its industrial class those qualities of mind and body which best prepare for service under arms. The military surgeon has a duty to perform in enlightening the public as to the exact physical qualifications for service in the regular army, and to point out how the youth may develop themselves so as to make good soldiers if their country calls.

Before discussing the qualifications for service in the National Guard, permit me briefly to call to mind the duties for which applicants must prepare themselves. They represent the moral and physical force on which the governor of the state depends for preservation of law and order, to suppress riots and insurrections and to repel invasion. The dignity and responsibility of such duties need not be dwelt on, but should always be incorporated into the very being of the citizen soldier. Any personal sacrifice he may make is as nothing when compared with the good of the service and the honor of his State. But the real duty of the guardsmen does not stop at the state line when the nation is involved in war. They should be the first in the volunteer service, and whether they go out as regiments or individuals should be left to the U. S. War Department. There the probable scope of the war is better known than elsewhere. If few regiments are required, they may be called out en masse. If many will be needed, separate enlistments are preferred, since skeleton regiments of guardsmen can be filled with raw recruits.

The difference between ordinary national-guard discipline and that of the army on war footing has to be reckoned with in the officering of troops in the field. The better the discipline in any regiment, and the more closely the physique of it conforms to the regular army standard, the more likely is it to be called out with its own officers in case of need. Line officers should remember that care of the health of their commands and reports to headquarters are important elements in determining their efficiency.

It may be conceded that some of the functions of the National Guard may be just as well performed by men not up to the army standard in every particular. For service in street riots, where action must be at close quarters, the high standard of eyesight is not required, and dependence on glasses does not impair a man's usefulness. Here, the same maturity and seasoning is not imperative. The troops are usually quartered in comfortable barracks or camped in very favorable locations, and many of the hardships of field service avoided. The guardsman will probably not see hard service and a very important part of his work will be to develop his physique so he can do the full work of a soldier. The bones, muscles and vital organs have not developed fully enough for the severe work involved in active service before the age of 22 years, but it is acknowledged that younger men more readily acquire the drill and habits of discipline so necessary for the soldier. The recruit should therefore be enlisted at 18 or 19, if sound, and possessed of a physique promising the full army standard at maturity. To that end a careful physical examination should be made and the record preserved. After two or three years of weekly drills, and two or three short seasons of actual work in camp, the guardsmen should be eligible to enlistment in a body of men selected with the greatest care as to mental, moral and physical qualifications, of mature age and with considerable military experience. They should be enlisted and equipped for active service at any time and might be called "minute men" or "veteran guards." Their colonel should be a regular army officer, and they should each year have a tour of duty for at least a month, at some regular army post. For these men the standard of the United States Army in time of peace is none too high.

For the ordinary national guardsman we will consider in what respects the army standard may be departed from without endangering the efficacy of the guards. For many reasons a minimum qualification should be advanced, and all men who can reasonably be expected to develop up to the required standard on devoting themselves to the drills should be accepted. On the other hand, all who would be likely to break down at the first season's test must be rejected. Besides the exact physical condition of the recruit, his family and personal history must be investigated and the diseases from which he has suffered considered. With these favorable, we may, after a careful physical examination and accurate measurement of height, weight and chest description and measurement, predict very accurately what the average youth of 18 will be at 22. Upon this postulate I shall base the following outlines. At 22 he may be expected to be from one to two inches taller in total height. The distance from the center of the symphysis pubis to the upper border of the breast bone (chest fully expanded) is a most important measurement, and one which, taken with the girth at the navel and horizontally at the angle of the scapula at inspiration, forms the basis for a very accurate calculation of the capacity of the space occupied by the organs of circulation, respiration and nutrition. This sterno-pubic measurement has the advantage of but a slight variation between 18 and 22 years of age. The chest at inspiration will average 1 1/3 inches more at the latter age, and the girth of the abdomen will have increased slightly less. The total height may be expected to increase about 1½ inches, mainly by the natural growth and ossification of the epiphyses (chiefly the lower epiphysis of the femur and the upper epiphysis of the tibia and fibula). Since complete union of these epiphyses does not always take place before the age of 25, height may be increased by lengthening of the legs up to that age.

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*Read before the Association of Military Surgeons of the U. S., Kansas City, Mo., Sept. 27, 1899.

The average weight for the American male at the age of 22 will be estimated by allowing two pounds for each inch up to sixty-seven inches, and five pounds for every inch above this. After twenty-three years the same rule holds true except that seven pounds per inch above sixty-seven must be figured. About twenty-five pounds above and below these averages seems to be incompatible with good health and physical vigor; yet when the recruit's weight approaches either of these extremes his physical examination should be made most circumspectly, particularly if the younger man approaches the maximum or the older one the minimum. If the minimum figures are approached without other explanation, analysis of the urine should be made to exclude diabetes, and symptoms of tapeworm should be looked for. In approaching the maxima, the ratio of adipose tissue to muscle should be estimated.

Actuaries of life insurance companies have made a close study of the relations of height to weight in reference to longevity in civil life, and their most approved table is given below.

Height	Minimum Weight	Maximum Weight
63 inches	106	160
64 inches	111	167
65 inches	114	170
66 inches	116	174
67 inches	118	178
68 inches	124	186
69 inches	130	194
70 inches	135	203
71 inches	139	209
72 inches	142	214
73 inches	147	220
74 inches	151	226

In applying these figures to military use, it must be remembered that these are taken in ordinary clothing, and a reduction of about one-eighteenth must be made to allow for the clothes.

THE TREATMENT OF ANEURYSMS BY SUBCUTANEOUS GELATIN INJECTIONS.

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The year 1898 added still another to the many methods that have been advanced to the treatment and cure of aneurysms. To Lancereaux of Paris is due the credit of having introduced this method to the medical profession. The treatment in question consists in the injection of sterilized solutions of gelatin into the subcutaneous tissues.

The method is based on the experimental work of Dastre and Floresco[1], who studied the effect of gelatin solutions on the coagulability of the blood. These observers went only so far as to show that the coagulability of the blood was increased when the gelatin solution was brought into direct contact with it, whether this be the circulating blood of the animal or the blood of the animal after removal. They found that the injection of gelatin solutions into the blood-vessels of dogs and rabbits caused a rapid coagulation of the blood. They employed for their experiments 0.8 gram of gelatin per kilogram body weight of the animal, in 5 per cent. solution, 0.8 per cent. sodium chlorid solution being used as the dissolving medium. The gelatin solution, however, did not possess the power of neutralizing the anticoagulative action of oxalates and other strong salt solutions. A definite antagonism existed between the coagulative effect of the gelatin and the anticoagulative effect of the proteoses and propeptone. The coagulative action of the gelatin was to the anticoagulative action of Witte's peptone as 1 is to 3.

Camus and Gley[2] were able to confirm the observations of Dastre and Floresco. They did not believe that the increased coagulability of the blood was due to any specific action of the gelatin, but rather to the acids which the gelatin contained. By neutralizing the acidity of the gelatin with sodium carbonate, they claimed that it lost its coagulative action, and that this action was increased by increasing its acidity. According to Camus and Gley, the antagonism of gelatin and propeptone is due to the acidity of the former and the alkalinity of the latter. Floresco[3] agreed in part with the explanation of Camus and Gley, but still insisted that the effect of gelatin was not due to the acid it contained, though in large part to a specific action which it possessed.

Although Dastre and Floresco were the first to demonstrate that gelatin increased the coagulability of the blood when brought into direct contact with the latter, Lancereaux was the first to show that the same effect could be obtained by the injection of the gelatin into the peritoneal cavity and subcutaneous tissue. He proposed to use this action of gelatin as a therapeutic agent in the treatment of aneurysms.

Lancereaux[4], in association with Paulesco, first brought this method of treatment before the members of the Academy of Medicine, in Paris, in June, 1897, and subsequently in October, 1898. They[5, 6] reported five cases in which they had adopted the treatment.

Technic of Giving the Injections.—Lancereaux gives the following directions for the making of the gelatin solution and the giving of the injections. The solution is made by dissolving 4-5 grams of white gelatin in 200 c.c. of 0.7 per cent. sodium chlorid solution, and sterilizing thoroughly at 120 C. The flasks are kept for several days at a temperature of 38 C., and any in which the gelatin becomes turbid or fails to harden in the cold are discarded.

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*Presented to the Section on Practice of Medicine, at the Fiftieth Annual Meeting of the American Medical Association, held at Columbus, Ohio, June 6-9, 1899.

For giving the injections he uses a 500 c.c. sterilized flask, with a tight-fitting rubber stopper through which two glass tubes pass. One of the glass tubes extends to the bottom of the flask and is connected by rubber-tubing, with a proper-sized needle. To the other short glass tube a stiff rubber inflating-bulb is attached. In order to purify the air a glass bulb filled with absorbent cotton is interposed between the rubber bulb and the flask. The temperature of the gelatin solution must be 37.6. According to Lancereaux, no pain should be produced by the injections. With proper asepsis and antisepsis there should be no general nor local reaction. After the injection the patient should have absolute rest, and palpation of the aneurysm must be avoided. The injections are made at intervals varying from two to fifteen days. Lancereaux thinks that best results are obtained by giving them every sixth to eighth day. He states that, generally speaking, ten, fifteen or twenty injections are necessary to effect a cure. He advises injecting the gelatin solution into the subcutaneous tissue of the thigh, and never into or in the vicinity of the aneurysmal sac.

Huchard emphasized the importance of aneurysm patients taking the proper sort of diet. An essential point in the treatment is the lessening of the arterial tension. For this reason all sorts of food which tend to produce toxins having a vasoconstrictor action must be avoided. Bouillon, fat soups, meat, fish, particularly sea-fish, and cheese must not form a part of the patients' dietary. Alcohol, tea, coffee and tobacco are also forbidden. A strict milk diet is preferable, but fruits and leguminous foods may also be permitted. Drugs which cause a dilatation of the blood-vessels, such as iodids and nitrites are also useful.

Of Lancereaux's five cases, three were reported as being cured. In these cases the aneurysm was saccular in form. The other two, which terminated fatally, were instances of diffuse dilatation of the arch of the aorta.

In order that the effect of the injections in Lancereaux's cured cases may be better appreciated, I purpose giving a brief summary of the cases and the effect of the treatment.

MALARIA. AORTITIS WITH ANEURYSM OF THE ARCH OF THE AORTA; SUBCUTANEOUS INJECTIONS OF GELATIN. CURE.

CASE 1.—The patient was a man, 50 years of age, with malaria nine years ago; no syphilis nor arteriosclerosis. For three years he had an aneurysm of the ascending aorta; right intercostal neuralgia and angina pectoris for six months; visible pulsating; tumor to right of sternum for one year; second to fourth costal cartilages and the greater part of the sternum eroded; definite systolic expansile pulsation. On auscultation both heart sounds were audible, but no murmurs. The radial pulses were equal. The patient could lie only on the right side; change in position caused cough, huskiness of the voice, and a sense of anxiety and feeling of oppression in the chest. There had been rapid growth of the aneurysm and ecchymoses had occurred in the skin over the aneurysm.

Jan. 20, 1898: Subcutaneous injection of 250 c.c. 5 per cent. gelatin solution. On the following day the aneurysm was firmer. For several days it diminished in size and then became larger and soft.

February 10: A second injection of 150 c.c. 1 per cent. solution of gelatin. The aneurysm again became smaller and firmer. Pain disappeared and angina pectoris ceased. He could change position without discomfort.

From February 10 to May 12, twelve injections were given, with the following result: Marked diminution in size of the tumor and cessation of the pulsation. The patient was able to work. After one year, intercostal neuralgia again returned, and the lower part of the tumor again began to grow and become soft. After two injections these manifestations subsided and the aneurysm became firmer. After the lapse of one month the pain and pulsation again returned, to disappear again after a single injection. The last two pulsations which appeared were not due to a return of the pulsation in the original aneurysm, which remained hard and free from pulsation, but to the development of two new aneurysmal dilatations beneath it.

Although Lancereaux regards this case as having been cured, the result is not so satisfactory as one would desire to have it.

ANEURYSM OF THE ARCH OF THE AORTA. CURE.

CASE 2.—The patient was a man 48 years of age; eight months previously he had suddenly felt something burst in the upper part of the chest, and expectorated a small quantity of blood. Since then he had complained of severe pain and a sense of oppression at the same point whenever he lifted anything heavy. The veins were dilated over the right side of the thorax; pulsation in the second right intercostal space, where a soft systolic murmur was audible. Both carotids and radial pulse equal. On May 20 he was given an injection of 200 c.c. of a 2 per cent. gelatin solution; up to August 1, ten such injections were given, one each week. The systolic murmur, the pulsation, the dilatation of the veins and the subjective symptoms disappeared. Two injections were given subsequently and the patient was discharged cured.

ANEURYSM OF THE RIGHT SUBCLAVIAN ARTERY.

CASE 3.—A coachman, 50 years of age, in July, 1898, suddenly began to experience a creeping sensation in the right arm. During the following days he suffered intense lancinating pain and still later the motor power of the right arm became impaired. He had never had lues. Beneath the right clavicle, to the outer side of the scalenus anticus muscle, a distinct pulsating tumor, the size of a nut, was visible; no pulsation in brachial or radial artery; the right arm felt warm, the last phalanges were thick and the finger-nails deformed.

Jan. 18, 1898: Subcutaneous injection of 200 c.c. of a 2 per cent. gelatin solution. Up to April 9 eleven injections had been given. After the first injection the aneurysm became harder; following the third, two soft murmurs were audible, which were not previously present; the pain disappeared. The patient was permitted to move his arm and the aneurysm again began to soften, pulsate and grow larger. After two subsequent injections the aneurysm became firm and the pulsation disappeared. From May 1 to June 20 the patient received nine injections. On July 5, a weak but definite pulse was felt in the right radial. The radial pulse became subsequently inappreciable, to appear again after two injections were given. The patient left the hospital on August 13, able to work.

As already stated, the other two cases were instances of diffuse dilatation of the aortic arch, and, although they were given several gelatin injections, no improvement resulted and both terminated fatally. One died of years and in the other the aneurysmal dilatation ruptured into the posterior mediastinum.

In all five cases there was no local reaction following the injections; there was no elevation of the temperature and the injections were not painful. In the two fatal cases no serious consequences occurred which could be attributed to the gelatin injections.

That the gelatin injections are not entirely without danger to the patient is suggested by the cases reported by Boinet and Barth.

Boinet's[7] patient, a man aged 33, had an aneurysm of the ascending portion of the aortic arch. Not having improved under the iodids, he was started on the gelatin injections. As a result, fibrin was deposited in the lower part of the aneurysmal sac, leading to compression of the pulmonary artery. This compression, in the opinion of Boinet and Huchard, led to double-sided pulmonary tuberculosis. Three months later evidences of compression of the superior vena cava appeared, and a few days subsequently the patient died. The autopsy showed that the lower part of the sac was coated with a layer of firm coagulum 6 cm. thick. There was a deposition of fibrin in the adjacent portion of the pulmonary artery and the lumen of the artery was markedly narrowed.

In Barth's case, referred to by Huchard, the aneurysm was also situated in the ascending portion of the arch of the aorta. After the sixteenth injection, the temperature became elevated and a large abscess developed at the seat of inoculation. Two months after the treatment had been started the patient suddenly felt suffocated, anxious, weak, and fainted. She remained in a semi-comatose condition until her death. The autopsy showed that the aneurysmal sac was completely filled with a clot easily separable from the sac wall. Firm clots had also extended into all the branches of the aorta, excepting the left subclavian, causing an acute anemia of the brain, and sudden death.

Huchard[8] thinks that these two cases show not only the remarkable coagulative power of the gelatin, but also the danger of the method. For the latter reason and from the fact that in one of his own patients the injections of the 2 per cent. gelatin solution caused intense pain, he recommends the substitution of a 1 per cent. gelatin solution injected at intervals of not less than eight to ten days. Absolute rest on the part of the patient is very essential.

Lancereaux would not agree that Boinet's and Barth's cases died as a result of the effect of the injections. He stated that the coagulation in the aneurysmal sac, in Boinet's case, should diminish rather than increase the compression on the pulmonary artery. In Barth's case he believed that the symptoms preceding death were those of uremia and that the clots in the aortic branches were agonal or post-mortem in formation.

In the opinion of Lancereaux, the subcutaneous injection of gelatin solutions is followed by the absorption of the gelatin into the circulation with the result that the blood coagulates much more easily. With this increased coagulability of the blood, there exists in the aneurysmal sac two conditions which predispose to the coagulation of the blood, viz.: a slowing of the blood-current and an unevenness of the vessel wall. The contraction of the clot thus formed leads to a diminution in the size of the aneurysmal sac, following which there is a disappearance of the compression symptoms. If the clot becomes separated from the sac wall, then the blood forces its way between the sac and the clot, and the aneurysm again begins to grow. In diffuse dilatations of the aortic arch, such as occurred in the fourth and fifth cases of Lancereaux, there is little or no slowing of the blood-current and clot formation does not occur even with the gelatin injections.

Lancereaux's report before the Academy of Medicine, in Paris, of his method of treating aneurysm, created considerable discussion. The main point at issue was whether the gelatin was actually absorbed, and if so, in what manner? The views advanced were very conflicting. Laborde holds that the gelatin solution is not really a true solution but a suspension of the gelatin in very fine particles, as can be demonstrated with the microscope. If absorption takes place it must be of the nature of a diapedesis. He is inclined to support the view that the repeated injections lead to the absorption of large amounts of fluid, which, through a change in the blood-pressure or from some unknown change in the blood itself, influence its coagulability. He thought that possibly apeptinization of the gelatin occurred before absorption. He advises that the gelatin injection should be made into the sac itself, or into its immediate vicinity. Lancereaux insisted that the gelatin was an actual solution and did not think that the amount of fluid absorbed with each injection could have any influence on the blood-pressure. He thought that the injection of gelatin solution direct into the aneurysmal sac would be exceedingly dangerous. He believes that the gelatin is absorbed from the subcutaneous tissue by way of the lymphatics.

Camus and Gley[9] injected gelatin into the peritoneal cavity of rabbits and, contrary to Lancereaux's results, found no increase in the coagulability of the blood. They further held that even two hours after the injection was made, practically the full amount could be recovered from the peritoneal cavity. Lancereaux again repeated and confirmed his experiments and showed that the substance recovered by Camus and Gley was not gelatin solution but a fluid rich in albumin and fibrin. When these are first precipitated it will be found that only a fraction of the original amount of gelatin injected can be recovered.

It will be seen from the above that the results of the experimental work in gelatin injections have been most conflicting. The opinion of one good observer is pitted against that of another. There seems little doubt, however, but that the gelatin injections do cause a distinct increase in the coagulabilities of the blood.

Sorgo[10], who had recently impartially reviewed the literature on the subject, states that there is little doubt that the gelatin injections cause a rapid and sure coagulation of the blood in saccular aneurysms. This is attended by no serious dangers when the patient observes the prescribed rules for dieting and rest.

With the object of giving the gelatin treatment a trial, Dr. Osler commenced its use in a series of aneurysm cases admitted to the medical wards of the Johns Hopkins Hospital. Following Lancereaux's latest directions, we have used 250 c.c. of a 1 per cent. solution of white gelatin in physiologic salt solution at each injection. In the early cases the injections were made every other day, but subsequently they have been given every fifth day. They have been given either into the subcutaneous tissue of the thigh or into that of the abdominal wall. Frequently the injections were much less painful in the latter than in the former situation. Instead of following the technic of Lancereaux, we have used, as a satisfactory substitute a 50 c.c. syringe, five syringefuls being injected, care being taken not to introduce any air. The injections were made under the strictest aseptic precautions. The solution must be introduced slowly, otherwise it will cause considerable pain. It is not absorbed so readily as normal salt solution.

Since October, 1898, the treatment has been commenced on nine aneurysm cases in all. In only the first six of these patients had the injection been given sufficiently long for the treatment to have had a fair trial. In all the cases the blood coagulation time was taken by means of Wright's coagulation tubes immediately before and six hours after each injection was made.

ANEURYSM OF THE ARCH OF THE AORTA.—SIX SUBCUTANEOUS GELATIN INJECTIONS.—SUDDEN DEATH BY RUPTURE OF THE ANEURYSM INTO THE LEFT BRONCHUS.

CASE 1.—J. B., a laborer, aged 27, was admitted to the Johns Hopkins Hospital, for the second time, Oct. 7, 1898, complaining of severe pain over the precordial and scapular regions. Cough, difficult swallowing and huskiness of the voice were prominent subjective symptoms. A distinct saccular aneurysm of the aortic arch projected forward in the first, second and third left interspaces, causing a distinct tumor which possessed an expansile pulsation. There was dulness on percussion in the upper left interscapular region, posteriorly. An interesting physical sign was the presence not only of a palpable but also of a visible tracheal tugging.

From November 2 to November 15, six gelatin injections were given. The majority were attended by intense agonizing pain at the seat of injection, lasting up to and most intense six hours after the injection. Those made into the abdominal wall gave least pain. The blood coagulation time was taken only once in this case, namely, before and four hours after the sixth or last injection, on November 15. The coagulation time before the injection was seven minutes, and after it was only four minutes, showing a reduction of three minutes. At 8 p. m., November 16, the patient died of a severe attack of hemoptysis, about 600 c.c. of blood being expectorated.

The autopsy revealed a general dilatation of the aortic arch with a localized saccular aneurysm at the junction of the transverse and descending portions of the arch. At the point of pressure of the sac on the left bronchus there had been a perforation causing the hemoptysis and sudden death.

ANEURYSM OF DESCENDING THORACIC AORTA; FIFTY-SIX GELATIN INJECTIONS; MARKED DIMINUTION OF THE PAIN; DIMINUTION IN SIZE OF THE ORIGINAL ANEURYSM. PATIENT STILL UNDER TREATMENT.

CASE 2.—U. C., a laborer, aged 42, was admitted to the hospital for the third time, Nov. 5, 1898, complaining of severe pain in the abdomen and back. There was considerable pulsation over the lower left submammary region, and a quite marked pulsation in the lower part of the left interscapular and upper subscapular regions. The patient suffered intense pain in the left submammary region, and usually lay on his face with a pillow pressed against the epigastrium. A diastolic and systolic murmur had been heard over the pulsation in the back, on a previous admission. There was cardiac hypertrophy and considerable extension of the cardiac flatness to the right of the sternum. The first gelatin injection was given on November 9, and was followed by an elevation of the temperature to 100 F. After two other injections, the second and thirty-fourth, the temperature also became elevated, reaching to 101.7 and 100.6 F. respectively. After the thirty-fourth injection there was also a distinct rigor. There was no local reaction.

From Nov. 9, 1898, to May 21, 1899, the patient had received fifty-six injections. There had been almost an immediate diminution in the pain as soon as the injections were started. The pulsation in the front and back had distinctly lessened, but during the last three months either the same or another aneurysm has pushed the heart forward and now has caused a distinct bulging and pulsation in third and fourth right interspaces, between the lateral, sternal and mammillary lines. In the majority of instances there was a diminution of the coagulation time, after the injections. An interesting feature of this case is that for several days during the treatment the coagulation time, both before and after the injections, was markedly delayed, as compared with normal, the average time being about twenty minutes. This was the case at the time of the twenty-third injection on Dec. 30, 1898. On this day the fresh blood was diluted with Hayem's solution, and examined for platelets and none found. On January 5, when the coagulation time had dropped to seven and one-half minutes, the blood contained numerous platelets. These observations seem to suggest a definite relationship between the coagulation time and the number of platelets. Although this patient has gained twenty-five pounds since the treatment was commenced, and although the pain has been much less, we can do no more than state that the original pulsation has diminished and the subjective symptoms have lessened. The number of injections given, fifty-six, was nearly three times the maximum number regarded by Lancereaux as necessary to effect a cure.

ANEURYSM OF THE ABDOMINAL AORTA; TWENTY-ONE GELATIN INJECTIONS; NO APPARENT IMPROVEMENT.

CASE 3.—O. G., a farmer, aged 47, was admitted to the hospital for the third time, on Oct. 23, 1897, complaining of pain in the right side of the abdomen, just below the margin of the ribs, and of pain shooting down into the hips. He also suffered intense pain in the left lumbar region of the back. He was in the hospital for the first time, in October, 1896, with mitral and aortic insufficiency. The pain already described had been complained of for eight months previous to his admission. He was admitted a second time in March, 1897, when an aneurysm of the abdominal aorta was diagnosed. On the third admission there was marked cardiac hypertrophy with mitral and aortic insufficiency. In the epigastrium, slightly to the left of the median line, there was a distinct pulsation of an expansile character. There was no palpable thrill, but a distinct systolic bruit over the pulsation. A definite, visible and palpable pulsation was present in the lower part of the left back. The first gelatin injection was given on Nov. 9, 1898. After the second injection the temperature rose to 101.9 F.; there was no local reaction. Following two subsequent injections there was a distinct rigor with an elevation of temperature to 100.4 and 101.1 F., respectively. Up to Feb. 11, 1899, the date of the last injection, twenty-one injections had been given. Owing to the injections having been painless, and as there had been no material diminution in the size of the aneurysm, the treatment was stopped. The coagulation time was distinctly reduced after nearly every injection. One hour before the first injection the coagulation time was four minutes, forty seconds. Five hours after injection it was reduced to two minutes, five seconds.

DIFFUSE DILATATION OF AORTIC ARCH; THIRTY-FOUR INJECTIONS; NO IMPROVEMENT.

CASE 4.—C. L., colored, a laborer, aged 48, was admitter to the hospital on Oct. 14, 1898, complaining of pain in the lower left side and in the back. He had distinct cardiac hypertrophy. There were no endocardial murmurs. The second aortic sound was ringing and accentuated. There was a distinct diastolic shock over the base of the heart. The manubrium was prominent, and with each cardiac systole there was a distinct heaving over the upper part of the thorax, with definite lifting of the manubrium and both clavicles. There was no thrill nor murmur over the area of pulsation. The first gelatin injection was given onNovember 9, and the last, or thirty-fourth, on March 14, 1899. This patient usually suffered intense pain for several hours after the injections. On several occasions there was considerable elevation of temperature after the treatment. After several of the injections made into the abdominal wall sensitive nodules, the size of a hickory nut, developed. These lasted for six to eight days and then disappeared. None of them suppurated. The patient gained seven pounds under the treatment, but the pulsation was not diminished. The coagulation time was reduced after nearly every injection.

ANEURYSM OF THE ABDOMINAL AORTA; EIGHTEEN GELATIN INJECTIONS UP TO DATE; DIMINUTION IN SIZE OF THE ANEURYSM AND CESSATION OF PAIN: PATIENT STILL UNDER TREATMENT.

Case 5.—W. G., an oysterman, aged 36, was admitted to the hospital on Feb. 9, 1899, complaining of severe pain in the abdomen, which radiated around the whole body. Pain, the first symptom, began nine days before admission. In the left half of the epigastrium there was a distinct visible pulsation. On palpation, a definite tumor, possessing a pulsation, having an expansile character, could be grasped between the hands. There was no thrill, but a harsh systolic murmur was audible over it. The first injection was given on February 13. This and the subsequent one were very painful, and both were followed by rises in temperature to 99.8 and 101.5 F., respectively. After the sixth injection the patient began to suffer much less pain, referable to the aneurysm, and since then has been quite comfortable. Following several of the injections an appreciable diminution in the size of the tumor could be made out several hours later. Up to June 2, eighteen injections had been given. The pain has now disappeared and the aneurysm is distinctly smaller.

Most of the following patients received but one or two injections owing to their being unwilling to remain in the hospital.

ANEURYSM OF TRANSVERSE PORTION OF AORTIC ARCH; SEVERE PAIN IN LEFT INTERSCAPULAR REGION; ONE GELATIN INJECTION; NO IMPROVEMENT.

Case 7.—L. D., a clerk, aged 51, was admitted to the hospital on Dec. 28, 1898, complaining of pain in the left side and back. There was a distinct visible lifting of the manubrium and of the sternal end of the right clavicle. Tracheal tugging was appreciable. There was faint diastolic shock over the pulsation; no thrill; no audible murmur. The patient was given a gelatin injection on December 18. The pain at the seat of injection was so intense that the treatment was not continued. There was no relief of the original pain complained of.

ANEURYSM OF ASCENDING PORTION OF AORTIC ARCH; SEVEN GELATIN INJECTIONS FOLLOWED BY TEMPORARY IMPROVEMENT AND THEN A RELAPSE OF SYMPTOMS.

Case 6.—J. T., a sea-captain, aged 51, was admitted to the hospital on April 24, 1899. There was a marked bulging of the manubrium area of the first and second left interspaces and second rib. He had had pain, cough, dyspnea, difficulty in swallowing, and dysphagia. The first gelatin injection was given on April 27. This was followed by a chill and an elevation of the temperature to 103 F. The subjective symptoms were relieved after the first three or four injections, but subsequently the pain returned, and when the patient left the hospital the aneurysm had increased in size. The coagulation time was reduced after the injections.

ANEURYSM OF TRANSVERSE PORTION OF THORACIC AORTA; TWO GELATIN INJECTIONS; RELIEF TO SUBJECTIVE SYMPTOMS.

Case 8.—J. N., a laborer, aged 51, was admitted to the hospital on May 13, 1898. There was an aneurysm of the transverse portion of the aortic arch causing slight lifting of the manubrium and marked subjective symptoms of dyspnea, cough, pain, huskiness of the voice and dysphagia. Two injections were given, the second followed by a chill and an elevation of the temperature to 103 F. After the injections the subjective symptoms were much relieved. The patient refused to remain in the hospital and was discharged.

ANEURYSM OF TRANSVERSE PORTION OF AORTIC ARCH; ONE INJECTION; SLIGHT IMPROVEMENT OF SUBJECTIVE SYMPTOMS.

Case 9.—J. C., a sailor, aged 39, was admitted to the hospital on May 18, 1899. There were no physical signs of an aneurysm, excepting slight dulness over the manubrium and appreciable tracheal tugging. As subjective symptoms there were dyspnea, cough, pain and huskiness of the voice. He received one gelatin injection, after which the subjective symptoms were appreciably less. Not being able to remain longer in the hospital he was discharged.

The following conclusions may be drawn from our experience with the gelatin treatment in these nine cases:

1. In not a single instance has the aneurysm been cured, although in one case (No. 5) the abdominal aneurysm has diminished considerably in size and the case is still under treatment.

2. In seven of the nine cases there was an appreciable diminution in the subjective symptoms referable to the pressure of the aneurysm.

3. It seems quite certain that the subcutaneous injection of gelatin solution does materially increase the coagulability of the blood.

4. Contrary to the statement of Lancereaux, we have found that the gelatin injections are frequently very painful to the patient, the pain lasting and being most intense often as late as six hours after the injection.

5. Although Lancereaux states that with strict antiseptic and aseptic precautions there should be no elevation of temperature, we have found the contrary. In several instances the injections were followed, two to four hours later, by a distinct chill, with an elevation of temperature reaching at times as high as 103 F. In no case did we have any local suppuration, and in only one case (No. 1) was there even any local reaction.

6. Notwithstanding the fact that we have not yet a case which can be reported as cured, I am convinced that there is some merit in the treatment, and that it deserves a further trial.

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CONTAGION IN LEPROSY AS OBSERVED IN SAN FRANCISCO.*

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There are quite a number of lepers in San Francisco, many more than the eighteen or nineteen who are at present in the pest-house. The important question, however, before the city itself and before the United States is whether San Francisco and the Pacific Coast is merely a temporary abiding place for a few lepers who have come to it by accident, or whether this part of the United States is really becoming a leper focus where the disease may be contracted.

The difference between these two conditions is very great. London, Paris and Berlin, for instance, have always a number of lepers who have come to them either as returned officials or merchants who have acquired their disease in a leper country, such as Tonquin or India, or as patients seeking medical advice, but it is not considered that any of these cities constitute leper centers where leprosy is contracted[1], whereas Iceland, the Hawaiian Islands, the Province of Kwang Tung in China, for example, are undoubted leper centers where the disease is contracted not alone by the natives themselves but by immigrant strangers. To which class does San Francisco belong?

By San Francisco is meant the whole Pacific Coast, as the city is only mentioned because it is the point of view of the writer, and besides, being the largest port on the coast, it is the locality where the largest number of lepers is found. If San Francisco and the Pacific Coast constitute a district where leprosy may be contracted, the condition becomes infinitely graver than if the leprosy was altogether imported. It would appear from some of my observations that leprosy may be contracted on this coast.

In April, 1892, I published the case of an American, who died of tubercular leprosy in the San Francisco pest-house, and who, as nearly as I could find, had acquired his disease from the Chinese either in Nevada or California. This man was born in Massachusetts, and had never been out of the United States, except for a few hours in passing from Buffalo, N. Y., to Detroit, Mich., on a railroad. He had cohabited a great deal with Chinese, and at one time had had charge of a gang of Chinamen on the Central Pacific Railway, in Nevada. He died Feb. 29, 1892. He had noticed the first symptoms of his disease as areas of brown discoloration on the body and limbs about seven years before. His case has, up to the present, remained unique in my experience as being a native-born American whose malady was evidently contracted west of the Rocky Mountains. I have, however, run across several alien-born patients who, on account of their long residence in the United States before showing symptoms of their disease, might therefore be suspected of having acquired their leprosy here. A notable instance of this was a man named Samie Maiken, a Hindu, and a leper of the anesthetic type, who died in the San Francisco pest-house July 9, 1895, at 69 years of age. He had lived in San Francisco for about ten years when he went to Virginia City, Nev., where he first noticed his hands were affected. He, like the before mentioned American, had consorted much with the Chinese, working with them as a laundryman. He had also cohabited much with Chinese prostitutes.

As far as the Chinese themselves are concerned, I have only found five who were long enough in America before the development of symptoms to allow one to infer that possibly they had acquired their disease in this country. One of these was a prostitute, 29 years of age, who came from the village of Sun Ning in the See Yup district of the Province of Kwang Tung. She told a rather romantic story of how, in a raid of the Hak Kah, she had been stolen at 15 years of age, and sold into slavery and brought to San Francisco, where she remained for six months. She was afterward sent to Salt Lake City, Utah, where, after a time, she bought herself free. She arrived in America in 1877, and it was not until 1888 that she first noticed the disease, which appeared as a small tubercle on the nose. She is still alive, a horrible picture of tubercular leprosy, in the San Francisco pest-house.

A Chinaman, named Chung Kan Foke, a native of the Province of Kwang Tung, came to San Francisco in 1876, where he remained for eight years. He then went to Nevada and worked in a silver mine, and it was in that state, in 1892, sixteen years after leaving China, that he first noticed tumefactions in the face, the first symptom of leprosy. When I examined him in February, 1894, he was suffering from tuberculo-anesthetic leprosy.

Another Chinaman, named Ah Lung, from the village of Sang Chow, in the district of Sun Ning, Province of Kwang Tung, by occupation a waiter, came to America in 1882, and it was not until 1895, thirteen years after he arrived, that he first noticed discolored patches in his face, the first symptoms of his disease. When I first saw him, in March, 1897, he was suffering from leprous infiltrations and neural lesions.

Leong O You was a leper of the anesthetic type, 45 years of age, who, when first seen in December, 1897, said that he had first noticed the disease, which at first affected his hand, in March of the same year. He had come to America twenty-eight years before.

Quan Chew, a cook, aged 44 years, and a native of the village of Clack How, in the district of Hoy Ping, Kwang Tung, had come to America twenty-five years before, at 19 years of age. He was a leper of the anesthetic type, with commencing leprous infiltration in the region of the left eyebrow. He had noticed the first symptom of the disease as a pain in the left knee-joint, extending down the front of the leg. This pain had come on after he had been in America nineteen years.

In drawing inferences from the foregoing aliens, consideration must be given to the long latency of leprosy. According to Hallopeau, even thirty-two years may elapse between contracting the disease and its first manifestations[2]. Such very long latencies must surely be exceptional, however

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*Presented to the Section on Cutaneous Medicine and Surgery, at the Fiftieth Annual Meeting of the American Medical Association, held at Columbus, Ohio, June 6-9, 1899

[1] Hallopeau: Annales de Dermatologie et de Syph., vol. viii, p. [illegible].

[2] Hallopeau: Ibid, p. [illegible].

A. von Bergmann has recently made some statements in regard to the increase of leprosy in Riga, and these are illustrative of what may be happening on the Pacific Coast. Riga, a city of 250,000 inhabitants, is the most active trade center of the Russian Baltic provinces. Von Bergmann says that undoubtedly in the Middle Ages there was leprosy in the city, but in the course of time it died out, and the last leper hospital was closed two hundred years ago, and Riga was for years as free of this scourge as either Berlin or Vienna. The very knowledge of it had vanished, and the writer says that when the older practicing physicians are now shown a case of leprosy they claim never to have seen anything before resembling it. The registers of the hospital show, however, that since the beginning of the sixties, two or three patients a year have been admitted as lepers, but they were mostly from outlying districts. Between 1870 and 1880, however, inhabitants of Riga were registered as lepers, and after this the number increased rapidly, for in the years 1881 to 1886, twenty-seven patients were admitted, and from 1887 to 1890, sixty-four. According to von Bergmann, the facts seem to be that Riga was free of leprosy with the exception of a few patients who came in from outlying towns, and that these patients failed to spread the disease in the city because conditions were not favorable to its propagation. These conditions we do not know; we do not know why certain contagious diseases spread with amazing rapidity in some years or in a series of years, then subside or die out altogether.

This is the very point of the present paper, for the region west of the Rocky Mountains seems not alone to be the recipient of a large number of lepers from outlying leper countries, but the disease appears to be capable of propagating itself in this country. The number of incoming lepers to the Pacific Coast from foreign countries must necessarily grow larger, with our increasing territory and increasing trade, but no statesman would ever think of curtailing trade or failing to annex territory for fear of the spread of such a mildly contagious disease as leprosy. The remedy must be in the segregation or deportation of those lepers we have, and the more stringent examination of immigrants from leper countries.

(For Discussion see Page 211.)

SOME QUESTIONS RELATIVE TO THE DIAGNOSIS OF ANESTHETIC LEPROSY.*

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In 1895 I presented to the Ohio State Medical Society[1] two sisters, natives of Ohio, who manifested appearances of anesthetic leprosy.

In reporting the cases I maintained the view that the symptoms they presented accorded with the descriptions of leprosy that I had read, and would not harmonize with the phenomena of any other disease. Although this view of the cases has been called into question, nothing in opposition to it has thus far been advanced which satisfactorily convinces that it is erroneous. It is with the belief that you will aid in finding where in the list of diseases these cases properly belong that I review them here.

The mother states that in the one daughter, Hannah, the first indication of disease was a swelling in the front of each leg, which occurred in childhood, a short time, perhaps a few months, after she began to walk. The swellings suppurated and healed. In two or three years after this time the toes began to ulcerate and come off. Afterward the ends of the fingers ulcerated, exposing the bones, which were painless, and when slow in separating were clipped with shears. From this condition the disease progressed until the cases were reported in 1895. She was then 18 years of age. She had lost toes, some entire and others in part only. She had lost the distal phalanges from most of her fingers, and the left hand was spontaneously amputated. The legs were thickened and anesthetic—thermal anesthesia being especially marked. She had a deep plantar ulcer on which she walked without any pain. The discharge from any ulcerations she had was quite offensive. There was a pemphigus-like blister on the right arm, just above the olecranon, the seat of which was devoid of sensibility. The forearms and hand were also anesthetic. The tongue, the left side of the lower lip, and both wings of the nose had been ulcerated but were healed. This was her condition in 1895. The only time I saw her since then was in July, 1896, by which time she had suffered some further phalangeal losses. She died in April of this year, I think of pneumonia. Her younger sister, Hattie, has shown the disease for about seven years. Some of her toes are entirely gone and the ends of some of her fingers are lost. There is an ulcer in the plantar surface, at the middle of the heel. It is indolent and rather dry, so one can see into it. It would admit a lead pencil for nearly an inch. The mother states that it came a number of weeks ago, from stepping on a nail. The foot is also swollen and inflamed, from the formation of an abscess which has opened in the top of the foot, an inch from the base of the second toes. A horse stepping on the foot is given as the cause of this. Notwithstanding the painful-looking condition of the foot, she walks with but little inconvenience. There is thermal anesthesia over the outer malleoli and for a little way above. In the hands she can not differentiate between heat and cold. There is some thickening of the left ulnar nerve.

There were eight children in the family and the only ones thus affected are Hannah, the fourth child, and Hattie, the youngest. The father was a soldier in Georgia, during the Civil War. As opposed to the diagnosis of leprosy in these cases it has been suggested that fifteen months is an exceptionally early age for its development. This is no doubt true, although the incubation period for leprosy is given wide range and is stated to vary from only a few months to many years. While the mother says that abscesses developed in the child's legs a few months after she began to walk, she also says the toes did not begin to ulcerate until two or three years after that time. It does not seem improbable that the abscesses may have had nothing to do with her present disease and therefore did not mark its beginning. It seems true also that the mother's recollection of dates and the sequence of events is not unquestionably clear, and it is not improbable that she may be mistaken. The fact that on examination no lepra bacilla were found in the amputated hand can not militate as has been said, against the diagnosis of anesthetic leprosy, because in this form of the disease their presence can but exceptionally be demonstrated. Dr. Albert S. Ashmead has published (JOURNAL, Nov. 16, 1896) a letter writtten to me concerning these cases, in which he said: "I do not consider them lepers. Colles' law, I think, proves them to be syphilitic. Certainly if they were lepers, the mother would have been infected too."

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*Presented to the Section on Cutaneous Medicine and Surgery, at the Fiftieth Annual Meeting of the American Medical Association, held at Columbus, Ohio, June 6-9, 1899.

[1] See Journal, [illegible] 1895.

These statements, though made by so distinguished an authority, fail to convince me, for I can not understand how any use can be made of Colles' law in determining the character of these cases. If I correctly interpret what I read concerning leprosy, it is not an inherited disease, but is contagious or communicable—always the result of contaminating contact. If this be true, as the facts adduced seem to prove, Colles' law can not be invoked to our help. It can not be maintained that if a mother's children are sick and she remains apparently well, they therefore must be sick with syphilis. The statement that "if they were lepers the mother would have been infected too" is surely in contradiction to the prevalent opinion based on the study of leprosy in this country. Even in countries where the disease flourishes and the conditions for its spread seem most favorable, this statement would appear to be wholly unwarranted by the facts. Syphilis with all its protean manifestations has, so far as I am able to learn, failed to produce cases to which these conform. Syringomyelia has not, heretofore at least, furnished such examples, especially as regards the order of development.

It must be admitted that the circumstances under which the cases developed are unusual, and this may be the greatest cause for doubting that they are of leprous character. If these girls had lived in a leper country or had been associated with known lepers, there would probably be little doubt that they nicely illustrated the disease.

The father had a chronic affection of the nose, and I can base the origin of the cases on no better theory than that he brought the disease from the South. But as the bacillus of leprosy is long-lived it may possibly be transported great distances to some one susceptible to its influence.

DISCUSSION ON PAPERS OF DRS. MONTGOMERY AND M'DOUGAL.

DR. BISHOP, New York City.—The general practitioner is very much interested in leprosy, always, and when he gets hold of a case he generally shows it around. Last winter I borrowed some cases from Dr. Fox and showed them at the session of the general academy, and they excited much interest. General practitioners, myself included, do not know these conditions until they are brought before them. I think many of these cases abound and many people might be saved from infection if these patients were more generally recognized.

DR. A. W. BRAYTON, Indianapolis, Ind.—Concerning the point made by the last speaker, I never saw but one case which it occurred to me might be construed by the general physician as leprosy, but really was not. It was a case of lupus mutilans, infantile lupus, in which the fingers were almost destroyed. I was showing the case to Dr. Corlett of Cleveland, Ohio, and he remarked that of all the cases of lupus resembling leprosy this was one which he could most willingly forgive the ordinary practicing physician for pronouncing leprosy. There were large shiny patches where the lupus had spread over the skin, which were not found in anesthetic leprosy. I think the destruction of the hair follicles never occurs in leprosy.

DR. A. E. CARRIER, Detroit, Mich.—What is the nationality of the parents?

DR. J. G. MCDOUGAL.—The grandparents and parents were natives of Ohio. They could not tell me further than that. Their people, however, are generally healthy and reach old age.

DR. A. E. CARRIER.—Was there anything peculiar about the mouths of the children?

DR. J. G. MCDOUGAL.—Not anything characteristic of syphilis; although there had been some ulceration of the lip and tongue and some loss of lower jaw in the older girl, which had healed at the time I first saw her. There were six children besides these two, and none of them showed any evidence of syphilis. The husband never underwent any antisyphilitic treatment: and there had been no miscarriages.

DR. A. E. CARRIER—Are these two children that followed?

DR. J. G. MCDOUGAL—No; the older one is the fourth in a family of eight, and the other is the youngest. Between them were three healthy children.

DR. R. R. CAMPBELL, Chicago.—What did your treatment consist of?

DR. J. G. MCDOUGAL—I never gave them any treatment. They were never patients of mine.

DR. BISHOP—I can say that I saw these patients a few years ago, and I would not like to rule out syringomyelia. I had a case where the fingers and toes were more or less lost. The patient was a scrub-woman who had burned herself at various times and for that reason had lost the fingers. She had the anesthesia in the heat sense. These may be cases of myelia.

DR. J. G. MCDOUGAL—I would like to inquire of the Doctor whether it is true, as stated by writers on the subject, that syringomyelia affects the upper extremities only; or at least that it always *begins* in the upper extremities.

DR. BISHOP—I think that it is such a rare disease there could not be any rules laid down.

DR. L. DUNCAN BULKLEY, New York City—I will first speak about the sporadic cases of leprosy which we undoubtedly have in this country. Thirty-odd years ago a patient came from the neighborhood of Poughkeepsie, N.Y., before the Dermatological Society, when it was first founded. Dr. Boeck of Norway, who was there, confirmed the diagnosis of leprosy. The patient had never been from the vicinity of New York; had never been in a leprous country, and lived at home with his family. He was under my father's care, and finally died a leper, without communicating it to his family or to others. Shortly afterward I had another patient who had never been away from the neighboring territory. He came, I think from New Brunswick, N. J. The case came before one of the medical societies and was recognized as leprosy. It was largely anesthetic, and not of the mutilating form. There was some clubbing of the fingers and large tubercular lesions, of the anesthetic form, over the entire body. He lived with his family, and there were certainly no cases ever communicated from that one.

While I was house physician in the New York Hospital, thirty years ago, there was a leper there who had entirely lost his fingers, to the metacarpal bones, and his face was frightfully disfigured. He would talk by pushing up his upper lip. While there he was transferred to the surgical side and had one foot amputated without an anesthetic of any kind. He was very much interested in seeing that a perfect job was made of it, but they made no better job than nature had made with the fingers. There was no pain whatever. There were no precautions taken against infection, and this was long before the days of antiseptic surgery. That was thirty years ago and there has been no case of leprosy developed in New York City since that time, that I know of, and I have kept watch—there have certainly been no cases developed from these. The patient certainly did not give it to others in the hospital, and he was there for six months or a year. That tells the story with regard to the danger of infection from leprosy in this country. One evening, some years ago, there were thirteen cases of leprosy exhibited at a meeting of one of the New York societies. The New York Skin and Cancer Hospital is hardly ever without one or two lepers in its wards. We now have two, one with anesthetic patches on the back and sides, gotten from the tropics, and the other an old man with tubercular leprosy. He has improved vastly, having been with us more than a year.

A MEMBER—What is the treatment?

DR. BULKLEY—Chaulmoogra oil and quinin.

MEMBER—Any local antisepsis?

DR. BULKLEY—No, no local antisepsis, and no precautions taken. Some years ago, at Fordham, we had a leper, a young man of considerable wealth and position. He had a private room, became totally blind and lost one or two fingers. It was the mutilating, anesthetic and tubercular form. He was with us six months or a year. Finally his nurse went away with him, suddenly, and lived with him, and he lived a year or so. There have been no cases from that one. I do not suppose there has been any time during a period of twenty or thirty years, that I have not seen some cases of leprosy. At San Francisco I saw a dozen cases, in many different forms. In this section of the country particularly, there is absolutely no transmission of the disease from one person to another.

I do not know how many are acquainted with the facts of the existence of Norwegian leprosy in northern Minnesota. For many years many leprous Norwegians have gone there. About ten years ago somebody came over from Norway and traced up the names and histories of some dozens of them; he went and saw them at the different towns. His statement then was that there had been no new cases developed there; also that the children did not have leprosy—the lepers were dying out and they were preventing more from coming, and there were fewer there than were to be expected from the importation. It has not spread in Minnesota.

This condition does not seem to be true about the South, if we can believe Dr. Dyer. Cases now and again develop sporadically in Louisiana. On the other hand Dr. Elliott, of New York, my assistant at the New York Skin Hospital, formerly at the New Orleans Hospital, claims that they always had cases of leprosy in the General Hospital in New Orleans twenty years ago, and they never regarded them as contagious; they had no fear of them. I think that in the warmer climates there is some danger of leprosy extending. The disposition of the problem should not be in their segregation; but we should not let them land here. They are no more use than blind, lame, halt, imbecile, or crazy persons.

With regard to these very interesting cases, I can not make up my mind that they are leprosy. As I said, I have seen a good many cases of mutilating anesthetic leprosy. Nor from my experience could I say it is syringomyelia. I do not know that I have ever seen more than one case of the latter, and I do not think we have enough literature on the subject to say that it is confined to the upper extremities. As I understand, these patients had no eruption except on the front of the leg and on the side of the face, which would afterward slough off. I should exclude that as a leper lesion. I do not know that under any conditions, when once developed, the lesions leave entirely. They get smaller and larger but they are there to stay.

I do not think one could, by any imagination, connect syphilis in any of its forms with these cases. I would like to inquire how much difference there is in the ages of the two patients?

DR. MCDOUGAL—About ten years; one is the fourth, the other the youngest child. There are three between.

DR. BULKLEY—That would exclude the probability of hereditary syphilis—to have three well children between them, and develop in this youngest child.

There is an interesting point which perhaps counts somewhat against my exclusion of leprosy in these cases, and when this diagnosis was suggested I could not help thinking of some recent developments in regard to the modes of communication of leprosy. The idea that it is taken in through the nasal passages, as consumption is, is gaining. It is believed that 90 per cent. of tubercle bacilli which get into the lungs are inhaled. In the same way it is claimed that the effluvium carrying the leprosy bacilli is carried in the winds and finds entrance through the nasal passages.

In leprosy countries all the doctors say that it begins with a bad cold. The patient will say, "I had a bad cold and ever since I have had this disease." The bacillus of leprosy is well known: the bacillus lepræ very much resembles the tuberculosis bacillus, and it is a question whether most men could tell the difference. It takes the same stain as the tuberculosis bacillus. I have examined specimens from every portion of the body.

So, I say that this is an argument against my own diagnosis of the cases; there is a possibility of the father having had mild leprosy, and these two children may have gotten the infection by inhalation. That is within the bounds of possibility. The cases are certainly extremely interesting, and I am glad to have seen the picture.

DR. A. E. CARRIER, Detroit, Mich.—As far as the difference in the ages of the children is concerned, and the fact of healthy children being born between them militating against the cases being syphilis, I think there are cases where syphilitics have healthy children, exceptional cases; but I am not making any claim for these being cases of syphilis. As an illustration, I have a patient who is suffering with syphilis. She has been treated for lupus for three years. In my examination I found that she was nursing a child ten months old, and so far it has not given any evidence of the disease. Under syphilitic treatment, her face, which was completely covered with the lesion, has entirely healed. While she gives no history of a primary lesion, I have no doubt, from the result of the treatment, that she was suffering from syphilis. It is not too late for the child to show signs of the disease, and while absence of it in the child might be one reason for the exclusion of syphilis in the mother, it is not a positive reason. I am sure I can not tell what the disease is.

DR. A. W. BRAYTON, Indianapolis, Ind.—I will ask the Doctor whether there is not a strong possibility of this being Raynaud's disease. This should be kept in mind.

DR. MCDOUGAL—My understanding of Raynaud's disease is that the anesthesia is confined to spots which become afterward necrosed—to spots about to become gangrenous.

DR. R. R. CAMPBELL—I will ask you for an explanation of the different degrees of coloration in the legs?

DR. MCDOUGAL—This eruption did not appear until 1895. It was of a dark brownish color, eruptive spots not raised, thickly set, giving the skin a dappled appearance, as shown in the photographs. These cases have been more fully reported in THE JOURNAL of Nov. 2, 1895. I am not so thoroughly convinced that they are cases of leprosy, but I think that leprosy has not been satisfactorily excluded. The only objections heretofore made to the diagnosis of leprosy are the ones to which I referred in my paper. The theory of syphilis has been the most strongly urged as an explanation of the condition, but it seems improbable. The manifestations of syphilis have been observed for centuries, and yet these cases would be unique. Besides, in a family of eight children born in close succession, the fourth and the last are the only ones manifesting any constitutional taint. Dr. William Thomas Corlett, of Cleveland, Ohio, recently saw with me the girl yet living, and I am sorry he is not here to express his opinion concerning this case. I hope he will pardon me for stating that he was impressed with the notion that it was leprosy; although he did not then feel justified in making an unqualified diagnosis. He may yet favor us with the advantage of his maturer judgment. He made some negatives of the hands and feet. The feet have become quite badly mutilated by the loss of toes. I hope the character of these cases may yet be positively ascertained, and, if it is, I hope it may be found to be some other disease than leprosy, for it would seem a menacing disclosure to learn that the bacillus of leprosy can be carried from a distant place to a fertile soil in the interior of the United States.

Marange calls attention to the fact (*Sem. Méd.*, December 6) that granular pharyngitis is only a manifestation of arthritism and treatment should be directed to the latter to attain a permanent cure.

PROBABLE BRAIN TUMOR WITH RECOVERY.*

BY W. A. JONES, M.D.

MINNEAPOLIS, MINN.

The case which I have the honor to present belongs to that interesting category where complete recovery of the patient leaves the question of diagnosis forever in doubt. The patient, P. Q., a male of 16 years, was referred to me by my friend, Dr. J. H. Dunn, of Minneapolis, Sept. 18, 1897. He had been taken ill four days before, with what appeared to be an ordinary attack of indigestion accompanied by severe headache, but his symptoms had grown steadily worse and at that time pointed to the presence of a cerebral lesion.

Inquiry into the family history shows it markedly neurotic. The patient's father, always a very active business man, a continuous worker, very excitable, is occasionally subject to short, but violent outbursts of anger; otherwise he is well and has never suffered from any prolonged constitutional disease. His father died in early life, from the result of an accident. His grandmother died before the age of 30 of consumption, and an uncle also died of the same disease. Two of his aunts are living and well. The patient's mother is unstable, irritable and excitable and suffers from a valvular heart lesion as well as from chronic eczema, yet claims that she enjoys good health. Her father died hemiplegic, at 65, her mother at 76, of acute bronchitis. A brother died from some form of paralysis, and a sister of eclampsia at childbirth. The patient is the second of four children, all of whom, except the older sister, have large heads, asymmetric in shape, but evidently not rachitic. They are also anemic and of the spindle type. The entire family are apparently slightly defective and probably suffer from the so-called scrofulous diathesis or, perhaps, better stated, all are highly neurotic.

The patient has always been wilful, quick-tempered, and irregular in his habits, working at times with physical vigor and enthusiasm, in his studies occasionally inclined to overdo, and at other times being indifferent and unsettled. During the summer of 1897, he spent a few weeks in the Yellowstone Park, with a camping expedition, and was subjected to hardship and exposure. He returned very much reduced in weight, showed marked signs of impoverishment of nutrition and was extremely irritable. During the same summer he attempted to make up preparatory work for the university, and applied himself very closely to his studies, while at the same time he rode his bicycle to excess. He complained occasionally of dull headaches, which were supposed to be due to errors of diet and exercise, as they disappeared in a few days after rest and care.

On Sept. 14, 1897, without any special cause, except a difficulty of digestion, he complained of intense headache, was nauseated and vomited. During the day he had several attacks, but on the following day was very much better. The third day, however, his headaches returned with increasing severity, accompanied by nausea and frequent projectile vomiting. He then complained of a pain over the frontal region, more particularly over the right eye. I saw him for the first time on September 18. He complained of constant boring, intense pain over the right orbit, was intolerant of light, intensely irritable and still nauseated. His pulse was 48 and his temperature subnormal, 97. He had pain on percussion over the right orbital region; he had been put through the usual course of cathartics and intestinal antiseptics without benefit, but was relieved of his pain by a small hypodermic of morphin.

The following day found him no better. He cried out in paroxysms of pain, demanding firm pressure over the right eye, complained of vertigo on movement of the head, and also exhibited violent temper and great profanity. The pulse continued slow and his temperature remained subnormal. During the following week there were no marked changes until the tenth day of his illness; he then showed a paresis of the internal rectus of the right eye, while the pupil was slightly enlarged and did not respond promptly to light. The left pupil remained unaffected. He was at times ungovernable, cursing and swearing and showing frequent outbursts of temper, particularly toward the nurse and his father. He was rather slow to respond to questions, the pulse became irregular but continued slow, ranging from 42 to 52, and the temperature continued subnormal. He had occasional attacks of nausea and vomiting, projectile in type, and containing partly digested food. The pain was relieved by occasional small doses of morphia, not more than a quarter of a grain, however. He continued in this condition for about ten days longer, when there appeared a paralysis of the external rectus of the left eye and a mild hemiparesis of the left side of the body, including face, leg and arm, with increased knee-jerks and ankle-clonus on the same side. There was also a partial anesthesia of the right face above and a little below the orbit, but not extending to the lower half. The sensation on the left side was normal. A consultation of physicians included Drs. C. J. Spratt, H. L. Staples, and Arthur Sweeney. At this time an ophthalmoscopic examination was made, and showed a well-marked neuroretinitis in both eyes. The same train of symptoms continued until the middle of October, with occasional remissions, but still no change in the condition of the pulse or temperature, except that when violently excited the pulse would go up to from 60 to 90 for a short time and then drop back to the old standard of 42 to 52.

During the first month the temperature did not reach above 99. The greater part of the time it was 97. After the first month, when convalescence was established, the temperature occasionally rose to 100.5. Gradually he began to improve. The pains lessened in severity, the vomiting ceased, he became tolerant to light, and the pupils once more responded. The ocular palsy and the hemiparesis disappeared. The neuroretinitis subsided by the middle of November. His emaciated condition began to improve and by the middle of December, or three months after he was first seen, he was practically well.

The diagnosis was a matter of extreme difficulty, but from the general symptoms of headache, vertigo, vomiting, the ocular palsy, the left-sided paralysis, the ankle-clonus and increased knee-jerk, the subnormal temperature and pulse, together with his extreme irritability, a tumor seemed the most probable explanation of the trouble. Although many of the symptoms appear to be in line with brain syphilis, we could elicit no such history. The matter was gone over carefully with the father and mother, the boy was closely questioned at various times during and after his illness, yet all of the physicians were satisfied that specific infection could be excluded. Hereditary syphilis was also excluded, since there was no evidence of previous mental weakness or convulsions, or previous disease of either eye, ear or teeth, and since there was present paralysis of the cranial nerves and the opposite side of the body. Meningeal inflammation was also eliminated by the absence of any infectious process and of the characteristic symptoms. Brain abscess was considered, but was excluded on the ground that the boy had suffered neither from suppurative disease, infectious fever nor injury. Although the symptoms were those frequently found in brain abscess, namely, irregularity in the course of the disease and the distribution of the symptoms, it seemed reasonably safe to exclude it from the diagnosis. For many of the same reasons, acute exudative encephalitis appeared improbable. There was no infection, there was total absence of coma or convulsions, and there was present a low temperature and a slow pulse-rate. Embolism was excluded on general principles, as there was no sufficient cause for its occurrence. The urine was frequently examined, but neither casts nor albumin were present, and although there was a diminution of chlorids, his condition was not uremic. The possibility of a neuritis of the cranial nerves was also discussed, but the symptoms seemed too wide-spread and numerous to warrant such a diagnosis.

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*Presented to the Section on Neurology and Medical Jurisprudence at the Fiftieth Annual Meeting of the American Medical Association, held at Columbus, Ohio, June 6-9, 1899.

With the probability of tumor in mind, and the absence of any specific history, the conclusion finally reached that the neoplasm was of tubercular origin was based on the age of the patient, his neurotic temperament, the size and shape of his head, his general physical appearance, the rapidity with which the brain pressure symptoms developed, their progress and his very satisfactory recovery. The location of the tumor must be a matter of some dispute, but with the symptoms enumerated, the conclusion that it was in the pre-frontal region on the left side, near the orbital surface, seems most reasonable.

The treatment was interesting, for it was mainly experimental. The usual attention was given to the digestive apparatus, the bowels were kept freely open with calomel and saline, and the pain was eased by oscasional hypodermics of morphia, since no coal-tar products proved to be of service. On account of the slow pulse and its frequent irregularity, he was given hypodermics of strychnia, 1-30 grain t. i. d. An attempt was made to put him on iodids and bromids, but he was unable to retain them as they produced so much stomach disturbance. It seemed advisable, however, to give him iodids, and this was done by inuncton. For three consecutive weeks, beginning on September 25, he was rubbed every twenty-four hours with an ointment containing 4 gr. of the red iodid of mercury and 21 drams of iodid of potash, dissolved in hot water and lanolin. This means 1230 gr. of iodid every twenty-four hours for three consecutive weeks. After this the inunction was gradually reduced in quantity until the end of the second month. It was finally discontinued and he was given Blanchard's syrup of iodid of iron, which, together with the care and nourishment, constituted the entire treatment. He was kept in bed continuously for two months, then allowed to get up and about.

I have seen him at intervals since his recovery and he is now in the best of health. His convalescence was slow after the acute symptoms had subsided, but during the last year he has grown, and has developed in all directions and is apparently sound and well.

DISCUSSION.

Dr. F. Savary Pearce, Philadelphia—The author's case admirably illustrates the advantage of using the iodids in full dosage, in this way causing absorption, which at times produces remarkable results by temporarily allaying symptoms which are due secondarily to the inflammatory condition and resultant exudate.

Dr. F. W. Langdon, Cincinnati, Ohio—While the tumor may remain quiescent, we know that the nervous tissue will accommodate itself to a wonderful amount of pressure, and occasionally cases come to autopsy in which the history has dated back seven or eight years. I myself reported a case of cerebellar tumor in which there was a clear history for seven years, of vomiting, deafness, vertigo, with occasional periods of apparent comfort, and yet the autopsy showed the growth as large as an English walnut. The tumor, however, was not a tubercular one, but simply a fibroma.

Dr. W. J. Herdman, Ann Arbor, Mich.—There is a possibility of a tubercular tumor remaining latent for quite a time, and subsequently giving rise to pronounced symptoms. I have one brain in which I found seven growths at the autopsy. Fortunately the first one, which was cerebellar, and about an inch in diameter, had become encapsulated. Those that caused the death were in the temporal and in the frontal lobes. The time during which these tubercular growths were developing in the brain covered as long a period as five years. There is a possibility of being months or years in which you would have no symptoms, and yet considerable progress be made in the development of such growths in the brain.

Dr. Charles H. Hughes, St. Louis, Mo.—There can be no doubt about the accuracy of the diagnosis so far as the existence of some form of tumor is concerned. It is not an uncommon thing for these exudates of venereal disease to be removed under treatment. It is not so certain about the removal of gliomata. Some years ago I had an experience with cerebral tumor that influenced me in after life in the treatment of these conditions. That was the case which McLane Hamilton incorporated in his "Diseases of the Nervous System." It is not the tumor itself in cases of cerebral tumor involvement that gives rise to the symptoms, but the secondary conditions developed in the brain by the presence of the tumor. The alterations in circulation that give us the appearance in the fundus of the eye may be produced by other forms of cerebral irritation, exciting the circulation and in this case of cerebellar tumor the patient surprised me by getting from his bed and walking about the streets unaccompanied and without the characteristic gait, without the vertigo and without any of the cerebellar symptoms. Under general treatment, rest of the man, and large doses of bromid of sodium, the conditions which seemed to have developed the symptomatology of the patient disappeared, and so confident was the family physician and the wife of the patient that the man was cured that they had made arrangements to discontinue the treatment. He had the intense occipital headache and the vertigo and got rid of all those symptoms.

Dr. W. A. Jones—I presume that if the diagnosis is correct I will probably have more trouble with the case. The condition of the fundi entirely cleared up after the patient was under treatment three months.

SYPHILIS FROM DENTAL INSTRUMENTS.

BY WILLIAM L. BAUM, M.D.

Professor of Skin and Venereal Diseases, Post-Graduate Medical School
Chicago; Attending Dermatologist at the German Hospital,
Post-Graduate Hospital; and Fellow of the Chicago
Academy of Medicine.
CHICAGO.

My interest was particularly attracted by experience with the following cases:

Case 1.—On Oct. 9, 1896, there appeared at my office a young man, 28 years of age, who came to consult me about a peculiar skin eruption which had caused him much annoyance, not because of any irritation at the site of the lesions, but rather because of the consequent disfiguration.

He gave the following history: He was an Ameri-

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*Presented to the Section on Stomatology, at the Fiftieth Annual Meeting of the American Medical Association, held at Columbus, Ohio, June 6-9, 1899.

can; had been practicing dentistry for four years; was married and the father of two children; had never suffered from any serious disease, and had never had a skin eruption before; there was no history of gonorrhea or chancre. The present eruption occurred about two weeks previously in the form of small red blotches, erythematous in appearance. It was accompanied with violent headache and a feeling of general debility. Since then small papules appeared on the chest, back, face, and extremities, and also on the scalp. There was general indolent adenitis present. The patient could not remember any particular lesion preceding these, except a very stubborn small sore upon the index finger of the right hand, near the matrix of the nail. This he explained by saying that he had accidentally scratched himself in this place with a dental instrument while filling some teeth for one of his patients. The epitrochlear and axillary glands upon the right side were much enlarged and somewhat tender to the touch. There was no doubt that this dentist had syphilis, and that his infection was either from a scratch with one of his instruments previously used upon a patient with syphilis or infection of the wound from the patient upon whose teeth he was working at the time. The latter theory he scouted, saying that she was a very estimable woman, a social leader, and one in whom it would be almost a crime to suspect the presence of disease. This last remark only too frequently presents the view of many members of our profession, as well as dentists, forgetting as they do that syphilis is a wide-spread disease, and that it is not necessarily a reproach to its unfortunate victim, but often, perhaps more often than believed, innocently acquired.

CASE 2.—A man, 29 years of age, a bookkeeper by occupation, appeared at my office in December, 1894, with an erythematous eruption of the skin, and complaining of some soreness of the tongue and throat. He gave the following history: During the last week of September and the first week of October, he had occasion to have considerable dental work done, in the course of which his tongue was slightly injured by a dental instrument. The wound apparently healed in a few days, but ten days later a small nodule was perceptible on the site of the wound. This became somewhat painful and increased in size. At the same time the glands of the neck became enlarged and painful; the nodule broke down in the center. This excavated erosion was surrounded by a hard, infiltrated zone. There was general enlargement of the lymph-glands. A diagnosis of syphilis was made, and the patient made a rather uneventful recovery.

CASE 3.—A man, aged 22 years, came to the clinic of the Post-Graduate School in January, 1895, with a large papillary syphilide. The glands in the neck were very much enlarged, and there was a sore upon the lower lip, at the internal border of the mucous membrane at the right side. He had not been exposed to any infection that he knew of. He had been under the care of the dentist for some weeks, and remembered sustaining a slight injury during the course of the dental work.

CASE 4.—A woman, aged 35 years, married, the mother of five children, in October, 1895, consulted me on account of falling out of the hair and a slight eruption, typical symptoms of syphilis being present. She gave a history of a sore appearing upon the tongue, and of having received an injury during the time she was under the care of her dentist. Her husband was healthy.

CASE 5.—A girl, aged 15 years, had frequent attacks of tonsillitis with subsequent hypertrophy of the tonsils. They were removed by a laryngologist. The base of the right tonsil remained sore for some time. It became quite painful and hard. Two weeks later all the glands, submaxillary, sublingual, and cervical, became much enlarged and slightly tender. Eight weeks after the removal of the tonsils, the patient noticed the first eruption. Consultation with the laryngologist revealed the fact that he had not been in the habit of boiling his instruments, and had, according to his case-book, removed a tonsil a few days before the above-mentioned operation with the same tonsillotome.

CASE 6.—A man, aged 47 years, an express-driver, in September, 1897, first noticed a small, hard lump on the edge of the upper lip on the left side, near the margin of the mucous membrane, which became hard and was accompanied by considerable swelling. The patient remembered that a few weeks before he had received an injury at this point, while under the care of a dentist. The glands generally were enlarged, maculo syphili present.

It must be remembered that in all these cases there is a possibility that the infection might have occurred from the transmission of syphilitic virus by means of drinking utensils, pipes, etc., soon after the injuries were received, although this is scarcely probable.

Fournier, in his work[1] collected 1124 cases of extragenital chancre; of these, 847 appeared in the region of the head, most of them being localized about the lips, tongue, tonsils, etc. The syphilitic manifestations in the mouth may be divided into three kinds: 1, the initial effect or chancre; 2, the secondary lesions, such as erythema, mucous patches, etc.; 3, the tertiary symptoms, such as gumma.

Chancre of the Lips.—In this region it may begin as a fissure, or as a small, hard papule. In a few days this lesion becomes markedly indurated, and in about two weeks the sublingual and maxillary glands become enlarged, those nearest the chancre becoming most enlarged.

Chancre of the Tongue.—This is not so frequent; it usually is found on the dorsal surface, the sides, or the tip. It generally consists of a hard, round, or oval lesion, the surface later undergoing erosion, being surrounded by a hard or indurated zone. The glandular enlargement occurs the same as in the labial chancre.

Chancre of the Tonsils and Fauces.—This is not so common, and is usually recognized late. It is characterized by considerable swelling. The surface is covered by a tenacious yellowish-white secretion, is extremely painful, and its period of exulceration is marked by a decided destructive tendency since it is usually accompanied by streptococcus and staphylococcus infection.

The secondary lesions have the following course:

Erythematous Syphilide.—This occurs on the mucous membrane, often coincident with the eruptive fever. The mucous membrane covering the soft palate, uvulæ, and tonsils—this terminates at the line separating the soft from the hard palate—is livid in color.

Papular Syphilide.—This syphilide of the mucous membrane usually accompanies the secondary papular manifestations of the skin, although it may be present at any later time. It appears as an erosion, sometimes as an ulceration, at others as a scaly patch. Those papules that are situated on the anterior surface of the velum and anterior arch of the palate are the best developed. They undergo degeneration very quickly, causing circular turgid spots, or, where the degeneration penetrates deeper, a diphtheritic pseudomembrane will be found on the mucous membrane. (Zeiss.) Sometimes conical vegetations form upon the papules that are situated on the uvulæ or tonsils. The mucous-membrane papules are most frequently found on the tongue. Macular syphilides also frequently occur on the tongue.

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[1] Extragenital [illegible] Paris, [illegible]

Gumma. This may attack the tonsils, soft palate, and uvulæ, causing much swelling, but little pain. Gumma of the soft palate may escape recognition and end in perforation. Syphilitic gumma of the tongue, which develops without causing pain, may be either in the mucous membrane or in the muscular structures. If it remains untreated, it will undergo disintegration, leaving an excavated ulcer behind.

The syphilitic contagion adheres to all textural elements, and textural detritus produced by suppuration or bionecrosis in consequence of syphilis. It is most abundant in disorganized syphilitic papules and the sloughing initial chancre. It may easily be carried by instruments, drinking utensils, knives, forks, cigar-holders, pipes, and by the hands, but there must always be some abrasion present or it can not be inoculated.

Every patient in whom the diagnosis of syphilis is made should, before the inauguration of antisyphilitic treatment by mercurials, be sent to his dentist, in order that any caries of the teeth be remedied, and gingivitis treated. These precautions are necessary, and when properly carried out the dangers of hydrargyric stomatitis thus are greatly lessened.

It is necessary that the dentist and oral surgeon, to avoid being the carrier of the contagion, and for his own protection, should possess a knowledge of the characteristic appearance of the different syphilitic lesions met with on the mucous surfaces of the mouth and fauces, and personally supervise the disinfection of his instruments by repeated boiling and immersion in formalin or creolin solutions.

It might even be well to keep some instruments for use upon syphilitic cases only.

This paper has not been written in a spirit of criticism of the dental profession. The small number of cases reported in a practice covering several thousand syphilitics, is rather a tribute to the care and asepsis ordinarily parcticed by the great mass of the profession.

AN INTESTINAL SUTURE.*

BY RAYMOND CUSTER TURCK, M.D.

Professor of Anatomy and Operative Surgery in the Chicago Post
Graduate Medical School; Director of the Post-Graduate
Anatomical and Surgical Laboratory; Member of
Chicago Academy of Medicine, etc.
CHICAGO.

The "ideal" intestinal suture is one which will combine simplicity, strength, rapidity of insertion, and absolute insurance from leakage. Without going exhaustively into the relative merits or demerits of the various sutures now in vogue, I would like, however, to mention a few points regarding the one probably most widely in use at present, i. e., the Halsted suture.

In Diagram 1 are shown Halsted sutures inserted, but not tied. When the knot is tied the serous surfaces of the bowel are approximated, and cut edges inverted, but, not only do the sutures draw longitudinally on being tied, and thus draw the wound together, but at the same time they draw laterally, as indicated by the arrow-heads. This latitudinal tension tends to draw the sides of the sutures together, but at the same time draws the sutures away, each from the other, leaving weak points as indicated in Diagram 2. This necessitates the expenditure of considerable time in order to place the sutures very close together and thus avoid a leakage which would otherwise occur at these weak points.

In the new method the Halsted suture has been utilized in modified form, as will be seen from Diagram 2.

The new suture might properly be called a "lock-stitch," because each loop is locked through the adjacent ones. The first suture is an ordinary Halsted, but a trifle wider than usually used. The succeeding sutures may be nearly twice as wide as the Halsted. Before the first is tied, the second is inserted, starting, however, on the opposite side of the wound, so that the knots will alternate on the loops of gut. The second suture is not placed beyond the first, as in the Lembert or Halsted method, but the first half of the second loop passes immediately inside the second half of the first loop, thus locking the two. As soon as the second is inserted, the first is tied, the third inserted, and the second tied, and so on. After the first suture is placed, each suture is passed *under the loop*, and *over the loose end* of the suture immediately preceding it, so that when all sutures are tied a complete chain is formed. In putting in each suture care should be taken not to pass the needle through the fiber of the preceding suture, otherwise it may be found impossible to draw the sutures tight.

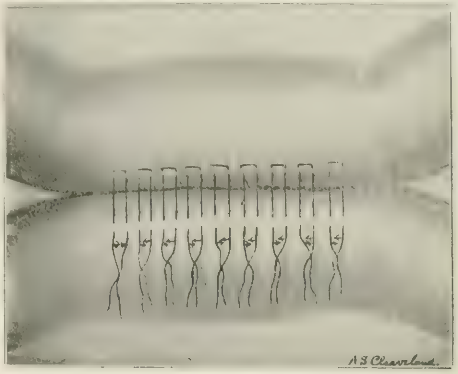

Figure 1.

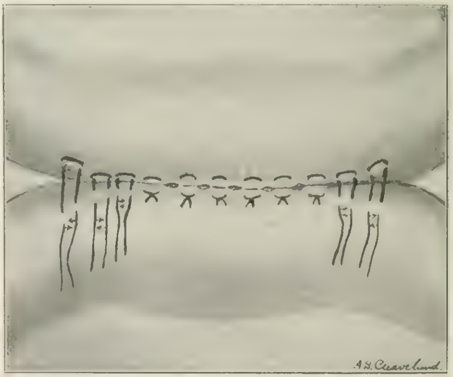

Figure 2.

With this, stitch-leakage is absolutely impossible. The loops A, B, C, D, E (Diagram 4), for instance, when tied are drawn in the direction of the indicated arrow-heads. It is certain that the portions of bowel between the two sides of each loop are perfectly approximated, and also as each loop is locked with those on each side of it, the spaces between C and B, and between E and D, are also completely closed, the lateral tension of the adjacent sides of the successive sutures drawing the wound together at these points, instead of apart.

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*Read before the Chicago Academy of Medicine, Jan. 12, 1900.

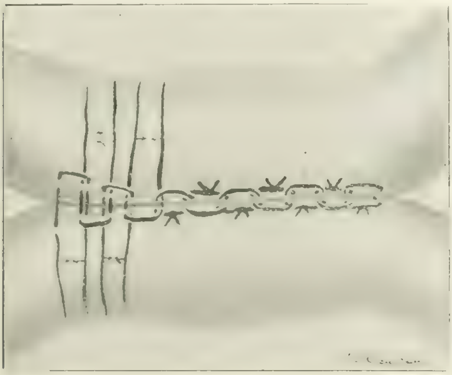

FIGURE 3.

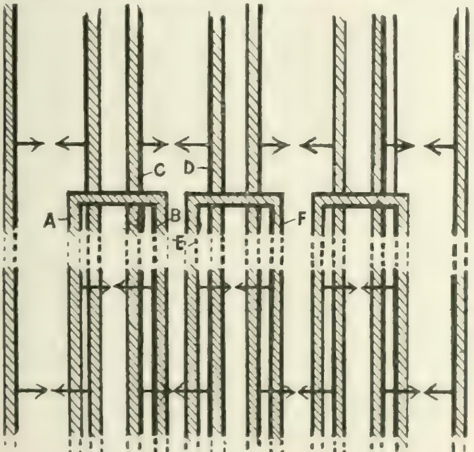

FIGURE 4.

The suture is obviously stronger than the continuous one, being interrupted, and stronger than the ordinary interrupted, because, from the method of insertion, each stitch supports its neighbors. It is *simple* and easy of insertion. It is much more *rapid* than other forms of interrupted suture; one lock-stitch covers the ground of two Halsteds and nearly four Lemberts, with perfect safety, because of the tension in two directions, and because of the lock arrangement. As demonstrated, there is *absolute insurance against escape of contents* of stomach, bladder or bowel.

At the Post-Graduate Laboratory of Anatomy and Operative Surgery, we are conducting an exhaustive series of experiments with this lock-stitch, the results of which will be given later and at length. The results, however, have thus far been most gratifying, but possible disadvantages may have been overlooked, and for this reason I wish to offer the suggested suture for the consideration of the profession.

MAY WE NOT FREQUENTLY DO GREAT HARM, RATHER THAN ANY GOOD, BY OFFICE TREATMENT OF FEMALE GENERATIVE ORGANS?*

BY MILO BUEL WARD, M.D.

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KANSAS CITY, MO.

The office treatment of female patients, for fancied or real diseases of their generative organs, is so common a practice that nearly every woman has been subjected to some form of treatment through a speculum, during her life.

In presenting this question for your consideration, the writer has no thought of condemning in a wholesale way local applications to the vaginal vault and presenting cervix, of such remedies as are harmless, in the treatment of conditions indicating the necessity for such applications. It might be well at the very beginning, however, to make the statement that, so far as my experience goes, the cases are rare among the great mass who come to our offices presenting *only* such trouble as may be seen through the speculum, and, therefore, require *only* the application of soothing drugs to the presenting parts.

Another statement that will hardly admit of successful controversy is that patients who are suffering from serious pelvic disease requiring frequent local treatments—if such are thought to be indicated—will be more harmed than benefited by coming to our offices. This leads to the statement that patients who are really suffering from disease of their generative organs, should remain at their homes, or be put in a hospital, where quiet can be enforced during the period of treatment, rather than come to our offices and undergo the physical and nervous strain incident to such an undertaking. Let us ask next: What are we to accompish by the local treatment of diseased pelvic organs? Before enlarging on this proposition, we are willing to admit that such diseases as can be observed through the speculum may be benefited by judicious applications. How much of the uterus can be seen through the speculum? The answer is, only a small and trifling portion of this organ. What we mean by "trifling" is, that aside from malignant affections it is very rare to have diseases of the presenting cervix which cause suffering to any great extent and, perhaps, never invalidism. This, then, leaves the uterus proper and its adnexa beyond the reach of local application. We readily admit that the endometrium may be treated by local applications in our offices, but we do not think it ever should be, and because of the fact that it frequently is, the writer has been led to sound this note of warning. I insist that any treatment of the endometrium by the usual methods employed in our offices is a most dangerous procedure. Is it not a fact, however, that it is a custom for physicians to make applications to the endometrium almost as regularly as they attempt to treat women for diseases of the generative organs?

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*Read before the Jackson County (Mo.) Medical Society, July 13, 1899.

To me it is inexplicable that, with our present knowledge of the pathology commonly found in the appendages of women complaining of pelvic diseases, physicians should entirely ignore one of the most common causes of these conditions, namely, the passing of sounds and other instruments which abrade the endometrium and excite septic infection. If the endometrium is to be subjected to applications of medicine, this should be done only after thorough preparation of the patient and complete dilatation of the cervical canal, a régime which can not be carried on in safety in our offices. The carrying into the endometrium of small quantities of medicine on a cotton probang can not be expected to accomplish very much in the treatment of endometritis. This phase of the subject may be dismissed by stating that the management of endometritis, when of sufficient gravity to require treatment, should be made a surgical procedure, with every precaution that we are expected to exercise in these days of aseptic surgery.

The application of medicine to the vaginal vault for diseased appendages is quite as scientific as it would be for us to wash our faces in bichlorid solution, for the cure of postnasal catarrh.

Women suffering from diseased ovaries and tubes, who go to their physician's office for treatment two or three times a week, are surely objects of commiseration. Such patients would derive infinitely more benefit from the rest which they might obtain by spending two or three hours in bed the days they usually make these visits than they can receive from any treatment, however skilfully applied, by way of local applications to the vaginal vault.

In cases of hyperplasia of the uterus, great benefit is derived from topical applications, which may be done in our offices.

For displacements of the uterus, the local treatment at our offices often gives comfort, if no attempt is made to replace a retroverted uterus by means of instruments in the canal of this organ. Tampons of cotton or lamb's wool saturated with boroglycerid, or any proper remedy, placed high in the posterior fornix, with the patient in the knee-chest position, will afford temporary comfort and give some permanent relief by means of the depletion, the result of the medication. What should eventually be done with this class of cases is not my prerogative at this time to discuss. This, then, leads to the conclusion that in the treatment of the genital organs of the female it is essential that, first of all, a proper diagnosis be made regarding the pathology of the case under consideration. If the patient is suffering from conditions that may be benefited by local applications, with the assurance that no harm will come to the patient from either the treatment or the physical effort to reach our offices, then such treatment is laudable and should be encouraged.

There is no doubt that it has been the experience of every practitioner to have patients come to him for examination who have been under treatment for an indefinite period, and yet do not know—because they have never been told by their attending physician—the cause of their suffering. Let us, then, be thorough in our primary examinations, and if we can not satisfy ourselves the first time the patient comes, make a second, or third, or fourth appointment, until we are as certain as possible of the condition with which we have to deal, and then we can give the patient an intelligent prognosis.

Another objection to the routine office treatments is the question of the septic condition of our instruments. How many of us take the trouble to thoroughly sterilize our specula and other instruments used in the treatment of women there. Has it not frequently occurred to each of us that there is great danger of carrying infection from one patient to another unless our instruments are on each occasion thoroughly sterilized? It is safe to say that this precaution is frequently not taken, and therefore much harm is caused by even the simplest instrumental examination and treatment.

I am well aware that it is not a popular chord to strike, to criticize in the mildest terms office treatment of female patients, because this class of practice is a source of large revenue to the great mass of our practitioners. However, so many cases have come under my personal observation, of patients who have been under treatment for long periods of time, and by a number of different physicians, whose conditions when examined presented no indication for local treatment, but who were suffering from the gravest pelvic disease, that I have been led to make this mild protest against what appears to me frequently *very careless work* on the part of practitioners of medicine. I think it is our plain duty to state frankly to our patients our diagnosis of their condition; what the treatment is intended to accomplish; and the length of time likely to be required to bring about the desired results. I admit that this frankness will frequently cause patients to migrate to other physicians, but a knowledge of that fact should not swerve us from doing what we consider to be right and scrupulously honest in our professional transactions.

In conclusion, I can not refrain from calling the attention of the profession to the importance of a constant watchfulness over patients during the climacteric changes, and, in fact, from this important epoch for years afterward, if there is any history of pelvic pains, bloody discharges, and rapid loss of flesh and strength. The symptoms of malignant invasion of the uterus are so insidious that it requires the most careful observation to detect them before they have made such progress that relief can not be promised the sufferer.

We are then expected to treat conditions found, on thorough examination, in an intelligent and scientific manner, strenuously avoiding every method which does not promise benefit and may cause harm, urging our patients to report reguarly for examinations in case there are any symptoms which point to some lurking disease which may go on to serious consequences.

Therapeutics.

Treatment of Scarlet Fever.

Notwithstanding the opinion of the great majority of physicians that there is no specific for scarlet fever, there are a few physicians, notably Illingworth and Clement Duke, who believe that biniodid of mercury in doses varying from 1/2 to 1/24 grain acts as a specific, arresting fever and preventing desquamation. Shakhovsky, on the other hand, believes salicylic acid will prevent all complications, such as uremia, dropsy, diphtheria, anginas, and lymphadenitis, and remove them when present.

He employs the following formula:

℞.	Acidi salicylici	gr. xv
	Aquæ destil. ferrid	℥ii
	Syrupi aurantii	℥i

M. Sig. From one to four teaspoonfuls every hour during the daytime, and every two hours by night.

To prevent relapses, the mixture must be continued at longer intervals for several days after defervescence. He says that he has succeeded with this method in a large number of cases of malignant type. It is, however, useless when resorted to late, or, when there is present severe chronic disease.

Dr. Marcus P. Hatfield, in the "American Text-Book of Diseases of Children," says, regarding the general treatment of scarlet fever:

If the initial nausea is vexatious, it may often be allayed by:

℞. Aquæ cinnamomi
Liquoris calcis, āā ....ʒi
Tinct. gelsemii ....ʒss

M. Sig. Teaspoonful every hour.

For the high arterial tension and fever, tincture of aconite, given according to the plan of Ringer—i. e., a drop every quarter hour until arterial tension is decreased, and then given sufficiently to hold the pulse at that point, every two or three hours—is satisfactory.

Chloral hydrate is a favorite with the writer, almost entirely displacing the tinct. ferri chloridi of his earlier practice, except in those cases where there is malignant angina from the beginning. In such cases nothing has been found superior to the tincture of the chlorid of iron—one drop per dose for each year of the child's age—with whisky or brandy, given according to Dr. Chapman's plan. The surprising tolerance of such children for alcoholic stimulants shows that their power is expended otherwise than in their usual effects upon the brain. Many such children will take one-half ounce of brandy every hour without showing any of the usual physiologic effects. In ordinary cases, however, small doses of chloral hydrate seem to be all that is necessary to relieve restlessness, moderate the angina, and, to a limited degree, act as an antiseptic. For the first forty-eight hours such a prescription as the following has often proved most useful:

℞. Chloralis hydratis ....ʒss-i
Aquæ camphor ....℥ss.
Syrupi aurantii cort ....℥iss.

M. Sig. Dose, a teaspoonful. To alternate with aconite as required.

When the eruption is tardy in appearing, a hot salt or mustard bath will expedite matters, or, if these are ineffectual, packing in a sheet wrung out of hot water and sprinkled with mustard rarely fails.

Dr. J. Lewis Smith says:

The physician when summoned to a case, however mild, should never fail to take the temperature, note the pulse, inspect the fauces, and inquire in reference to the fecal and urinary evacuations, that he may detect early any unfavorable changes which may occur.

Since in all cases angina and more or less blood-deterioration are present, the following prescription will be found useful in mild as well as severe scarlet fever:

℞. Potassii chloratis ....gr. xv to xx
Tinct. ferri chloridi ....ʒii
Glycerini ....℥ss
Aquæ ....℥iiiss.

M. Sig. Dose, one teaspoonful every hour to two hours for a child of 3 years.

Glycerin and water appears to be a better vehicle in the above prescription than simple syrup, since it is more penetrating. Small doses of this medicine, frequently administered, act beneficially on the surface of the throat, and tend to prevent the anemia which is so common after scarlet fever. If the medicine be given gradually, or if the patient gargle with it before swallowing, and no drink be given subsequently for a few minutes, a better effect is obtained upon the inflamed fauces. Potassium chlorate in large doses is known to be an irritant to the kidneys, causing intense hyperemia of these organs, with bloody urine or suppression of urine. . . . Doses of 1/2 to 1 grain can apparently be administered with safety to children, so that not more than 15 to 20 grains are given in twenty-four hours. A quantity much exceeding this involves risk. In mild cases quinin is useful as a tonic and an aid in maintaining a mild type of the disease. I have employed the following prescription:

℞. Quininæ sulphatis ....gr. xvi
Syrupi pruni Virg.
Syrupi yerbæ santæ, āā ....℥i

M. Sig. Dose, one teaspoonful every three to four hours to a child of 3 to 5 years.

The iron mixture, with or without the potassium chlorate, should be administered twice between the doses of quinin.

If constipation exist, an enema or some mild aperient may be given. Moderate diarrhea may need nothing more than a restricted diet. Should it be persistent and accompanied by fever, paregoric, either alone or conjoined with subnitrate of bismuth, will usually hold it in check.

Dr. Samuel C. Busey says that "restlessness, sleeplessness, and other mild nervous disturbances will frequently yield promptly to bromid of potassium. Convulsions, especially in the early stage, may also be controlled by it. The cerebral and nervous disturbances are so generally associated with the febrile condition that their proper treatment refers to the management of the temperature, and such measures as will reduce the fever will effectually control them."

Should the temperature range above 102 F. some one of the principal antipyretics—antipyrin, acetanilid, phenacetin, etc., may be employed, carefully watching the effect. Should the temperature rise above 103, and more especially in the hyperpyretic conditions with a temperature above 104, and perhaps reaching 106 or 107 F., some one of the more efficient methods of the application of cold water must be employed, such as cold sponging of the entire body frequently repeated; Ziemssen's graduated bath, by immersing the patient in water at 90 F. and gradually reducing it to 80; the cold pack of Currie, or the application of the ice-coil to the head. The condition of the throat demands special attention. Pellets of ice, frequent draughts of carbonic acid water, gargles of potassium chlorate or lozenges of this drug allowed to slowly dissolve may be all that will be needed. In the severer forms, spraying the throat with solution of hydrogen peroxid, or some antiseptic lotion will prove the most effective method of treatment.

Regarding cervical adenitis, Dr. Marcus P. Hatfield says that it is more frequently overtreated than neglected, for the swollen and tender glands apparently require immediate attention. And yet the trouble lies farther back, for the débris that blocks these inflamed glands come usually from the pharynx. Hence efficient pharyngeal and nasal cleansing will do more for adenitis than poultices, lotions, or ointments. Instead of poultices and iodin, simple rest and warmth will often work wonders, even in brawny, swollen necks, where suppuration appears inevitable. At all events, camphorated oil, applied on absorbent cotton, should be tried before proceeding to more vigorous measures.

Speaking of scarlatinal nephritis, Dr. Hatfield recommends that free diaphoresis be induced by means of hot baths, hot infusion of jaborandi (ʒi to O i, etc. The following diuretic mixtures have been highly recommended:

℞. Potassii acetatis
Potassii bicarbonatis
Potassii citratis, āā ....ʒii
Infusi tritici repentis ....℥viii

M. Sig. Teaspoonful every three or four hours to a child of 5 years.

℞. Liq. ammonii acetatis
Syrupi acidi citrici, āā ....℥ii

M. Sig. Teaspoonful every hour in hot lemonade.

℞. Potassii acetatis ....ʒss
Infusi digitalis ....℥vi

M. Sig. One teaspoonful every four hours.

Dropsy may require the use of some hydragogue cathartic. J. Lewis Smith recommends the following:

℞. Olei cinnamomi ....gtt. viii
Magnesii sulphatis ....ʒi
Potassii bitartratis ....℥ii

M. Sig. One teaspoonful repeated from two to four hours until catharsis occurs.

In the later stages of scarlatinal nephritis iron may be indicated, either in the form of tincture of chlorid of iron, or Basham's mixture.

The following makes a pleasant chalybeate tonic:

R. Tinct. ferri chloridi ... ʒiii
Acid. phosphoric. dil. ... ʒvi
Glycerini ... ʒvii
Vini xerici ... ℥iv

M. Sig. Teaspoonful four times a day.

The following prescriptions have been employed by eminent clinicians in the various stages of scarlet fever:

R. Acidi [illegible] ... ʒss
Potassii chloratis ... ʒii
Tinct. ferri chloridi ... ʒii
Glycerini
Syr. simplicis āā ... ℥i
Aquæ ... ℥ii

M. Sig. Teaspoonful every two hours for a child of 5 years. —*Smith.*

Begin treatment with the administration of calomel; then give throughout the disease:

R. Chloralis ... gr. xxx
Syr. lactucarii
Aquæ, āā ... ℥ss. to i

M. Sig. Teaspoonful in ice-water every two or three hours. Complete narcotism should never be attained. —*Wilson.*

Illingworth considers the following a specific and prophylactic:

R. Liq. hydrarg. bichloridi (1 to 5000) ... ʒiii
Potassii iodidi ... gr. x
Ferri et ammonii citratis ... gr. xx
Syrupi ... ℥ss
Aquæ, q. s., ad ... ℥ii

M. Sig. Teaspoonful every two hours to a child of from 2 to 4 years.

DISINFECTANT.

For the purpose of disinfecting the sick-room J. Lewis Smith highly recommends volatilization of the following mixture in boiling water:

R. Acidi carbolici
Olei eucalypti. āā ... ℥i
Olei terebinthinæ ... ℥vi

M. Sig. A tablespoonful to be added from time to time to a pan of hot water, to be kept boiling on a gas stove.

FOR ANOINTING THE BODY.

R. Acidi carbolici
Olei eucalypti. āā ... ʒi
Olei olivæ ... ℥vii

M. Sig. For inunction every three hours.

R. Thymol ... gr. x
Olei theobromæ ... ℥i
Alcohol, q. s.

Ft. solutio. Sig. For inunction twice or three times a day. —*Smith.*

R. Acidi carbolici ... gr. xx
Thymol ... gr. x
Petrolati vel Ung. Simp. ... ℥i

M. Sig. Rub in well. —*Starr.*

When desquamation begins. to shorten this stage:

R. Resorcin ... 5 parts
Salicylic acid ... 5 parts
Superfatted soap ... 100 parts

M. Sig. Apply locally.

R. Hydrarg. bichloridi ... 1 part
Aquæ ... 1000 parts

M. Sig. As a wash for the surface, especially during desquamation.

R. Ichthyol ... 5 parts
Unguenti ... 100 parts

M. Sig. Apply to produce decline of fever, and for beneficial effect on skin. —*Seibert.*

Internal Hemostatics.

F. Pick, of the University of Prague, publishes in the *Archiv. f. Exper. Path. u. Pharm.*, the results of an extended series of experiments on animals as follows:

1. Curare does not affect the vasomotor filaments appreciably in small doses, but causes a drop in constrictor tone when given in larger amounts.

2. Chloroform, after an evanescent rise in blood-pressure, produces a deep depression accompanied by a diminished outflow from the peripheral veins and a corresponding increase in that from the jugulars and mesenterics. Narcosis by this agent, therefore, involves abdominal and cerebral vasodilation, this being the result of action on the vasomotor center. The reduction in the force of the heart may also in some measure explain the diminished outflow.

3. Ether in narcotic amounts does not markedly depress blood-pressure, but otherwise the effect on the venous bleeding is the same.

4. Atropin, in the earlier stages of its action, checks the outflow from the jugulars and the femorals, though its effect on the latter is the greater. Strong faradic stimulation of the peripheral stump of the vagus is ineffectual in producing contraction of the vessels after the administration of large amounts, but dilatation follows cessation of the stimulus. Therefore it is concluded that in these amounts the drug induces paralysis of the peripheral vasoconstrictor fibers.

5. Digitalin, helleborin, and strophanthin all reduce the outflow from the femorals, acting on the mesenterics and jugulars to a less extent. The digitalis group may therefore be regarded as vasoconstrictors in addition to their cardiac effect.

6. Ergotin in non-pregnant animals caused no rise in blood-pressure, and seemed to have no value as a vasoconstricting agent.

7. Hydrastinin decreases the escaping blood-volume to a very marked degree, influencing especially the vessels at the periphery, but also notably affecting the jugulars and mesenteric areas.

8. Beta-tetra-hydro-naphtylamin produces a peripheral rise in pressure, but at the same time cuts down the outflow. The bleeding is not affected by stimulation of the peripheral stump of the cut sciatic, but an increase follows the cessation of the stimulation.

9. Barium chlorid, while checking the outflow from the peripheral and mesenteric veins, increases it from the jugulars and causes an enormous rise in blood-pressure.

10. Nicotin and piperidin raise blood-pressure, but check hemorrhage through vasoconstriction of peripheral origin.

11. Amyl nitrite produces a general vasodilatation, which is the result of local action on the vessels, and is independent of central control.

12. Carbonic acid produces a localized dilatation of the cerebral vessels, accompanied by a decrease in the bleeding from the mesenterics and femorals, but an increase in the outflow from the jugulars.

13. Peptone lowers blood-pressure and dilates the vessels of the abdomen, but not those of the periphery.

14. Adrenal extract raises the general pressure, but causes an accompanying vasoconstriction and well-marked decrease in the amount of outflow.

As a remedy for practical application in cases of internal hemorrhage, ergotin would seem of doubtful value, but the use of both hydrastinin and atropin appears to be justified by the experimental evidence.

Guaiacol As a Diagnostic Agent.

Guaiacol is recommended by Moncorvo, according to *Merck's Archives*, as affording a valuable aid to the differential diagnosis between intermittent fever and tuberculosis. The diagnosis of acute and subacute tubercular fever in children is never easy, but the difficulties are greatly increased in the tropics, where malarial infection must also be thought of. Thus, in Rio de Janeiro, the author found malaria associated with tuberculosis in 113 out of 219 cases of the latter. Where doubt exists as to the true character of the trouble, local applications of guaiacol to the skin are advised. In malarial cases no effect is produced, but if the fever is of tubercular origin a very prompt drop in the temperature follows. This differential reaction has been found of greater service in diagnosis, and also gives valuable indications where the two affections occur simultaneously.

Sublimate and Quinin Phenate in Puerperal Infection.

The Italians are developing this endovenous method of treatment, and Zamboni reports in the *Gazz. delgi Osp.*, November, two cases of puerperal infection apparently doomed, both promptly relieved and cured with alternate endovenous injections of sublimate and quinin phenate.

Current Medical Literature.

Titles marked with an asterisk (*) are noted below.

New York Medical Journal, January 13.

1.—*President's Address before Society of Alumni of Bellevue Hospital. Charles E. Quimby.
2.—*Taking Cold. Green V. Woolen.
3.—*Therapeutic Application of Carbonic Acid Gas. A. Rose.
4.—*Anesthetic Properties of Nirvanin. A Contribution to the Study of the Infiltration Method of Local Anesthesia. Charles A. Elsberg.
5.— Second Report on Therapeutics of Heroin. Morris Manges.
6.—*Echinacæ Angustifolia: A New and Successful Aphrodisiac for Impotence, Pseudoimpotence, etc. J. Coplin Stinson.
7.—*The Lung Reflex. Albert Abrams.

Philadelphia Medical Journal, January 13.

8.—*Excretion in Acute Infectious Diseases. H. A. McCallum.
9.—*Cerebral Rheumatism. Francis P. Morgan.
10.—*Diplococci—A Cause of Erysipelas. G. E. Pfahler.
11.—*Certain Essential Points in Technic of Staining Nerve-Cells. Stuart Paton.
12.—*Varicose Veins of Vulva. William Edgar Darnall.
13.—*Anatomic Relations in Pelvic Hematoma Following Labor. W. Reynolds Wilson.

Boston Medical and Surgical Journal, January 11

14.—*Case of Perforating Gastric Ulcer; Operation; Recovery; With Remarks on Surgery of Gastric Ulcer. F. B. Lund.
15.—*Case Method of Teaching Systematic Medicine. W. B. Cannon.
16.— Case of Relapsing Fever. George O. Ward.
17.— Treatment of Pain in Tabes Dorsalis; Report of Case. Alfred H. Lindstrom.
18.— Pistol Wound of the Abdomen. C. A. Atwood.

Medical Record (N. Y.), January 13.

19.—*Relative Intensity of Second Sounds at Base of the Heart; a Study of One Thousand Cases. Sarah Robinson Creighton.
20.—*Acquired Non-Malignant Stricture of Rectum; Causes, Symptoms, and Treatment. W. Duff Bullard.
21.—*Post-Partum Hemorrhage, Its Prevention and Treatment, with Report of an Unusual Case. Edward P. Davis.
22.—*Question of Legal Control of Prostitution in America. S. Lustgarten.

Medical News (N. Y.), January 13.

23.— Gonorrhea; Its Dangers to Society. Albert Neisser.
24.—*Experimental Tests at Vera Cruz, Mexico, of the Doty-Fitzpatrick Serum for the Prevention and Cure of Yellow Fever. A. Matienzo.
25.—*Report of Case of Scorbutus in an Infant. Walter Lester Carr.
26.— Myomectomy per Vaginam Combined with Shortening the Round Ligaments for Retroversion, etc. J. Riddle Goffe.

Cincinnati Lancet-Clinic, January 13.

27.—*Ophthalmic Memoranda. David DeBeck
28.— Cesarean Section. John A. Graft.

Medical Review (St. Louis, Mo.), January 13.

29.— On Some Rare Causes of Insomnia. H. Oppenheimer.

Columbus Medical Journal, Dec. 20, 1899.

30.— Diagnosis and Treatment of Diphtheria. T. W. Rankin.
31.— Elimination, Relation to Production of Disease. W. S. Philips.
32.— Diagnosis of Smallpox. C. O. Probst.
33.— Clinical Lecture: Case of Chronic Interstitial Nephritis. Wm. Osler.

Virginia Medical Semi-Monthly (Richmond), Dec. 22, 1899.

34.—*Hematocele—Studied with Reference to Pathogenesis and Treatments. Geo. Tucker Harrison.
35.—*Advertising in the Medical Profession. Charles T. McClintock.
36.— Different Phases of Electric Treatment. J. McFadden Gaston.
37.— Report of Case of Hemoglobinuria, with Remarks. John R. Hicks.
38.—*Beef-Gall Enemata in Treatment of Post-Operative Obstinate Constipation and Intestinal Obstruction. F. C. Ameiss.
39.—*Splenectomy with Report of Two Cases. J. Wesley Bovée.
40.— Experience in Operations for Typhoid Perforation. Hugh M. Taylor.
41.— Eye and Ear Work in the London Hospitals. E. Oliver Belt.
42.— Coffee Grain in Bronchus for Two Months: Tracheotomy: Successful. E. W. Row.

Pediatrics (N. Y.), January 1.

43.—*Hydriatic Measures in Management of Febrile Disorders of Infancy and Childhood. Simon Baruch.
44.— Case of Interstitial Emphysema. Max Girsdansky.
45.—*Complications of Diphtheria. I. A. Abt.
46.— Double Paralytic Varus from Peripheral Neuritis. Henry Ling Taylor.

Journal of Experimental Medicine, September-November, 1899.

47.—*Experimental Investigation of the Treatment of Wounds of the Heart by Means of Suture of the Heart Muscle. Charles A. Elsberg.
48.—*Case of Acute Endocarditis Caused by Micrococcus Zymogenes (Nov. Spec.), with a Description of the Micro-organism. William G. MacCallum and Thomas W. Hastings.
49.—*Study of the Neurone Theory. Martin H. Fischer.
50.—*Contribution to Subjects of Chronic Interstitial Nephritis and Arteritis in the Young, and Family Nephritis; with a Note on Calcification in the Liver. N. E. Brill and E. Libman.
51.—*Lymphoma, a Benign Tumor Representing a Lymph Gland in Structure. E. R. LeCount.
52.—*Observations Concerning Leukemic Lesions of the Skin. Horst Oertel.
53.—*Case of Addison's Disease with Simple Atrophy of Adrenals. Carlin Philips.
54.— Peculiar Form of Fibrosarcoma of Brain. Alice Hamilton.
55.— Differentiation and Classification of Water Bacteria. George W. Fuller and George A. Johnson.
56.—*Bacillus Pyocyaneus and Its Pigments. Edwin O. Jordan.
57.— Preliminary Note on Fractional Precipitation of Globulin and Albumin of Normal Horse's Serum and Diphtheric Antitoxic Serum and Antitoxic Strength of Precipitates. James P. Atkinson.

Annals of Surgery (Philadelphia), December, 1899.

58.—*Differentiation of Urines. F. Tilden Brown.
59.—*Mechanism of Fracture of Neck of Radius. Eugene R. Corson.
60.—*Properitoneal and Interstitial Inguinal Hernia. Van Buren Knott.
61.—*Proper Wire for Introduction into Aneurysmal Sac. James C. Reeve, Jr.
62.—*Nitrous Oxid and Ether Anesthesia by the Open Method. Albert H. Miller.
63.—*Note on the Operative Relief of Ectopic Vesica. David Edward Mundell.
64.—*Persistent Thyroglossal Duct. George E. Armstrong.
65.—*Actinomycosis in Man, with Special Reference to Cases which have been Observed in America. John Ruhräh.

Journal of Boston Society of Medical Sciences, December, 1899.

66.— Malformations of the Kidneys. W. F. Whitney.
67.— Remarkable Skulls. Thomas Dwight.
68.— Experiments on Saprolegnia Ferax (?), and Their Application to the Trout Hatchery. J. H. Cunningham, Jr.

Archives of Pediatrics (N. Y.), January.

69.—*Clinical Study of Laboratory Milk in Substitute Feeding. Louis Starr.
70.—*Cerebrospinal Symptoms in Influenza in Infancy. T. S. Westcott.
71.— Case of Fracture of Pelvis with Rupture of Urethra. J. B. Bissell.
72.— Clinical Lecture on Scarlet Fever, Bednar's Aphthæ, Geographic Tongue, Meningocele and Dermoid. A. Jacobi.

Illinois Medical Journal (Springfield), January.

73.— Some Remarks on Chronic Bright's Disease. Arthur R. Elliott.
74.—*Movable Kidney. A. E. Halstead.
75.— Psychology vs. Medicine. J. T. McAnally.
76.—*Report of Cases in Gall-Bladder Surgery and Their Sequelæ. J. E. Allaben.
77.— Desirable Sanitary Measures for Smaller Cities. Louis E. Fischer.
78.— Medical Organization. James Tweddale.

Post-Graduate (N. Y.), December, 1899.

79.— Concerning Convergent Strabismus. D. B. St. John Roosa.
80.—*Clinical Lecture on Hysteric Blindness. William Oliver Moore.
81.— Latent Squint. Francis Valk.
82.— Cases of Unusual Interest in the Eye Clinic. Edward S. Peck.
83.—*Purulent Ophthalmia in Private Practice. Frank Van Fleet.
84.— Report of Case of Small-Round-Cell Sarcoma of Orbit and Neighboring Sinuses in a Child; Metastasis, Exhaustion, Death. A. Edward Davis.
85.—*Myopia and Myopic Astigmatism, Notes on Treatment. Edgar S. Thomson.
86.— Brief Résumé of Some Eye Injuries. James R. Nelson.
87.— Ocular Reflex Neurosis (Abdominal Types). S. W. S. Toms.

The American X-Ray Journal (St. Louis, Mo.), January.

88.— Excitation of Crookes' Tube by Static Machine. John T. Pitkin.
89.— Fluorescent Lead: Some Observations in Radiography. Alex L. Hodgdon.
90.— Roentgen Rays in Military Surgery. John Hall-Edwards.
91.— Roentgen Rays in Spina Bifida. Carl Beck.

St. Paul Medical Journal, December, 1899.

92.— Tumors of Breast. Charles L. Scudder.
93.—*Major Operations with Ethyl Chlorid and Primary Chloroform-Inhalation-Anesthesia. Oscar Bloch.
94.— On a Certain Lack of Mechanical Facility in Surgeons. J. G. Mumford.

Journal of Mississippi State Medical Association (Biloxi), January.

95.— Sanitation and Isolation as a Means of Prevention and Eradication of Yellow Fever. J. A. Tabor.
96.— Gonorrheal Infection of Puerperal Woman; Report of Case. M. J. Lowery.
97.— Placenta Previa. W. W. Robertson.

Memphis Lancet (Tenn), January.

98.—*Report of Four Months' Service in Internal Medicine at St. Joseph's Hospital, Memphis. Wm. Krauss.
99.—*Modern Treatment of Face Presentations. Gustav Kolischer.
100.—Physician as a Factor in Spread of Contagious Diseases. F. S. Raymond.
101.—*Some Remarks on Diseases of Eye, Ear, Nose and Throat in the Negro. E. C. Ellett.
102.—Recurrence of Typhoid Fever, with Report of Case. L. L. Meyer.

St. Louis Clinique, January.

103.— Case of Error of Refraction Complicated with Marked Esophoria Producing Persistent Asthenopia. A. C. Corr.
104.— Diet in Lithemia. A. B. Conklin.
105.— Ear, Nose and Throat. Oscar F. Baerens.

Providence Medical Journal (R. I.), January.

106.—*Nerve Grafting. Frank E. Peckham.
107.— Some Observations on Bright's Disease. Herbert Terry.
108.— Sanatoria for Consumptives. Jay Perkins.
109.— Report of Two Brain Cases, with Operation. J. W. Courtney.
110.— Some Points on Technic of Cerebral Operations. Charles Greene Cumston.

111.—Case of Probable Acute Yellow Atrophy of Liver. [illegible]

Journal of Tuberculosis (Asheville, N. C.), January.

112.—Some Measures [illegible] Spread of Tuberculosis. [illegible]
113.—[illegible]. [illegible] Harrington.
114.—*[illegible] Stages of Pulmonary Tuberculosis. Wm. E. [illegible]
115.—[illegible] of Pulmonary Tuberculosis, with Special Reference to [illegible]
116.—[illegible] Tuberculosis. Wm. E. Cochrane.
117.—Pathology and Symptomatology of Pulmonary Tuberculosis. [illegible]

Memphis Medical Monthly (Tenn.), January.

118.—*[illegible]. A. F. DeLoach.
119.—*Abscess of Lung Following Pneumonia, with Case Reports. J. H. Reilly.
120.—When to Operate in Appendicitis. E. E. Haynes.
121.—*New Arm Extension Forearm Splint. E. W. Barton.
122.—*Pediculi Capitis as a Cause of Enlarged Cervical Glands. Battle Malone.
123.—Rational Care of Babies. Adele E. Shaw.
124.—A Brief Review of Surgical Cases Operated on at City Hospital During Three Months Service. F. D. Smythe.

Southern Practitioner (Nashville, Tenn.), January.

125.—*Diphtheria and Its Treatment. E. G. Wood.

Indiana Medical Journal (Indianapolis, Ind.), January.

126.—*Care of the Recent Case of Insanity. C. B. Burr.
127.—Report of Case of Hemophilia. George J. Weitz.

AMERICAN.

1. **Medical Errors.**—Quimby calls attention to certain errors of reasoning in medical publications: the ignoring of ignorance; too much reverence for authority; the failure to stick to the proposition in hand, the careless use of indefinite terms, etc. He uses a certain article to illustrate his points, and shows its defective reasoning. The practical suggestions he offers are: 1. The author of any paper should furnish the secretary, at least a week before his paper is read, an abstract stating the specific propositions which he proposes to establish, and the heading of the arguments on which they are supported. 2. Copies of this should be furnished the gentlemen who undertake to discuss the paper, and they should also present their direct discussion in manuscript. He thinks that here we make a great mistake, as in discussion men are apt to evade important points and more surely will not confess errors. 3. Following the written discussion the author of the paper should be put on the stand and each of the discussers be allowed a certain time for cross-questioning, the author being strictly limited to answering questions, but at the close of the discussion he should have the same opportunity to question his critics. 4. The result of such discussion may be definitely formulated; there should be appointed a judge, with authority to hold the disputants to their argument, and a jury of three or more to, at the close, decide whether the author has or has not maintained his position.

2. **Taking Cold.**—The explanation of the process of taking cold, offered by Woollen, is that it begins in a systemic depression of temperature. One who can preserve the normal standard of temperature is safe and does not take cold. He also calls attention to the relation of nasal stenosis and faulty systemic temperature, and says that mouth-breathers very generally have subnormal temperature.

3. **Therapeutics of Carbonic Acid Gas.**—The conclusion of Rose's paper treats of the uses of carbonic acid gas inflations of the rectum, and points out that administered this way it has been of benefit in the treatment of chlorosis, phthisis and asthma, as well as dysentery, though his experience does not include the specific tropical form. He also finds it valuable in vomiting in pregnancy, atony and impotence of the genital organs, etc. The difficulties in the way of the general use of gases have been in the cumbersome and imperfect apparatus, and he suggests the use of the compressed gases in suitable sized receivers for convenient use.

4. **Nirvanin as an Anesthetic.**—After noticing the methods of local anesthesia, [illegible] reports experiments with a new substance discovered by Einhorn and Heinz, and named by them nirvanin. He finds it ten times less poisonous than cocain, on rabbits, and quotes Luxenburger's findings as to its antiseptic value. His conclusions are: 1. Nirvanin has distinct and valuable anesthetic properties when injected into the tissues according to the infiltration method. 2. It is ten times less poisonous than cocain and more than three times less so than eucain. 3. It has distinct antiseptic properties; a solution of 1 per cent. or more can be kept as a stock solution and will remain sterile. 4. It is a stable compound and can be boiled a number of times without diminishing its anesthetic properties, to any degree.

6. **Echinacea Angustifolia in Impotence.**—This new remedy is recommended for impotence by Stinson, who thinks that locally used it will be of much value as an aphrodisiac.

7. **Lung Reflex.**—Abrams calls attention to the lung reflex as of diagnostic value in the bronchopneumonia of children. It consists, as we are aware, of dilatation due to local external irritation, and in cases where lung atelectasis exists it serves to relieve the condition. Cases are cited as showing its value both in diagnosis and treatment.

8. **Excretion in Treatment of Acute Infectious Diseases.**—McCallum believes that purging has special advantages in acute infectious diseases, though the question as to the exact time to use it is the most important one. Purging is a form of serumtherapy, and its vigorous early use is of paramount importance. He speaks more especially of the treatment of pneumonia and typhoid fever by this means, and he thinks that thorough purging in the first forty-eight hours is often of the greatest importance. After forty-eight hours he would not allow it, but if it is done thus early, even the feeble and alcoholic subjects are less liable to extensive invasion of the pneumococcus and the resulting complications. His experience with the treatment of typhoid fever by purging is less extensive, but he agrees with Thistle that free purging can shorten the course of the disease, though he is not of the belief that this is brought about by emptying the intestinal canal of toxins and germs. He has used the purgative and cold bath treatment together, with apparently happy results, but whatever treatment used, he makes one rule, that is to give strychnin in good doses early. It is a tissue arouser, especially in the nervous system, and helps to prevent the vital nerve becoming oversaturated with toxins.

9. **Cerebral Rheumatism.**—The author's theory of cerebral rheumatism is that the cerebral involvement is not due to high temperature, but that it is the effect of a toxic agent directly on the brain and its membranes. The pathology of cerebral rheumatism is not clear. When changes are found, they consist in congestion, and sometimes minute hemorrhagic effusions. The symptoms are well known and the diagnosis is generally made without difficulty, but Morgan calls special attention to the possibility of confounding the effects of the salicylates with this condition. The prognosis is grave. The treatment is symptomatic.

10. **Diplococcus of Erysipelas.**—The author presents the results of investigations in the Philadelphia Hospital. In eight patients he found a special form of diplococci occurring. They were spherical cocci, about the size of the pneumococcus, usually occurring in pairs, often singly, and very rarely in chains of four, which he thinks an accidental arrangement. As observed in pus in the blood of the inflamed part, and in the blood of rabbits, they have been seen only in pairs and were encapsulated. They stain well with aniline gentian violet and carbol-fuchsin, but not readily with Loeffler's alkaline solution of methylene blue, and still less with saturated aqueous solution or with Gabbet's solution. They grow in the presence of oxygen and at the room temperature, but better at 37 C., and are nonmotile. Cultures on bouillon show a slight cloudiness at the end of twenty-four hours, which increases from day to day, there being no tendency to clear subsequently. Glycerin-agar, at the end of twenty-four hours, shows minute opaque colonies, pinpoint in size, whitish in color, and sharply defined in outline. After five to six days these colonies become about 1 mm. in diameter, and slightly raised from the surface. Blood-serum shows a more luxuriant growth, the colonies being three to four times the size of those on glycerin-agar, and proportionately raised above the surface. They are of milk-white color, distinctly outlined, and under a low magnifying power appear smooth. Stroke-cultures show a beaded growth all along the line of inoculation. Gelatin is not liquefied and there is no evidence of the production of gas. In stick-cultures, growth occurs all along the line of inoculation but apparently ceases after from twenty-four to forty-eight hours. There seem to be no radiations and no tendency for the surface-growth to spread. A slight cupping is seen at the top of the puncture

after forty-eight hours. Litmus-milk shows no change in reaction after being in the incubator for fifteen days. They do not grow on potato. Inoculations made from cultures kept in the incubating oven eleven days showed no growth. After about eight days new cultures are produced with difficulty. Inoculations were made on five rabbits each being from a twenty-four-hour pure culture of a different case. In conclusion, he says: "I believe this diplococcus is a cause of erysipelas or of a disease which in the light of our present knowledge can not be diagnosed from erysipelas. Koch's postulates have been demonstrated with reference to this organism as follows: 1. I have found this diplococcus in the diseased tissues of eight different cases of erysipelas. 2. I have grown this organism in pure culture upon artificial mediums in each case. 3. The disease was produced in four rabbits by subcutaneous inoculations. 4. The same organism was obtained from the diseased tissues of the inoculated animals."

11. **Nerve-Cell Staining.**—Paton describes the Nissl methylene blue method and the Bethe or Apathy method of staining the fibrils in ganglion cells. He calls attention especially to certain points of the technique requisite to avoid the production of artefacts in these various methods.

12. **Varicose Veins of Vulva.**--Darnall illustrates certain cases of this condition, and shows that it is not as important a complication in labor as might appear.

13. **Pelvic Hematoma Following Labor.**—Wilson describes the anatomic conditions favoring hematomas and the causes predisposing.

14. **Gastric Ulcers.**—Lund reports a case of gastric ulcer operated on sixteen hours after the perforation, with good results. The ulcer was situated on the anterior surface of the stomach, which was favorable, and he suggests that we must operate early in these cases. He was surprised by the favorable showing in the recent statistics of this operation, and he reviews the literature and tabulates the cases.

15. **Case Method of Teaching Medicine.**—This paper recommends the study and discussion of cases as a practical method of teaching medicine. It differs from the clinic in that the cases are the printed histories and results of examinations of a patient, only so much being stated as will stimulate the student to care and discrimination. The treatment is withheld, the student being called on to supply this according to his diagnosis. The method is simply another application of the inductive method of teaching. The paper is favorably noted editorially in the same issue of the *Journal.*

19. **Intensity of Second Sounds at Base of Heart.**—After briefly noticing the opinions and statements of authors, Creighton gives the results of examinations in 1000 cases, with special reference to accentuation of the second sound, and sums up her conclusions as follows: 1. Accentuation of the pulmonic second sound is almost invariable in young children and frequent in youth. 2. After the fortieth year of life, the reverse is the case, and it is then rare to find a pulmonic second sound as loud as the corresponding aortic one. 3. Between the ages of 20 and 30 years, there is no marked accentuation of either sound. 4. In view of the above facts, it is obvious that when one speaks of an accentuated pulmonic second sound as corroborative of a diagnosis of heart disease, such accentuation must mean an increase in the loudness of the sound over that normally to be expected at the age of the patient in question. 5. Further, when we speak of an aortic second sound as accented, we must mean—in case of patients over 40 years old—more accented than it normally is. Once more, the simple comparison with the pulmonic second sound will not settle the question. The comparison must be with an ideal standard carried in the mind. 6. In interpreting the meaning of an accentuation of the pulmonic second in suspected mitral stenosis, one must bear in mind the age of the patient. The presence of a physiologic accentuation of the sound can be determined only in relation to the degree of accentuation which is to be expected at the age of the patient in question.

20. **Stricture of Rectum.**—The theories of stricture of the rectum are discussed by Bullard, and the general opinion that they are of syphilitic origin is contradicted by him. He believes that the majority are of non-syphilitic origin though syphilis may be a predisposing cause. The chief predisposing factor is trauma. The proper, intelligent local treatment of non-syphilitic rectal ulceration will minimize the occurrence of rectal stricture.

21. **Post-Partum Hemorrhage.**—The general subject of post-partum hemorrhage is gone over and directions given in detail as to the management of the second and last stages of labor. The author thinks that in anemic and neurotic women the nervous system plays an important part in causing the hemorrhage.

22. **Prostitution.**—Lustgarten gives a history of the St. Louis regulatory law, and explains the reasons for its failure. He thinks that the United States will look to therapeutics for the prevention of this evil, and will watch the experiments abroad before adopting measures foreign to its people and its laws.

24. **Serum Treatment of Yellow Fever.**—Matienzo reports experimental results obtained from the bacillus icteroides by Fitzpatrick, and results of injections made with the curative serum and the preventive toxin at Vera Cruz. His conclusions are as follows: 1. Both intravenous and subcutaneous injections of the serum produce a general reaction, revealed by the hyperthermia and acceleration of the pulse. 2. The injections, both subcutaneous and intravenous, neither controlled the disease nor manifested in the patient the least reaction upon the appearance, development or duration of the symptoms of yellow fever. 3. It is not possible to form conclusions on the inoculation of the preventive toxin on account of the small number of cases and the short time employed. 4. The reaction caused by the injections of the toxin in the convalescents of yellow fever demonstrates Sanarelli's assertion that the curative powers of the serum, in animals, is not due to the antitoxin substances; and confirms by its analogy to the typhoid serum the opinion, given by some bacteriologists, that the icteroides is an Eberthiform bacillus.

25.—See abstract in THE JOURNAL of Nov. 18, 1899, p. 1292.

27. **Ocular Troubles Among Negroes.**—After having noticed the iritic troubles largely due to syphilis and tuberculosis, DeBeck remarks on the infrequency of color-blindness among negroes, and thinks this, with the general good color sense of the lower races, is an argument against any decided development of the sense of color sense in civilization. He finds negroes very generally hypermetropic, myopia being very rare, and asthenopia being also infrequent. Squint is also a rarity, but paralytic troubles appear to occur in larger proportion among them than among the whites, which he attributes to the frequency of syphilis and their habits of neglect.

34. **Hematocele.**—Harrison disagrees with Fritsch's view that hematocele is solely due to ectopic gestation. He thinks it may occur from other causes. He describes the operations, preferably laparotomy, for these cases.

35. This paper, already printed elsewhere, was abstracted in THE JOURNAL of Sept. 9, 1899, ¶ 60, p. 660.

38. **Ox-Gall Enemata in Constipation.**—Ameiss recommends the use of ox-gall enemata, obtained fresh, by injection in cases of intestinal obstruction and post-operative constipation. In three cases he found it decidedly advantageous, and in the fourth one it was ineffective, but the autopsy gave purulent peritonitis as existing. There are many cases that occur where an operation is necessary, but the use of ox-gall enemata may generally be given a trial before resorting to the knife. He believes that its action is possibly due not only to its mechanically insinuating itself in the narrow spaces of the intestinal tracts, but also to absorption of the bile salts, which are said by some to be the main exciters of prompt and distinct cholagogue action.

39. This paper, previously printed elsewhere, was abstracted in THE JOURNAL of January 13, ¶ 1, p. 97.

43.—See abstract in THE JOURNAL of Nov. 18, 1899, p. 1292.

45.—Ibid., Oct. 28, 1899, p. 1100.

47.—This paper is commented on editorially in this week's JOURNAL.

48. **Micrococcus Zymogenes (Nov. Spec.) in Endocarditis.**—MacCallum and Hastings describe a micrococcus found by them in a case of endocarditis in pure culture, which was pathogenic to mice and rabbits and produced typical endocarditis in a rabbit and dog, being found in cultures from the vegetations after death. It is very small, occurs mainly in pairs, sometimes in short chains, stains by Gram's method,

grows in small pale grayish white colonies on gelatin and agar, at first clouds bouillon, which then becomes clear with a whitish sediment, does not produce gas in glucose media, liquefies gelatin slowly and to some extent also blood serum, and is especially characterized by its behavior in milk, which it acidifies, coagulates and subsequently liquefies. It produces a milk curdling and also a proteolytic ferment, each of which is separable from the bacterial cells. It remains viable for months in old cultures, and is tolerably resistant to the action of heat and antiseptics. It has some resemblance to the pneumococcus and streptococcus, but is distinguished from them by the culture features which have been described.

49. **Study of Neurone Theory.**—From researches with a combination of Nissl's method besides that of Golgi, Fischer concludes: 1. The neurone theory, in so far as it claims the absolute independence of the neurones, is an untenable one, as anastomoses between them have been found. 2. The dendrites, which are generally believed to have but nervous function, may also have nutritive function, if such an inference is permissible from the existing anatomic relations, which show some of the dendrites embedding themselves in the walls of the capillaries.

50. **Interstitial Nephritis in the Young.**—Brill and Libman report a case of chronic interstitial nephritis in a girl aged 14 years, with marked extensive arterial changes and the occurrence of calcific deposits in the liver. There was also nephritis in other members of the family, and the case was complicated by the hemorrhagic diathesis. They call attention to the latency of some of these cases in children, and the necessity of care and continued observation of the heart and vessels in such cases.

51. **Lymphoma.**—LeCount describes a tumor examined by him, which represented a benign, non-inflammatory, new-growth of lymph nodes, a confirmation of the definition of lymphoma by Senn.

52. **Leucemic Lesions of Skin.**—This paper is a careful study of a case in which the nodules of the skin were examined. Oertel believes it supports the view of those who regard secondary leucemic nodules as essentially derived from cells derived from the blood.

53. **Addison's Disease.**—Philips reports a case and reviews others collected in the literature of Bright's disease, with simple atrophy of the adrenals. The pathogenesis of the condition is not explained. The histologic changes present in his cases were slight, and he thinks we have to deal with a perversion, rather than a total lack of function of the organs.

55. **Water Bacteria.**—Fuller and Johnson's paper is an attempted classification of the water bacteria, of which some few of the species are tabulated at the end.

56. **Bacillus Pyocyaneus.**—The conclusions of Jordan's paper are: 1. The fluorescent pigment formed by some varieties of bacillus pyocyaneus is produced under conditions identical with those governing the production of the pigment by other "fluorescent bacteria." 2. The production of pyocyanin is not dependent on the presence of either phosphate or sulphate in the culture-medium. It is formed in non-proteid as well as in proteid media, but is not a necessary accompaniment of the metabolic activities of the organism, e. g., tartrate solution. 3. The power of producing pyocyanin under conditions of artificial cultivation is lost sooner than the fluorescigenic power. 4. There are greater natural and acquired differences in pyocyanigenic power than in fluorescigenic. 5. The fluorescent pigment may be oxidized slowly by the action of the light and air, as well as by reagents, into a yellow pigment, and pyocyanin may be similarly oxidized into a black pigment. 6. A convenient separation of bacillus pyocyaneus into four varieties would be the following: *a*, pyocyanigenic and fluorescigenic—most common; *b*, pyocyanigenic only—rare; *c*, fluorescigenic only—not uncommon, closely related to "B. fluorescigenic liquefaciens;" *d*, non-chromogenic. 7. Except for the occasional loss of one or another function, the different varieties are not so plastic as sometimes assumed, and can not be readily converted into one another by subjection to varying conditions of life. 8. The signification and correlation of the almost countless physiologic variations among the members of this group in respect to growth in gelatin, behavior to temperature, indol production, etc., remain to be determined. It is not yet clear that the variations in chromogenic power can be in any way correlated with the presence or absence of other physiologic functions.

58. **Differentation of Urines.**The subject of ureteral catheterization is historically discussed by Brown, and reports of his own cases given. The instrument employed by him was mainly Brenner's ureter cystoscope, which has certain advantages in its small size, the high level of the ocular end of the instrument and the easy curve. He has devised an instrument, however, which he thinks is an improvement.

59. **Fracture of Neck of Radius.**—A case of this rare accident is reported with skiagraphs, by Corson, and its mechanism discussed. It can only happen apparently by special strain in backward dislocation of the arm in extension.

60. **Properitoneal Hernia.**—After discussing the subject, Knott reports a case which was operated on by him. He thinks that every case of this type, whether strangulated or not, should be immediately subjected to an operation, thereby minimizing the unusual danger of the condition.

61. **Proper Wire for Aneurysm.**—Reeve gives a report of a case which induced him to make experiments which are also reported. He thinks a silver or gold wire about .0085 of an inch in diameter, and of sufficient temper to retain its coil, would be all that is required to fill the aneurysm with clots when carrying the positive galvanic current, and it is not so thin as to be in danger of breaking. The expense of a gold wire would seem unnecessary, as the loss of silver could hardly be sufficient to be injurious.

62. **Nitrous Oxid and Ether Anesthesia.**—Miller strongly recommends the use of nitrous oxid as a preliminary to ether anesthesia, using for the latter an open cone. The average time required in his practice is about 3.05 minutes. The shortest time has been fifty seconds. He thinks it the nearest approach to an ideal anesthesia that has been produced.

63. **Ectopia Vesica.**—The method suggested for the relief of ectopia vesica is the transplantation of the bladder wall of an animal to the lower lateral abdominal fascia of the patient. After seven or eight days the union of the two tissues is sufficiently strong to allow a plastic operation, whereby the skin flap with the bladder attached may be swung over on the extruded bladder and the edges of its attached piece sutured to the defective bladder. He does not report any case where this was tried except experimentally on a dog.

64. **Persistent Thyroglossal Duct.**—This article is the report of a case which occurred under Armstrong's observation, which was operated on twice with apparently good results.

65. **Actinomycosis.**—Ruhräh concludes his paper on actinomycosis in man, noticing the prognosis, diagnosis, treatment, etc., and gives a list of the papers used in this article.

69. **Laboratory Milk in Infant Feeding.**—Starr reports an unsatisfactory experience with laboratory milk as compared with home modified milk food. He thinks that the separation and sterilization are overdone. He would not condemn it absolutely, as it has a use in feeding infants who must be artificially nourished from birth, in whom it can be employed up to the second month, but its applicability is limited.

70. **Cerebrospinal Symptoms in Influenza.**—Westcott reports two cases, apparently corresponding to the condition described by French observers as pseudo-meningitis-grippalis, but either ending in recovery or showing only hyperemia without inflammatory changes or bacteria after death, and with pneumonic infiltration of the lower lobes of the lungs. In both of his patients recovery took place.

74.—See abstract in THE JOURNAL of June 3, 1899, p. 1256.

76.—Ibid.

80. **Hysteric Blindness.**—The cases reported by Moore are discussed with the diagnosis, treatment, and nature of the condition. He thinks that in all of his cases the assurance of the discovery of a cause was an important factor in the cure. In every one an operation or shock was sufficient to relieve. The patient should be removed as far as possible from immediate relatives and environment, and the treatment, aside from this, is the use of such remedies and measures as are capable of startling and surprising the nerve-centers.

83. **Purulent Ophthalmia.**—It is fortunately not common for physicians in general practice to meet with purulent ophthalmias, yet they do occur and how to meet them is an import-

ant point. Van Fleet briefly reports nine cases in which he was called in consultation. He advises, as a matter of prophylaxis, the use of vaginal douches when there is any suspicion or knowledge of gonorrheal infection before child-birth. From birth he would use Credé's method of a 2 per cent. solution of nitrate of silver, and he gives instructions as to its administration. He believes that this drug in the eye is perfectly harmless even in strong solutions, however painful it may be, and there is no efficient substitute for it. The treatment of the first stage consists of this and the application of ice-cloths changed sufficiently often to keep them from becoming warm, and washing the eye with some mild collyrium to keep it free from pus. The danger is involvement of the cornea, and special care should be used to see that it is not injured. If involvement appears, cauterization is the best method, and if it goes so far as to produce bulging, it should be punctured as often as it occurs. Never abandon the case as hopeless. Many times the condition will terminate, leaving a more or less useful eye.

85. **Myopic Astigmatism.**—Thomson lays down the following general rules for the treatment of myopia and myopic astigmatism: 1. Give total spheric correction, or as near to it as possible, and insist on its being worn all the time. 2. Look carefully for low degrees of astigmatism and correct fully. 3. In high degrees of astigmatism, give the total correction so as to educate the retina, if possible.

93. **Major Operations with Ethyl Chlorid and Chloroform.**—Bloch advocates the use of ethyl chlorid locally, with primary chloroform-inhalation anesthesia. He thinks the cause of pain is direct irritation of the nerves by pressure and pulling, and that by this method the operation can be rendered painless and successful. In 267 patients thus treated, he has used only from 1 to 6 c.c. of chloroform when operating by this method. The ethyl chlorid is used by spraying after the patient has become anesthetic, the patient being apparently conscious considerable of the time.

98.—See abstract in THE JOURNAL of Dec. 2, 1899, p. 1419.

99.—Ibid., p. 1424.

101.—Ibid., p. 1419.

106. **Nerve Grafting.**—Peckham reports a case of motor paralysis of the left leg, following fractured spine, which had been partially relieved by laminectomy. Branches from the internal popliteal nerve to the gastrocnemius were divided and grafted into the external popliteal with the result of producing some slight improvement in muscular extension. Another patient with complete paralysis of the extensor muscles of the leg was similarly treated, with also partial improvement. He suggests dissecting out the nerve plate ending, or localizing it sufficiently to take a small amount of muscle containing it, and implanting this into the paralyzed muscle.

113. **Early Sign of Tuberculosis.**—Harrington calls attention to a widely dilated state of both pupils as an early sign of tuberculosis. He has come to associate it, from his observations, with the incipient stage of the disease.

114. **Diagnosis of Initial Tuberculosis.**—Cochrane, reviewing the signs of early tuberculosis, suggests the advantage in physical examination, of the following procedures: Removing all clothing to the waist, for any accuracy in auscultation or percussion; the use of the percussion hammer with a finger as a pleximeter in detecting areas of slight thickening; the advantage of "open mouth" breathing during auscultation or percussion; the advantage of forced inspiration and expiration during the examination of suspicious areas; the absolute necessity, for the evidence afforded, of examination of the sputum of all suspected cases; the employment of the tuberculin test in suspicious cases of very recent development, in which only indefinite conclusions can be reached by other methods of diagnosis.

118. See abstract in THE JOURNAL of Dec. 2, 1899, p. 1420.

119.—Ibid.

121.—Ibid., p. 1421.

122. **Pediculi and Enlarged Cervical Glands.**—Malone reports a case in a child, supposed to be scrofulous, with marked swelling of the glands, which appeared to be directly connected with head lice, and says he has seen numerous other cases similar to the one given. He calls attention to the fact of cervical swelling from this cause.

125. **Treatment of Diphtheria.** Wood's paper is a very full discussion of the treatment of diphtheria. He has faith in the use of alcoholic stimulants and strychnin, and for local treatment he would use mild, unirritating methods, to avoid cardiac excitement. The better part of his paper is taken up with the subject of antitoxin, which he endorses, considers harmless and generally, if not invariably, effective.

126.—This paper, here printed as original, has appeared elsewhere: see abstract in THE JOURNAL of January 20, ¶ 130, p. 168.

FOREIGN.

British Medical Journal, January 6.

Observations on General Metabolism and the Blood in Gout. CHALMERS WATSON.—Watson reviews the subject of general metabolism and the condition of the blood in gout, and reports a case carefully observed, with blood examination and attention to excretion and diet. He thinks, from these results, that we must abandon the theory at present based on Garrod's observations. The following points appear to him to be established: 1. The alkalinity of the blood is not diminished during the gouty attack. 2. The excretion of uric acid is not diminished during the attack, but the reverse; therefore there is no ground for the supposition of any temporary diminution in the capacity of the kidneys to excrete uric acid. 3. The amount of uric acid in the blood is not greater during the attack than in the intervening period. Admitting these points, the cause of the acute paroxysm is still to be sought. He speaks of the advisability of more attention to histo-chemical characters of the blood, the ratio of uric acid to other important products of metabolism, and, if opportunity be found, examination of the bone marrow.

Lancet, January 6.

Acidity. JAMES F. GOODHART.—The author criticizes the common ideas as to diet, etc., in the controlling of uric acid production and excretion. His contention is that uric acid is a common product which may be considered as the ash, resulting from the workings of the many-chambered kiln of our bodies, and that the fault, if there is any, lies not in the ash or even in the coal, but in the driver or the driving power, which should regulate the process of combustion. The uric acid passer invariably presents problems each of which should be solved by itself. In one case the cause may be the visceral sluggishness which is a common outcome of nervous exhaustion, in another heredity, in another nervous shock, and it may simply be the beginning of senility. Each case must be judged by itself and treated accordingly.

Internal Derangements of Knee-Joint (Popularly Called "Slipped Cartilage"), Based on a Series of Two Hundred Cases. WILLIAM H. BENNETT.—The subject of loose cartilage in the knee-joint is treated by Bennett. He describes the symptoms and calls attention to the fact that there are some cases with no displacement whatever, but simply bruising of the peripheral edge of the semilunar cartilage and its attachments without displacements, the result being a local effusion of blood, and subsequent inflammatory exudation which acts as a foreign body. This class of injuries is, he thinks, more common than any other, though he has not seen it noticed in surgical literature. The treatment by rest is first mentioned, and he insists on the importance of massage of muscles and joints without movements, and this can not be commenced too soon. He notes with what rapidity the muscles of the thigh, and to a degree those of the leg, waste if left to themselves in this injury, and massage and exercise must not be limited to the wasted muscles of the thigh but should be applied to those connected with the iliotibial band, the gluteus maximus, and the tensor fasciæ femoris. The essential point is temporary rest of the joint and avoidance of rotation movement. As regards apparatus, he does not speak with great favor, and thinks that operative interference should be postponed until all other methods have failed to satisfy the patient. He does not think the operations entirely free from risk, and therefore even the exploratory ones are not to be attempted with perfect impunity.

Histology and Prevention of Blackwater Fever. W. H. CROSSE.—Crosse regards blackwater fever as simply a complication of malaria, basing his opinion on a thorough examination of a case in which he found nothing in the tissues dif-

[illegible] patients. [illegible] As regards the [illegible] of malaria it would be [illegible] in extensive [illegible] He [illegible] that he has [illegible] in western North America. The individual precautions should be general care of the health, avoiding chills, exposure, etc., moderation as regards alcohol, suitable food, proper water-supply, and the use of quinin, and return to a non-malarial climate.

So-Called Danger From Use of Boric Acid in Preserved Foods. OSCAR LIEBREICH.—In a recent article (*Lancet*, Nov. 11, 1899), Annett says that boric acid, if taken in small quantities, is injurious to health. Leibreich here points out what he thinks are the errors in his methods. He himself placed nine fowls on ordinary corn feeding for several days, and finding one showing signs of disease, withdrew it and carried on the experiments with the remaining eight. They were fed porridge containing boric acid to the amount of more than an ounce in a gallon, and in three days each of the hens had received about 2 grams without any signs of disease being noticeable. In the twelfth day seven of the hens received 1/2 gram of boric acid at 1 p.m., again repeated at 3 p.m. The eighth hen received 50 grams of sweet almonds. On the thirteenth day no sign of illness was perceivable, and the hens were perfectly well on the sixteenth. He thinks that this shows that experiments of Annett and Robinson are not reliable, and that something else must have been acting than the boric acid. He believes that it is very far from being proven by experiments that small quantities of boric acid, if used for a long time, are poisonous to adults and children.

Three Cases in Which Movable Kidney Produced all the Symptoms of Gall Stones. T. J. MACLAGAN and FREDERICK TREVES.—Three cases are reported, producing all the symptoms of gall-stones: attacks of hepatic colic followed by jaundice were produced by pressure on the bile-ducts by the displaced kidney. The diagnosis of gall-stones was made by all physicians and surgeons who saw the patients, but in not one of them were gall-stones found. Murchison makes no allusion to this cause of jaundice, and it must therefore be added to his list. The authors refer to cases reported by Hale White and A. H. Cordier as somewhat similar.

Report on "Henpuye" in the Gold Coast Colony.—ALBERT J. CHALMERS.—The disease described occurs among the negroes on the West Coast of Africa, during or following an attack of yaws. It consists of a swelling on either side of the nose, produced by the deposition of new bone under the periosteum, growing slowly in all directions but not infringing on the orbital or nasal cavities in any way. Exceptionally only is it unsymmetric. It is accompanied by pain in the beginning of the disease, and later headache is felt, and pain during wet weather. The swellings may grow indefinitely and interfere even with sight, by their obstruction, or they may stop at any stage. It is more common in men than in women. He reports four cases. The treatment was operative, and Chalmers considers it as a localized osteoplastic periostitis.

Differential Diagnosis of Mongolism and Cretinism in Infancy. G. A. SUTHERLAND.—The differential diagnostic points between Mongolian idiocy and cretinism are here laid down. The chief are that the former is congenital; infants are lively and imitative; the skull is flattened anteroposteriorly; the palpebral fissure is small and oblique; the lips mobile; congenital heart disease common; the little finger short and curved; thumb short; the thyroid gland is normal, and treatment without benefit. In cretinism, on the other hand, the symptoms rarely appear before the sixth month; the infants are dull and impassive; the skin swollen and dry with fatty deposits in the neck; there are no characteristic skull deformities; the lips are thick and immobile; heart disease is rare; the fingers relatively normal, and thyroid glands absent or atrophied. When these symptoms are not marked, stress should be laid on the movements of the face and limbs of the Mongolian idiot, as compared with the dull inactive condition in the cretin. The final test is the therapeutic one.

Practitioner (London), January.

Pneumonia. WILLIAM H. BROADBENT.—After noticing the [illegible] symptoms and physical signs, Broadbent expresses his belief that pneumonia is a disease of short duration, and that a large number of patients will recover without drugs. The temperature is high and there is no good in trying to reduce it. He thinks antipyretics are injurious, except perhaps in the very beginning. A single dose has been known to shorten the disease and occasionally an early dose relieves the pain and is therefore justifiable. The diet should be liquid. Stimulants are rarely necessary, but often useful, and should be reserved until they are indicated by small, weak and faltering pulse, dry tongue with restlessness or delirium. If a patient sleeps after a little brandy or champagne, or if the pulse becomes less frequent or larger, it has done good. In some exceptional cases a considerable amount of brandy may be required, and sometimes brandy in champagne seems to have a better effect than either alone. When sleeplessness is persistent and distressing, one may not hesitate to give a small dose of morphin hypodermically. It is all the more useful if there is delirium. When no drugs are really required, it is a comfort to the patient and friends that something is being done. Simple salines allay thirst and have some influence on the cough, especially when given in effervescing mixture, and are refreshing. Carbonate of ammonia and quinin may be given if the pulse flags. Strychnin is often of very definite service when the cardiovascular system shows a tendency to asthenia. It is best given in small doses hypodermically, at intervals of from twelve to four or three hours, and it is important to note that it may be required early. Digitalis may be extremely useful on occasion, but given at all periods of the disease its value is dubious. Inhalation of oxygen is of direct benefit when the face is livid and lips blue, and may possibly carry a patient through the dangerous phase of the attack, with strychnin and stimulants. Dr. Broadbent is not certain as to the benefit of ice bags, and poultices assiduously employed are distressing. One for three hours twice in twenty-four will be sufficient. In one particular complication, when invasion of the lung is so rapid that the right ventricle can not cope with the sudden resistance in pulmonary circulation and is paralyzed by overdistension, venesection may be of great service. He says: "The patient will be cyanosed, unable to speak, and scarcely able to breathe or cough; he will be sitting up in bed with his legs over the edge unless prevented, supporting himself on his hands, the veins of the neck and temple turgid, the eyes staring, the expression agonized and beads of sweat standing on the face and forehead. The pulse will be small and short, probably scarcely perceptible, while the heart will be found beating violently. It is scarcely possible to define the heart by percussion, but the right cavities are enormously distended, and the contrast between the cardiac impulse and the pulse shows that the blood is dammed back in the lungs so that it reaches the left ventricle in very inadequate amount. Under such circumstances the relief by bleeding is most striking. The pulse improves as the blood flows, the breathing is relieved, and when sixteeen to twenty ounces have been withdrawn all the distressing symptoms will have disappeared. The same results are not to be expected later, when asthenia has become a prominent feature in the symptoms, although, of course, there is a dilatation of the right heart. It has been already stated that delirium is common in the course of pneumonia. It usually subsides at the crisis, especially when with this there is a long quiet sleep. But it may persist and become more violent, or violent delirium may set in after the crisis. It is probably of toxic origin, the source of which may be the exudate absorbed into the blood, or it has been attributed to asthenia. The remedial measures are nourishment and stimulants, with strychnin and digitalin hypodermically."

Treatment of Pneumonia. WILLIAM GAIRDNER.—This author reviews the history and treatment of pneumonia within his recollection. His own generally employed method is mainly an expectant one, but he still uses antimony in very small doses, under certain conditions. He especially contends against the use of opium, which he thinks is a very dangerous remedy in pneumonia and pleurisy.

Mortality and Frequency of Pneumonia as Affected by Age, Sex, Seasons, and Habits. HECTOR MACKENZIE.—The author analyzes the registrar-general's statistics of pneumonia in the United Kingdom, and finds that this disease causes nearly as many deaths as enteric fever, diphtheria, smallpox, measles and scarlet fever put together and, excluding children, its deaths greatly outnumber theirs. The mortality is greatest in males, especially after the age of 25, amounting to 5.6 per cent. of deaths from all causes, while in females the deaths are 4.8 per cent., and in males between 25 and 65 years of age, 8 per cent. of all deaths are due to this disease. He notices Dr. Wells' statistics as compared with those of the St. Thomas Hospital, which show a large mortality. From the total registered statistics he finds that, in a population of 30,000,000, at least 220,830 persons are annually affected with pneumonia, of which 31,950 die. As regards seasons, the coldest season, from November to February, seems to furnish the smallest number of cases, with the largest number occurring in the spring months. It does not seem to him proven that alcoholism makes an individual more susceptible to pneumonia, but it diminishes chances of recovery. Cold and wet are not so important in etiology as supposed. Kidney disease increases susceptibility. The relation of rheumatism to pneumonia is uncertain.

Pneumonia from a Public Health Standpoint. ARTHUR NEWSHOLME.—This writer analyzes the British statistics of pneumonia from the public health standpoint. He finds that in the decade 1881-90, one out of every eighteen deaths from all causes was registered as due to pneumonia. This shows a higher proportion than the preceding decade, probably produced by influenzal complications. The heaviest rate of mortality is found in the earliest, and next heaviest in the later years of life. The death-rate in females is more from the ages 10 to 15 than in males, but in all other periods lower. Comparing the deaths from pneumonia with those from phthisis and bronchitis, the death-rate from pneumonia between the years 1881 to 1890 was very slightly decreased, 1 per cent. only, and this was due to the lessened mortality in the earlier years of life; that from bronchitis was increased, while phthisis showed a very decided decrease at all ages. Only a small portion were due to transfers of deaths from phthisis to pneumonia, but it is doubtful whether the same statement can be made for bronchitis. A larger number of deaths take place in the colder months, the cold having a depressing influence, thus favoring the mortality. Regarding race, it appears that the natives of the tropics and especially negroes are particularly liable to the disease. Occupation has its influence, the smallest mortality being among professional men and farmers, while laborers in dusty employments and those engaged in the liquor business show the highest mortality. In concluding his article he notices epidemic and infectious pneumonia, showing the occurrence of each.

Medical Press and Circular (London), January 3.

Cinematograph and Teaching of Surgery. E. DOYEN.—This article, which was accompanied by demonstration before the British Gynecological Society, describes the use of the cinematograph for teaching and illustrating surgery. The author's first demonstration was made in 1898, in Edinburgh, thus establishing his priority, and he calls attention to the value of the method for students, as enabling them to observe what has not been possible in actual clinical demonstration. He believes that the surgeon may be benefited by showing his own operation, and be able to see where he can correct his errors. He claims that progress in surgery during the last few years has been due far more to the improvement of technique than to the observance of the laws of antisepsis, and that the cinematograph will demonstrate this better than any descriptions or photographs. It will show how the operations should be simplified and useless maneuvers done away with. The chances for the patient will be greatly improved, for in that matter especially "time is life." He says: "Lectures with the cinematograph should be given as follows: 1. The professor briefly describes the operation, and shows upon the screen projections of the principal instruments to be used. 2. Each step of the operation is shown in detail by fixed projections either of photographs or drawings. 3. When the technique is thoroughly understood the operation itself is shown on the cinematograph." If the professor has films of several cases of the same operation, he demonstrates the technique and the necessary modifications in the different cases. The students need no longer crowd the operating theaters as more or less intelligent on-lookers. They will be obliged to follow a preparatory course before they actually assist the surgeon. They will then be able to draw profit from his lectures and from the operations themselves. The application of the cinematograph may be considered one of the greatest improvements in the teaching of operative surgery, since it will make known throughout the world the best methods and the surest means of saving part of humanity from suffering and from death."

Intercolonial Medical Journal of Australia (Melbourne), Nov. 20, 1899.

Some Forms of Cystitis. ALFRED AUSTIN LENDON.—The author calls attention to a condition which has not been much noticed in text-books, and which he calls catarrhal cystitis. It is characterized by excessive discomfort without obvious change in the urine and no tendency to formation of pus, and is rapidly cured by drugs internally without the necessity of washing out the bladder. Of the other form, purulent cystitis, a case is reported, the intractability of which he credits to the fact that probably the ulceration of the mucous membrane did not yield to the treatment. He incidentally mentions the case of a boy with extroversion of the bladder, in whom he had, after several attempts, succeeded in implanting the left ureter into the rectum, but failed with the right. After operation the urine passed by the rectum was ammoniacal, while the bladder surface had lost that peculiar pungent odor which was previously so marked. He asks whether in his case of cystitis the decomposition took place in the kidneys or in the bladder, and offers the above as bearing on the question.

Bulletin de l'Academie de Medicine (Paris), Dec. 19, 1899.

Variations in Galvanometric Curve in Health and Disease. M. MENDELSSOHN.—In this communication Mendelssohn asserts that the variations in the galvanometric curve are important aids in the differentiation of organic and hysteric paralysis, and of secondary contractions of cerebrospinal origin —the result of descending degeneration, for instance—and hysteric contractions. We know that every contraction of the muscles is accompanied by a manifestation of electric energy which can be registered with the galvanometer like the curve obtained with the myograph. Mendelssohn establishes the identity of the two curves thus obtained whenever a muscle contracts under the influence of the will or of artificial stimulation. Organic and hysteric morbid conditions can be differerentiated by the different behavior of the galvanometer index in the second phase of the curve. It turns with the same rapidity in simple as in atrophic paralysis, but in the latter case the return to zero is very much slower, although still smooth and gradual. In case of contractions the return of the index to zero is very slow and is interrupted by two or three pauses, the index even retrogressing once or twice. This jerky curve is characteristic of hemiplegic contractions and is never observed in case of hysteric contractions. The difference is probably due to the fact that the muscle contracts all together, *in toto*, in hysteric, and by fasciculi in organic contractions. The curves registered in case of muscular contractions artificially induced, show a marked difference between simple and atrophic paralysis. In the latter the second phase, instead of duplicating the first is very much inferior to it, which can be accepted as positive evidence that the muscle has been invaded by degeneration.

Presse Medicale (Paris), Dec. 23, 27 and 30, 1899.

Capillary Embolism After an Injection of Calomel. A. RENAULT.—A young man with very extensive cutaneous syphilitic lesion was treated with subcutaneous injections of calomel, in the buttocks, 5 cg. each. Every precaution was taken; the needle was inserted first, detached from the syringe, and the improvement was manifest. The sixth injection, fifty-nine days after the first, was followed almost at once by intense dyspnea and distress, respirations 36, pulse 120 and marked stethoscopic symptoms. The syndrome gradually passed away in three or four days. Renault reviews a number of similar observations on record, all presenting the indications of a hemorrhagic infarctus in the lungs due to an embolic process, one fatal, and concludes that the insoluble mercurial salts are dangerous on this account, and should be reserved exclusively for extremely serious conditions, when immediate action is necessary, as in [illegible] lesions. It should only be used in other conditions after the failure of other methods of [illegible] and then only when convinced of the integrity of the emunctories.

Heredity in Chronic Nephritis. E. Romme.—"Eighteen cases of chronic nephritis in three generations of the family of a diseased father have recently been reported by Pel of Amsterdam. One daughter and her children and the children of another daughter have alone escaped. There are two cases of albuminuria in the third generation."

Respiratory Gymnastics in Pulmonary Tuberculosis. F. Barve.—The emaciation of tuberculous subjects is not merely the disappearance of adipose tissue, but is due to an actual muscular atrophy which should be combated in the treatment of the disease. The subjects should be trained in gymnastics, to restore strength to the muscles engaged in respiration, as these are the most important in their case. First they should be trained to hold themselves erect. This is easiest learned by having them lie flat on the back for a few minutes to an hour several times a day, without a pillow, on a hard bed. The elbows should be held back in walking and now and then the subject should take a few steps on tiptoe, which throws the chest forward. The reclining favors both circulation and respiration and the subject soon learns to prefer the erect position. Yawning is one of the best methods of exercising the respiratory muscles, driving the air all through the lungs and evacuating residual air. The subject is instructed to yawn voluntarily four or five times in succession several times a day. But the most important therapeutic measure of all is to keep him cheerful and get him to laugh often. Laughing is the gymnastics for the lungs par excellence. "No air lurks in the alveoles after a hearty laugh." Letulle organizes concerts several times a year for his patients in the Boucicaut hospital, as a therapeutic measure. "The delight of the patients should be seen to be appreciated. They talk of the entertainment a fortnight beforehand and keep laughing over it for several weeks afterwards." The gymnastic exercises practised at the Boucicaut are simple and require no special apparatus. One is to stand with the hands on the hips, rise on tiptoe and then, returning to normal, turn the head and trunk around to the right and then to the left. Another is to raise the arms and breathe deeply; drop the arms and expel the air. Two persons face to face take hands and slowly try to push each other back in turn without moving the feet. Other exercises are with the arms alone while reclining on the hard bed. "It is only sufficient to do some of these gymnastic exercises yourself to realize their effect on the respiratory muscles. And above all, never forget the laugh."

Treatment of Salpingo-Ovaritis by Ablation of Both Tubes and Partial or Total Preservation of One Ovary. F. Jayle.—The systematic preservation of part or the whole of an ovary is far preferable to total castration, as this avoids all post-operative trouble from the artificial menopause. If the ovary is sound, it is left entire, but if not, Pozzi seizes it with the thumb and finger to ensure hemostasis and immobility. The morbid portion is circumscribed with two deep incisions, and the organ resected until sound tissue is reached, even if only a fifth of it is left. The edges of the wound are perfectly coaptated and sutured with fine catgut, stitches not over 5 mm. apart and drawn up very gently but effectively. They should be intraovarian and not be seen in the depths of the wound, like the stitches with Emmet's needle in a perineorrhaphy. These maneuvers are delicate and add to the length of the operation, but the results fully justify them. A number of observations are appended showing the benefits of this systematic preservation of even a fragment of an ovary, one dating from 1897, menstruation regular, no post-operative troubles.

Progres Medical (Paris), Dec. 23, 1899.

Hydatid Cyst of Left Frontal Lobe. Operation, Large Loss of Cerebrospinal Fluid: Recovery. J. E. Esteves.—This communication from Buenos Ayres states that hydatid cysts are becoming more and more frequent in the Argentine Republic. Ten operations for such cysts of the brain are on record in local publications; six recoveries. Most of the cases were drained, but the observation reported by the writer is the only one with a ventricular communication that recovered. The cyst was the size of an orange and had destroyed almost the entire frontal lobe. Some of the contents escaped during the operation, into the cerebral cavity, wiped out afterward with gauze. The dura mater was sutured with fine silk and the osteocutaneous flap and scalp were also sutured as water tight as possible, to which fact Esteves attributes his success; no lavage, no draining. There was slight emphysema and edema, which soon ceased, and the patient, a girl of 13 years, had resumed her normal intelligence, which had been long clouded, with other symptoms due to the pressure of the cyst in this region, when nine days after the operation the strabismus returned with vomiting and pain and the dressings were wet with a transparent yellow fluid—estimated by weighing the dressings before and after application at 800 grams a day—for eight days, when it gradually subsided. Two or three months after the operation the mouth is still slightly drawn to one side and strabismus and mydriasis still persist. The intelligence seems normal with the peculiarity that the girl is subject to motiveless fits of laughing. Tests of the fluid from a number of hydatid cysts showed it non-toxic, and in seven cases absolutely sterile.

Semaine Medicale (Paris), Dec. 27, 1899, and January 3.

Tuberculides. Leredde.—Under this heading Leredde groups erythematous lupus, acnitis, indurated erythema and Mibelli's angiokeratoma, regarding each as a toxituberculous angiodermitis. They form a natural group, he states, from the anatomic as well as the etiologic point of view and clinically bear a close resemblance. There are vascular lesions in all, limited to dilatation, obstruction or hemorrhages of the capillaries, or affecting the larger vessels; arteritis and phlebitis are constant in the three first. The presence of cell accumulations around the vessels, the proliferation of connective tissue, the phenomena of degeneration, are evidently connected with the irritation produced by agents proceeding from the vessels. The lesions may begin deep and not approach the surface until later. These various forms of tuberculides may be associated in pairs and coexist in the same individual. Tuberculous infection elsewhere is frequently noted with them. He disapproves of the term scrofulide, as nothing now remains of the old term scrofula except the conception of a special organic medium on which certain affections develop electively and in a different manner from their development in other individuals: the cutaneous tissues are especially liable to infection and other peculiarities as, for instance, the gradual slitting of the lobe of the ear by the weight of the earring, noted by Besnier in every case of this kind in his service. Leredde concludes with the practical inference that every person affected with tuberculides should be regarded as a tuberculous subject, requiring first of all internal and hygienic treatment—superalimentation, aëration, hydrotherapy—the weight taken regularly, auscultation, cod-liver oil, arsenic and tannin, systematically employed. The dermatologist should never confine his measures to merely local treatment. He will obtain results with general antituberculosis treatment beyond what external therapeutics will ever afford as he attacks the cause instead of merely the effects.

Surgical Treatment of Ascites with Cirrhosis of the Liver by Artificial Production of Peritoneal Adhesions. —Eight observations are now on record in which the attempt has been made to cure this ascites by establishing collateral routes for venous circulation, as described in The Journal, xxxiii, p. 222, and elsewhere. The results were positive in 5; the ascites recurred in 2; 1 died from a concomitant nephritis. "These facts proclaim the value of the procedure especially when it is borne in mind that all the cases had resisted repeated tappings. Subpubic drainage is counterindicated on account of the danger of infection, and the measures to induce adhesions must be extremely gentle, scraping the serous surfaces very lightly in order to induce the formation of delicate neomembranes which are usually deficient in blood-vessels." The latest observations included in the above were reported recently by Rolleston and Turner. (See abstract in The Journal, xxxiv, p. 37.) They scratched the surface of the liver and diaphragm with a sponge and the nails, and tied the omentum between the liver and diaphragm with a kangaroo tendon passed through the margin of the liver, omentum and peritoneum; no drainage. One patient is very much improved, although a slight ascites still persists 4½ months after the intervention. The ascites has recurred in the other notwithstanding frequent tapping.

Beitraege z. Pat. Anat. xxvi, 3.

Finer Structure of the Liver Cell. A. SZUBINSKI.—The writer's investigations have established the existence of two excretory systems in the liver cell; the bile system and the glycogen system. Each is entirely distinct. The glycogen system starts in the vicinity of the nucleus and spreads in the finest little canals through the body of the cell, winding in every direction and finally reaching the blood capillaries. It is evidently an accessory of the circulatory system. The bile system is coarser and the tubes expand into vacuoles in case of stagnation of the bile. He deduces a plausible explanation of the etiology of icterus from these facts.

Berliner Klinische Wochenschrift, Dec. 25, 1899.

Specific Treatment of Tuberculosis. J. PETRUSCHKY.—To the question whether Koch's treatment will permanently cure tuberculosis, Petruschky replies with a most emphatic affirmative, and refers to twenty-two cases permanently cured for four to seven years by his personal method of applying Koch's treatment. They represent 33 per cent. of the entire number he has thus treated; four were advanced cases. The diagnosis was based on the clinical symptoms and presence of bacilli, the cure is asserted from the absence of both and the failure of tuberculin, frequently tested, to induce the slightest reaction, months and years afterward. He calls his method "treatment by stages." It is based on the experience that tuberculous subjects treated according to Koch's method until they have lost their sensibility to tuberculin—although all the tuberculous tissue has not been expelled—regain their former sensibility to tuberculin after three or four months. This regained sensibility favors treatment as, after this interval, an effective tuberculin treatment can be inaugurated once more, and this resumption repeated as long as the sensitiveness to tuberculin recurs. Two of these stages were sufficient in most cases for the definite extinguishment of bacilli and symptoms. Subjects exposed to acute attacks of secondary infection required a little longer. All have been kept under observation and tested from time to time with the tuberculin. All attempts to cure tuberculosis by some brief procedure are based on an erroneous conception of the nature of the affection and of the healing process. Foci of different ages usually coexist. He adds that persons dismissed from sanatoria, supposed to be cured after a brief course, are a special source of danger, as the bacilli may appear again in the sputa while the subject is unaware of his condition and trusts the assertion that he has been permanently cured. "Irrational methods of application are to blame for the failures with the Koch system of treating tuberculosis." The sensibility to tuberculin increases after one reaction. After the first distinct reaction in nearly every case the dose should be kept the same or slightly reduced.

Deutsche Zeitschrift f. Chirurgie, liii, 3 and 4.

Operative Treatment of Pseudo-Arthrosis. WEISS.—"Resection of the ends with consecutive suture, and autoplasties in case of large defects with a flap of periosteum, or bone and periosteum, is the method to be recommended in these cases." Weiss adds that ten patients were cured in this way, the edges denuded obliquely or in steps or wedge-shaped. The cure required four weeks to a year.

Conditions and Technic of Operative Removal of Pressure on the Brain. BEREZOWSKY.—Six patients operated on to relieve traumatic epilepsy have been cured without relapse during nine years to five months, out of eleven thus treated. In these cured cases a palpable cause for the intracranial pressure was found and removed, and the floor of the defect had not become completely ossified; traumatic cyst in 4; deep scar after cerebral abscess and acute accumulation of fluid with a Z-shaped fracture, one each. Adhesion of the brain was noted in all. The causes of the five relapses were accumulations of the drained fluid or chronic alcoholism, incomplete operation or epilepsy of too long standing—seventeen years. Treatment of traumatic epilepsy coincides in general with the treatment of an "impression fracture:" removal of everything that might occasion pressure, prevention of the ossification of the defect in the skull, removal of pathologically altered portions of the brain, evacuation of all subarachnoid or intracerebral cysts, long drainage of the lateral ventricle. Berezowsky's experiments with silver plates to prevent adhesion of the bone flap proved a failure, and he now recommends peripheral excision of the exposed dura in such a way as to leave three bridges. He has thus recently treated three patients with genuine epilepsy. [Habar now reports twelve cases in which a celluloid plate healed in place without reaction.—*Wien. Klin. Woch.*, Dec. 7, 1899.—ED.]

Memorabilien (Heilbron), Dec. 30, 1899.

Shun Superfluous Fat in Diabetes. F. v. OEFELE.—This writer called attention some time ago to the affections of the pancreas noted *intra vitam* in a large proportion of diabetics: fatty degeneration, lithiasis, neoplasms, etc. He has lately been investigating the feces of fifty-seven diabetics, and finds that the strength of the diabetic seems to depend more on the amount of the fat waste in the feces than on the amount of sugar waste in the urine. Numbers with 3 and 4 per cent. sugar were physically vigorous, while others with only 1/3 or .25 per cent. were exhausted by five minutes of exercise on a level. The loss of undecomposed fats in the feces parallels the loss of physical energy still more closely. Diabetes with 4 to 10 per cent. undecomposed fat in the feces were comparatively strong, while in others with 10 to 13 per cent. there was marked loss of energy, and 13 to 16 per cent. corresponded to extreme debility. This elimination of undecomposed fats is always accompanied by a larger or smaller percentage of decomposed fats and unused albumin enveloped in fat. This waste of fat must not be disregarded, and substitution of the carbohydrates by fats must be strictly warned against. A forced fat diet would be utilized far less than a carbohydrate one in these circumstances. Oefele sometimes supplements his treatment of diabetes by the administration of sapo medicatus coated with salol or keratin.

Therapie der Gegenwart (Berlin), November, 1899.

Influence of Massage on Morbus Basedowii. ZABLUDOWSKY.—No patient has been cured, but numbers have been wonderfully relieved and improved by systematic vigorous massage of one side of the thyroid gland at a time. The gland substance is taken up between the fingers of both hands and squeezed horizontally and vertically. If the patient is very sensitive Zabludowsky massages with one hand alone, while with the other he produces vibrations by tapping on the spine. This vibration, combined with intermittent pressure on the points where the nerves are accessible in the neck to the vibrating finger, has a marked effect on the morbus, both direct and by irradiation and by reflex action. It stimulates the cardiac vagus and sensory nerves. The muscles are stimulated in turn by resistance gymnastics following the massage.

Treatment of Hemorrhoids. I. BOAS and F. KAREWSKY.—Boas denounces the theory that a bland diet is beneficial in case of hemorrhoids, claiming that it is absolutely injurious, especially sweet milk, on account of the lack of stimulation of the peristalsis, which should be promoted in every way. The most important measure in treatment is the toilet of the anal region after defecation with a solution of tannin or alum on a cotton wad. An ascending douche is recommended still more highly. "The results of massage or electric treatment rarely pay for the trouble." If enemata are necessary, a soft sound should be used, and all irritating substances like glycerin, salt, etc., should be avoided. Purgatives should be strictly rejected except in extreme cases, when a gentle purgative may be taken. To control hemorrhage persisting even in spite of normal feces, he warmly recommends a teaspoonful of fluid extract hamamel. Virginica in a wine-glass of water three times a day for four weeks, then twice a day for a month, and then once a day for another month. In case of severe hemorrhage he administers a powerful dose of opium and then tampons the bleeding spot with gauze. After it has been arrested for three days he gives a dose of castor oil.

Anemia Gravis as Consequence of Hidden Hemorrhoidal Hemorrhages. C. A. EWALD.—Observations are related in which puzzling anemia was finally traced to completely ignored hemorrhoidal nodules high up in the rectum, the external portions normal and the subjects with no suspicion of their hemorrhoidal tendency.

Atropin in Asthma. RIEGEL.—It has been the writer's experience that a subcutaneous injection of .5 to 1 mg. of atropin during the attack will relieve or arrest it, and that the attacks with this treatment grow less and less frequent, and finally cease altogether after it has been administered in this way a few times.

Wiener Klinische Rundschau, Dec. 10, 24 and 31, 1899.

Experimental Investigation of Knee-Jerk with Injury of Upper Spinal Cord. A. M[illegible].—The knee-jerk [illegible] evidently determines the nature of the results, possibly on account [illegible] pends on the intensity of the lesion and also on the rank of the subject in the animal kingdom. In man the knee-jerk is always abolished for a long period after total division of the spinal cord, and occasionally after partial. In monkeys it is abolished for a shorter time; in the lower animals for a still shorter interval and soon reappears with merely partial injury. These facts impart increased value to the knee-jerk as an indication of the severity of the lesion, of the prognosis and of the necessity for surgical intervention.

Electrodiagnostic Studies of Motor and Sensory Excitability in Nervous Diseases. J. ZANIETOWSKI.—This communication exalts "condenser discharges" above the usual galvanic or faradic current as a qualitative and quantitative test of progressing and retrogressing pathologic changes in cases of increased or diminished excitability. This is especially important in the diagnosis of incipient stages, momentary latency, exacerbations, simulation, etc. Condenser discharges are easily manipulated and applied; the nature of the excitation is known, and can be expressed in exact unities, and they supply an excellent basis for comparative tables. They may even prove to be a qualitative test for certain affections, such as dystrophia muscularis progressiva and Thomsen's disease. He begs others to apply and study them, anticipating that perhaps better methods of treating nervous affections may be deduced from more careful study of their manifestations by this means.

Wiener Klinische Wochenschrift, Dec. 14 and 28, 1899.

Plague Research. WEICHSELBAUM, ALBRECHT and GHON.—This comprehensive report of the Austrian committee sent to India to study the plague, includes its subsequent experimental research and the Trieste case, which explains the outbreak of the plague in places supposed to be uncontaminated. There were no anatomic nor clinical indications of the identity of the disease to be found in this case beyond "pyemia of unknown origin" with roseola vanishing on pressure toward the last. The abscess-like foci were disseminated through the liver, spleen, kidneys, lungs and in the quadriceps on both sides. Only the discovery of plague bacilli in these foci established the diagnosis positively. Such a case of unsuspected plague might easily start an epidemic. The disease had a more chronic character than usual in this case, thirteen days and more. The committee recommend guinea-pigs as the best animals for experiments, and the best method, inoculation by rubbing the cultures on a shaved spot, preferably one of the hind legs. The characteristic primary bubo of the group of lymph glands in the region can be detected in twenty-four to forty-eight hours by this method, using the sputum, saliva, feces or urine, according to the localization of the lesions or the contents of the bubo derived by puncture or an incision, which latter they deem an advisable therapeutic measure.

Influence of Mechanical Excitation of the Liver on the Heart. M. HEITLER.—The writer reported in 1896, that in certain cases of arrhythmia the variations in the pulse correspond to variations in the size of the heart, liver and spleen: with large area of heart dulness and small pulse, the area of dulness over the liver and spleen was limited and vice versa. A striking observation of this peculiarity was recently observed which also presented another phenomenon: when the liver was tapped or shaken the small pulse became large and full and the heart area smaller. The subject was a young man of vigorous aspect, who, after a severe course of study, complained of headaches, vertigo, palpitations. The heart sounds and the pulse varied in intensity from day to day or hour to hour. The pulse varied remarkably with mechanical stimulation, tapping or shaking the heart region and still more the liver region. This effect lasted from one-half minute to ten. Mechanical stimulation of other parts of the body had no effect on the pulse.

Two Cases of Primary Carcinoma of the Tube. J. FABRICIUS.—Both patients were women of [illegible] years, and the right tube had already been removed in one on account of a papilloma, which suggests that the carcinoma had developed from a similar growth in the left tube. The second case was alveolar and this had possibly also developed from a primary papilloma. The first was diagnosed correctly; the second was supposed to be a hydrosalpinx on account of the copious watery discharge noted for two weeks, then ceasing for ten to twelve days, when it recurred again and continued as before. The first symptoms were pain in the sacrum and the back. Intestinal disturbances have been sometimes noted, but the most important indication is the behavior of the menses, irregularities or hemorrhages after the menses have stopped, or the watery discharge noted above. Tubal carcinoma seems especially liable to early metastasis.

Transplantation of Ovaries. E. KNAUER.—The ovaries which Knauer transplanted in rabbits in 1896 not only healed in place and continued their ovum-producing function, but the functional activity persisted as long as in the normal animal, about three years, and the organ was found similar in every respect to the normal physiologic organ at this stage. One of the rabbits had a litter after transplantation. Experiments with ovaries transplanted from one rabbit to another were failures. Halban has found that if the ovaries are removed from newly born animals, the rest of the genital apparatus remains infantile but if the ovaries were not removed entirely but merely transplanted elsewhere, the genital organs developed normally. In all the cases in which the ovaries healed in place the specific tissues were found well developed, and even a scrap of tube found clinging to one of the ovaries showed normal ciliated epithelium. Experiments have been in progress for some time with testicles transplanted into females and ovaries into males.

Chronica Med. Mexicana (Mexico), November, December and January.

Maximum Dose. E. L. ABOGADO.—The doses of opium given as the maximum in the various pharmacopeias of the world are compared in a table, showing the amazing differences between them. The dose of the powder, for instance, according to the French Codex is 1 to 10 centigrams; German, 15 to 20, and Foy's formulary gives 4 to 5 grams as the maximum dose. The writer urges the general adoption of the statement of the *initial* dose for an adult, leaving it to the physician to determine how much this can be increased by observation of the effect on the patient.

Revista Medica (Mexico), Nov. 15, 1899.

Local Anesthesia Previous to Thermocauterizing. D. MEJIA.—Two parts of ice to one of salt, with which half a yard of prepared intestine is filled and both ends tied, is the simple means of inducing local anesthesia which Mejia has been using successfully for years, previous to applying the thermocautery. The packed gut is wound in a flat coil over the spot to be cauterized, and left for eight to twelve minutes, never longer, as this would compromise the vitality of the tissues.

Chronica Medica (Lima, Peru), Nov. 15 and 30, 1899.

Pathologic Histology of Peruvian Verrugas. O. HERCELLES.—One month every year is devoted, by the profession in Lima, to the memory of young Carrion, the martyr to science a few years ago, who became convinced that Peruvian verrugas and the disease known as Oroya fever were identical, and to prove it inoculated himself and recorded a remarkable study of the disease as it progressed to a fatal termination. His last words to his confrères were: "I have commenced the work and leave it to you to finish." Odriozola has since published a classic volume on the subject and every year some contribution is offered. This year it is an illustrated histologic study of the verrugas, which establishes the fact that each lobule is merely the result of reaction of the tissues to a lesion of a blood-vessel induced by the verrugas germ. The vessel is the starting point of the morbid process, the center around which the lobule develops, and the lobule is nothing but the manner in which the organism reacts to the verrugas germ. The opening of a vessel is seen in the center of each cross-section of a lobule.

Societies.

Winnebago County Medical Society.—The annual meeting of this Society was held in Rockford, Ill., January 16. The election of officers resulted in: president, T. N. Miller; vice-president, P. L. Markley; secretary and treasurer, J. H. Frost.

Bradford County Medical Society.—The annual meeting of this Society was held at Towanda, Pa., recently, and the following officers elected: president, W. F. Harshburger; vice-president, M. C. Hunter; secretary, S. M. Woodburn; treasurer, F. D. D. Newton.

Chester County Medical Society.—The January meeting of this Society was held at West Chester, Pa., the 9th. The following officers were elected: president, Edward Kerr, Downington; ; vice-presidents, Jacob Price, of West Chester, and Dr. Neil, of Coatesville; treasurer, Mary H. Smith, Parksburg; secretary, S. H. Scott, Coatesville.

Atlantic City Academy of Medicine.—The Academy held its annual meeting at Atlantic City, N. J., recently, and elected the following officers: president, W. Blair Stewart; vice-president, Edgar Darnall; secretary, Theodore Senseman; treasurer, Walter Reynolds.

Pasadena Medical Society.—The meeting of this Society was held in Pasadena, Cal., the 13th, for the purpose of electing officers for the ensuing year, and the result was as follows: president, J. H. McBride; vice-president, Dr. Abbott; secretary and treasurer, J. E. Janes.

Alameda County Medical Society.—The annual election of officers of this California Society was held at its annual meeting at Alameda recently, and resulted as follows: president, Joseph Milton; vice-president, H. N. Rowell of Berkeley; secretary, Mira Knox; treasurer, Carl Krone.

Lebanon County Medical Society.—At the election of officers held by this Society at its recent meeting, at Lebanon, Pa., the following were chosen: president, E. E. Grumbine; vice-presidents, U. G. Risser and S. P. Hilman; secretary, C. M. Stuckler; treasurer, A. S. Reiter.

Leavenworth County Medical Society.—This Kansas Society held a session in Leavenworth on the 11th inst., and elected officers for the ensuing year, as follows: president, Dr. McNeary of the Soldiers' Home; vice-president, S. B. Langworthy; treasurer, Dr. Van Emen; secretary, J. R. Weber.

Buncombe County Medical Society.—At a recent annual meeting of this Society, held at Asheville, N. C., the following officers were elected: president, H. L. Boyd; vice-president, F. P. Cheesborough; treasurer, C. V. Reynolds; recording secretary, J. T. Sevier; corresponding secretary, E. R. Morris.

Lackawanna County Medical Society.—The annual election of officers of this Society, which held its meeting in Scranton, Pa., recently, resulted as follows: president, L. Wehlau; first vice-president, Anna Law; second vice-president, Henry Gibbs; secretary, F. W. Davis; treasurer, L. M. Gates.

Warren County Medical Society.—The regular monthly session of this Society was held in Mirror, Pa., on the 9th inst. Election of officers for the ensuing year resulted as follows: president, O. S. Brown; vice-presidents, C. J. Frantz and J. J. Knapp; treasurer, John Curwen; secretary, J. R. Durham.

Delaware County Medical Society.—This Society held a meeting in Chester, Pa., January 12, and elected the following officers: president, David M. McMasters, Ridley Park; vice-president, Dr. Gallagher, Glen Olden; secretary, L. F. Fussell, Media; treasurer, D. W. Jeffries, Chester; librarian, Samuel Trimble, Lima.

Toledo Medical Association.—At the annual meeting held the 12th, by this Association, the following new officers were elected for the ensuing year: president, William H. Fisher; vice-president, C. William Newton; recording secretary, Charles P. Wagar; corresponding secretary, Nelson H. Young; treasurer, James A. Duncan.

Franklin County Medical Society.—This Society met in Chambersburg, Pa., January 16. The following officers were installed: president, H. C. Devilbliss, Chambersburg; vice-presidents, J. C. Greenawalt, of Chambersburg, and A. Barr Snively, of Waynesboro; recording secretary, J. J. Coffman, Scotland; corresponding secretary, H. V. Bonelbrake, Chambersburg; censor, R. W. Ramsey, Chambersburg.

Venango County Medical Society.—This society held its bi-monthly meeting in Franklin, Pa., the afternoon of the 16th, and elected the following officers for 1900: president, J. M. Murdoch, Polk; vice-president, William Varairan, Titusville; secretary, E. W. Moore, Franklin; treasurer, C. W. Coulter, Oil City. The next meeting will be held in Oil City on March 20.

Eastern Ohio Medical Society.—The following officers were elected at the recent session of this Society, held in Steubenville, Ohio: president, W. L. Carroll, Toronto; vice-presidents, J. W. Martin, of Unionport, W. A. Hobbs, of East Liverpool, J. E. Miller, of Cadiz, and A. R. Ong, of Martin's Ferry; recording secretary, J. F. Purviance; corresponding secretary and treasurer, J. C. M. Floyd.

Rocky Mountain Inter-State Medical Association.—At the last regular meeting, held in Salt Lake City, Utah, the following officers were elected: C. K. Cole, Helena, Mont.; first vice-president, Leonard Freeman, Denver, Colo.; second vice-president, R. Harvey Reed, Rock Springs, Wyo.; treasurer, Charles G. Plummer, Salt Lake City, Utah; recording secretary, Donald Campbell, Butte, Mont.; corresponding secretary, S. D. Hopkins, Denver, Colo. The next meeting will be held in Butte, Mont., Aug. 28 and 29, 1900.

Western Surgical and Gynecological Association.

Proceedings of Ninth Annual Meeting, held at Des Moines, Iowa, Dec. 27 and 28, 1899.

First Day—Morning Session.

After an address of welcome by Dr. Lewis Schooler, which was responded to by Dr. B. B. Davis, and the presentation of the report of the Committee of Arrangements the reading of papers was begun.

SURGERY OF BILIARY PASSAGES.

DR. B. B. DAVIS, Omaha, Neb., read a paper based on an experience in seventeen cases. The writer limited his remarks to: 1, infections; 2, adhesions to surrounding viscera, and 3, gall-stones. Three main routes were given by which bacteria reach the bile tract: By way of the portal vein, by way of arterial circulation, and by migration up the common duct from the duodenum. Pus in the gall-bladder and duct were deemed an absolute indication for operation, as were the existence of painful adhesions that give rise to chronic invalidism.

Considering their etiology, the writer was convinced that all gall-stones are the result of infection combined with poor drainage. Mucus, pus and clumps of bacteria were thought to be the nuclei about which cholesterin and other bile salts are deposited, and without such a nucleus, it was impossible for gall-stones to form.

The writer asserted that after all gall-stones and sand had been removed, and thorough drainage and irrigation kept up until all inflammation and irritation had subsided, recurrences are unknown without a new infection. This was made the reason of a plea for careful and thorough drainage after every operation, the so-called "ideal" cholecystotomy being condemned.

A case was reported in which anastomosis of the gall-bladder with the duodenum was accomplished by means of a Murphy button, for cicatricial stenosis of the common duct. The tissues gave way and almost all food ingested made its way out through the fistula, death resulting from starvation twenty-five days after the operation.

Another interesting case of perforation of the cystic duct by pressure of a sharp corner of a large impacted stone was reported.

HOW TO PREVENT AND HOW TO TREAT UNUNITED FRACTURES.

DR. A. C. BERNAYS, St. Louis, Mo., followed with a paper on this subject. His experience was based on notes of 20 cases of ununited fracture of the femur, 12 of the humerus, 8 of the patella, 11 of the tibia, 6 of the ulna, 1 each of the radius, the metacarpal bone of the index finger, the clavicle, and 2 of the inferior maxilla. Those were treated in a surgical practice of twenty-three years. He laid great stress on the point that repair takes place in all diseases or injuries most quickly and satisfactorily under the influence of rest. The reason why the aseptic and antiseptic methods of wound treatment are better than all previous or older methods is because they keep away from wounds the most mischievous agents of unrest that can [illegible]. To give rest should always be the chief aim of the art of surgery, and the surgeon who practices his art in such a manner as to secure the most perfect rest possible under the circumstances, for the diseased or injured parts which he treats, will be the most successful surgeon.

Dr. [illegible] drew the following deductions in closing his paper:

1. The antiseptic and aseptic methods of wound treatment are better than all previous methods, because they help to insure physiologic rest to injured tissues by preventing the condition of unrest known in medical literature as infection.

2. Non-union of a simple fracture is always due to a constitutional vice if it follows after proper and long-continued approximation and fixation. 1. Non-union can, therefore, always be prevented by proper approximation and immobilization in the absence of a constitutional vice. 2. It follows, then, that an unknown or a known form of constitutional vice must exist in cases where non-union results after proper approximation and immobilization of a fracture. 3. It is furthermore clear and must be maintained by all surgeons, that if proper approximation and immobilization are practiced and continued for a long time, the attending surgeon can not be held responsible for a resulting non-union. The non-union must have been due to an existing constitutional vice which can not always be recognized.

3. If, after a certain length of time, the dressing, cast, splint, or apparatus is removed and non-union is found, there are only three conditions possible: *a*. The dressing, cast, splint or apparatus failed to properly approximate and fix. *b*. The time of treatment was too short. *c*. There exists a constitutional vice. The first of these three possibilities is by far the most common and is the cause which, when recognized, can be easily removed.

4. After all of the known methods of treatment of ununited fractures, be they the simple bloodless friction of the ends or any of the bloody operations, such as drilling, nailing, wiring, sawing, or clamping, approximation and immobilization must be maintained in order that bony union or consolidation may take place.

5. The so-called ambulatory treatment of fractures of the lower extremity, while often giving good results, will be followed by delayed union or non-union more often than the treatment in bed, because of failure to secure proper rest.

6. In old cases of non-union of simple fractures, it is a good plan to save all of the chips or sawings of the bone which are removed when preparing and shaping the ends, and to replace them between and around the fragments or ends of the bone before removing the Esmarch bandage. After the tourniquet is removed, the whole wound and the spaces between the fragments and chips will be filled with blood, and if one has been aseptic, the best plan will be to close the wound entirely and put to rest with a view of leaving the dressing untouched for a period of from seven to ten weeks.

7. In cases of fracture of the long bones, the use of an anesthetic for the purpose of getting perfect apposition and fixation is indicated.

8. The old rule that the joint above and below the fracture must be included in the immobilizing apparatus, cast or splint, can never be safely broken. It is a good rule and should always be observed.

First Day—Afternoon Session.

Dr. James E. Moore, Minneapolis, Minn., read a paper on "Acute Suppurative Arthritis of Children," which will appear in The Journal.

Dr. Charles C. Allison, Omaha, Neb., followed with a paper on "Acute Infective Osteomyelitis."

Dr. J. E. Summers, Jr., Omaha, Neb., contributed a paper on "Surgery of the Common Bile-Duct," which will appear in The Journal.

THE VAGINAL ROUTE.

Dr. O. Beverly Campbell, St. Joseph, Mo., read a paper on this topic. He said that in choosing between the vaginal and suprapubic routes, the one should be selected in each individual case which will offer the greatest advantages for complete work, with the least possible danger to the patient; or where complete work is inadmissible, as in some cases of pelvic abscess, the most favorable route should be selected for incision and drainage.

In defense of the vaginal route in dealing with pelvic inflammation, it is claimed that through an anterior or posterior incision the fundus can be delivered through the incision, the ovaries and tubes in turn delivered, and radical or conservative work practiced. That such work can be done in many instances is true, but it can be done better, with less risk to the patient and with more perfect results in the vast majority of cases of pelvic inflammation through the suprapubic route. The Trendelenburg position offers superior advantages in dealing with this class of cases. The chief objection that has been offered to it is that with the pelvis on such a recline, the drippings from the pelvis are likely to enter the abdomen. The essayist has sought to overcome this objection by the construction of a table which somewhat modifies the Trendelenburg position; the patient is placed in this position and allowed to remain eight or ten minutes, while the abdomen is given a final treatment preparatory to operation. She is then drawn six inches higher up on the table, the pelvis now resting on a level plane six inches wide. The intestines will have gravitated while the patient occupied the Trendelenburg position, and will not be affected by drawing the patient higher, allowing the pelvis to rest on the level plane. This modified position offers, in his judgment, all the advantages of the Trendelenburg, and a few superior ones.

Where an operation can be performed as safely and as completely through either route, then he would give the vaginal route the preference. The vast majority of women will submit to an operation through the vaginal route with less apprehension than where the incision is to be made in the abdomen. Indeed, very many women will submit to an operation through the vaginal route who would not submit to an operation through the suprapubic. The occurrence of ventral hernia and abdominal scars deserves consideration only where an equal choice between routes is to be considered.

The essayist then pointed out a class of cases which can be safely operated on through the vaginal route, and among them he mentioned interstitial or subserous uterine fibroids. Vaginal hysterectomy may be performd in any of the varieties of uterine fibroids where the size of the tumor will warrant such a procedure. Retrodisplacements of the uterus, adenocystoma of this organ, and many cases of tubal pregnancy could be dealt with through the vagina.

Dr. Campbell cited some cases where it would not have been good surgery to have operated by the vagina. In multiple abscess cases with the so-called spider-web adhesions, he considers it impossible to successfully treat them through the vaginal route. He is willing to give the preference to the vaginal route in all cases where either route may be selected with equal chances in doing conservative complete work. However, he is not convinced that the vaginal route offers equal advantages with the suprapubic in the majority of cases of pelvic inflammation.

Dr. W. Jepson, Sioux City, Iowa, read a paper entitled "What Should Be Our Treatment of Fractures of the Anatomic Neck of the Humerus Complicated by a Dislocation of the Head?"

First Day—Evening Session.

At this session President Crowell delivered an address entitled "Some Things." This will be published in The Journal.

Second Day—Morning Session.

THE X RAY AND ITS USEFULNESS.

Dr. J. Rudis-Jicinsky, Cedar Rapids, Iowa, contributed a paper on this subject. The question of the value of the X-ray in the diagnosis of bone surgery seems to be settled. The author urged the more general use of X-ray examinations by the profession, and pointed out the necessity of great refinement, and experience in examinations on the part of the practitioner, in order to correctly interpret the varying shadows, as well as a thorough knowledge of anatomy, pathology and physics.

As to the usefulness of the X-ray, it detects and diagnoses fractures and dislocations; it sees correctly the position of the fragments of a broken bone, before reduction and after, or whether the surgeon has a fracture or a dislocation, or both, to deal with.

DR. M. L. HARRIS, Chicago, read a paper entitled "The Longitudinal Wire Suture in Radical Operation for Hernia," which will be published in THE JOURNAL.

DR. D. C. BROCKMAN, Ottumwa, Iowa, followed with a paper on "Oöphorectomy for Functional Nervous Diseases Occurring During Menstruation."

SECOND DAY—AFTERNOON SESSION.

CYSTOSARCOMA OCCURRING SIMULTANEOUSLY IN BOTH OVARIES.

DR. VAN BUREN KNOTT, Sioux City, Iowa, read a paper with this title. The essayist had been unable to find in the literature at his command many cases of double ovarian sarcomata. Eastman, in over two thousand celiotomies, has only once found sarcoma in both ovaries at the same time. Dudley, of Chicago, considers the condition very rare, as does Baldy. Price has operated on a few cases of double ovarian sarcomata of large size, all of which were complicated by universal invasion of surrounding tissus.

The writer reported a case, the points of interest being: 1, the simultaneous involvement of both ovaries by sarcomatous growths, as sarcoma is usually found on but one side; 2, the almost exact similarity of the tumors, it being difficult to distinguish one from the other; 3, the absence of adhesions or the involvement of neighboring viscera, both of which conditions are almost always present with sarcoma of the ovary; 4, the age of the patient (47), as sarcomata usually occurs in early life; 5, the fact that the prognosis in this case would seem to be much better than in the vast majority of ovarian sarcomata where contiguous tissues are usually infiltrated by the disase at the time of operation. He said that it is yet too soon to consider the patient as cured, as the operation was only done three months ago.

CYSTIC TERATOMA OF THE OVARY COMPLICATED WITH HEMORRHAGE.

DR. E. HORNIBROOK, Cherokee, Iowa, presented a paper on this subject. The patient, aged 22, married three years, had one child eight months old, which she is nursing. Always healthy, she was never conscious of any growth or abnormality in the pelvis. She was taken with excruciating pain while straining at stool, fainted and suffered from shock. A small tumor was discovered in the right iliac region, which increased and produced general peritonitis. Celiotomy was performed forty-eight hours after the onset of the symptoms. Death from peritonitis resulted forty-four hours after operation.

The right Fallopian tube was found to have been severed close to the uterus and its end covered with peritoneum; no ovary was found on the right side; the left ovary and tube were normal. The tumor was found attached by a short thick pedicle, to the iliac fascia.

Pathologist's Report.—There was a cystic tumor with a thick outer wall containing a smaller tumor within. The covering of the outer wall, partly peritoneum, contained in a fold a part of the Fallopian tube with its fimbriated end. No ovarian tissue could be discovered. The outer wall contained striated muscle and well-developed bones, the type of which could not be determined. This wall was sacculated and contained blood clots. The inner wall, that is, the covering of the smaller tumor, was found to be dermal tissue with glands and hair. Within this tissue were many pockets or loculi containing either sebaceous matter or blood—the sebaceous matter predominating. In none of the saccules were the blood and sebaceous matter mixed, but separated by distinct walls. Some of the blood was undergoing organization. No ovarian tissue could be found. No placental structures could be made out. The tissues were too well developed to be fetal.

Diagnosis: cystic teratoma of the ovary complicated with hemorrhage.

One end of the Fallopian tube, with its fimbriated end being found in the walls of the tumor and the other end still attached to the uterus, would indicate that the growth commenced in the tube, and developing slowly, amputated the tube and anchored itself to the iliac fascia, where it was found attached. The history of the case and the pathologist's report negative the theory that it might have been ectopic gestation. The recent investigations of Professor Norman, of Texas, and Professor Loeb, of California, were cited to show that the absence of certain chemicals or their effects being neutralized might permit of even the human female being endowed with the potentiality of reproduction, and that "an immaculate conception may be the result of unusual but natural causes."

CONGENITAL HIP-JOINT DISPLACEMENT.

DR. JOHN PRENTISS LORD, Omaha, Neb., read a paper on this topic. Dr. Lord adopted the word "displacement, agreeing with Tubby that "the word dislocation, as commonly accepted, implies separation of those parts of a joint which have never been normally in contact—therefore the word displacement is more accurate. The pathology of veritable cases teaches us that there has been no perfect acetabulum formed from which the head of the femur could have been dislocated."

There are two classes of cases as met with in after years, viz., the truly congenital and the traumatic; the latter form is not probable unless favored by a deficient acetabulum, at the upper part of the rim.

Girls furnish the majority of cases, estimated as high as 88 per cent., because more subject to deformity, according to Dupuytren, who, with others, has observed heredity. The etiology is unknown. The various mechanical and pathologic theories have been mostly discarded. The development theory is supported by pathologic research and is generally accepted.

The symptoms are characteristic and mostly dependent on locomotion. Therefore cases are seldom recognized until walking is begun, the child waddles, has lordosis, which is not conspicuous early, but soon becomes marked in bilateral cases. The limbs are short and slender. The perineum is broad, and feet everted, trochanters prominent above Nélaton's line, and there is exaggerated lordosis. The pelvis becomes altered, the ilia are approximated, and the ischia separated, which improves the female pelvis for parturition.

Any well-informed physician should quickly recognize these cases. In the early years of this deformity the disability is noticeable and, in bilateral cases, the rolling, waddling gait, with a growing tendency to exaggeration of the symptoms resultant on stretching of the soft parts, which yield on fatigue. In persons of good muscular development the conditions remain stationary, and they get along with a fair degree of comfort and have good endurance, but some are much handicapped and suffer acutely, more especially after increase in weight and muscular enfeeblement. The dorsal displacements furnish the worst cases, the anterior and superior displacements the most favorable ones.

The methods of treatment are three: 1. Extension either in recumbent position or by apparatus. 2. Forcible reduction. 3. Reduction by operative measures.

The mechanism of the hip-joint is so defective in these cases that our credulity is taxed to believe that much permanent good can be accomplished short of operative measures. While many successes have been reported, the cases do not seem to have stood the test of time, and quickly relapse without mechanical support.

The Lorenz operation is not a formidable one and is as fully justifiable as many other operations which are done without hesitation. The anterior incision quickly reaches the capsule, and the division of the Y ligament removes the principal resistance in young subjects. The head of the femur is usually easy to retain in the new acetabulum by proper application of plaster above the trochanters, which also includes the trunk and legs, which are maintained in abduction and slight inward rotation.

The uterus should be drained, and only skin sutured at its angles. The plaster dressing should be continued for six weeks, after which an apparatus or a long side splint should be applied for a variable time, to prevent accident, and passive motion be begun and gradually increased. Motion is quite fully restored within a few months. The limp continues for a time, because of muscular weakness and habit, but improvement is progressive, whereas cases without treatment become continually worse. Some limp always remains, because of inevitable shortening in all cases.

The writer exhibited photographs of a boy of 3½ years, operated on by lateral displacement, with five centimeters shortening. The operation, Aug. 20, 1899, resulted in no shock, and an uneventful recovery. He was permitted to walk about in [illegible] that had good motion on leaving the hospital, with [illegible]

The [illegible] statistics show this operation to be comparatively free from danger, and the writer believes that cases can be operated on earlier than 5 to 6 years of age to advantage, because there is less [illegible] to reduction in the young, and consequently less cutting is required. Both for surgical and mechanical reasons, operation appeals as the only rational treatment. That increased experience with improved technique will establish this operation on a firm basis, seems assured.

Dr. A. L. Wright, Carroll, Iowa, reported a case of "Hematoma of the Vulva and Vagina."

GASTROENTEROSTOMY IN CARCINOMATOUS OBSTRUCTION OF PYLORUS.

Dr. G. G. Cottam, Rock Rapids, Iowa, read a paper on this subject. The author drew attention to the high primary mortality rate following pylorectomy, and emphasized the fact that the indications for its performance must be very rare. In no case should it be attempted when there is any involvement of the adjacent lymph nodes. Gastroenterostomy, with its lower primary death-rate and immediate relief of urgent symptoms is an elective procedure which the author advocated for all advanced cases of pyloric carcinoma offering a reasonable hope of being able to withstand the shock following an abdominal operation of moderate severity. He argued that with improved technique in suturing, and rapidity of execution, the operation should add nothing to the dangers already incurred by the progress of the disease. The histories of two cases in which he had recently performed gastroenterostomy by the method of Wölfler, as modified by Rockwitz, were then related.

The first case was that of a German woman, aged 44, who began to show symptoms of gastric ulcer six years previously. These had partially subsided under treatment, when symptoms of pyloric obstruction set in, followed later by a profuse hemorrhage. Three weeks after the latter, one week after the case was first seen by the author, he opened the abdomen in the median line between the ensiform cartilage and the umbilicus. A hard growth of the pylorus, adherent to the left lobe of the liver, with neighboring lymph nodes enlarged, was readily made out. Three inch incisions having been made in the stomach and jejunum, the latter were sutured together, first by a continuous through-and-through silk suture, followed by Halsted's mattress sutures, involving the fibroserous coats only. The patient lived nearly one month, dying of double pneumonia. The stomach symptoms entirely abated. Autopsy revealed absence of all signs of leakage or its results at the site of the operation, firm union having resulted. The pathologic report of Dr. E. F. Tiedemann, St. Louis, stated the growth to be a scirrhous carcinoma originating in the cicatrix of a healed ulcer. The specimen was exhibited.

The second case differed materially from the first, except as regards the details of operation. The patient, aged 64, born in Ireland, had been in rugged health until but nine weeks preceding operation. Then he began to retch occasionally, losing flesh, and was finally unable to retain anything. There was a tumor in the epigastrium, absence of peristalsis below the stomach, and absence of HCl in the gastric contents, noted at the author's first examination, which took place on the day of operation. The prognosis was very grave, but with the hope of relieving the extreme symptoms a gastroenterostomy was undertaken. Complete occlusion of the pylorus was found, with collapse of the small intestines. The patient lived one week, dying of exhaustion from the original disease. There was no vomiting after the operation, but the vital powers were so low that there was no absorption of nutriment. Autopsy showed perfect union of the stomach and bowel without leakage, and no peritonitis. The specimen has not yet been examined microscopically, but the tumor is unquestionably malignant.

New York Neurological Society.

Stated Meeting, New York City, Jan. 2, 1900.

FACIAL AND RETROBULBAR NEURITIS. PERIOSTITIS OF OPTIC CANAL.

Dr. William M. Leszynsky presented a woman of 38 years, who first came to him Oct. 11, 1898. There was then a complete facial paralysis of the left side, of five weeks' duration. There had been a loss of taste, but the eyes had remained normal. Severe pain and tinnitus in the left ear, lasting several days, preceded the facial paralysis. Galvanism had been used in the usual manner. Two months later, while under treatment, she complained of severe pain in the left supraorbital and left temporal regions. This pain was continuous for over a week, when she became totally blind in the left eye. The pupil was absolutely immovable, and the ophthalmoscope showed edema of the papilla, but nothing else. Within a week a well-marked papillitis could be detected in the left eye. The vision in the right eye was normal. Under mercurial inunctions, and iodid of potassium internally, the vision improved somewhat, and on November 4, in the right eye, was 22/100. She now had optic atrophy, but the vision had decreased. The faradic irritability had returned, but was still below the normal. A diagnosis of facial neuritis and a retrobulbar neuritis arising from periostitis in the optic canal had been made—a very unusual condition. Dr. de Schweinitz, Philadelphia, recently reported two or three such cases, but in them the retrobulbar paralysis had developed nearly a year and a half after the neuritis. The case also showed that a return of faradic irritability did not necessarily mean a return of motility.

Dr. G. M. Hammond asked whether uremia could be absolutely excluded in the case presented.

Dr. Leszynsky said that a complete absence of all urinary signs and symptoms had been noted. The neuritis seemed either of rheumatic or syphilitic origin. There were some elements in the case that had led him to think it possibly of syphilitic origin.

SYRINGOMYELIA.

Dr. Joseph Collins presented a man whom he had been asked to see a few weeks ago, by Dr. Powell, who had removed a small lipoma from the lumbar region, having no connection with the spinal cord or membranes, contrary to the opinion that had obtained before operation. He was 36 years old, and had contracted syphilis nearly five years ago. Since then he had been under almost constant treatment. He had complained of weakness in the right leg, pain in the back, and slight numbness in the left lower extremity. Careful inquiry elicited the fact that while still a boy he had experienced difficulty in keeping the right leg in the stirrup when riding horseback, and had noted in that foot what had really been a clonus. The knee-jerk was exaggerated on the right side, and there was also ankle-clonus on that side. There was absolute thermo-anesthesia from the fourth intercostal space on the left side down to the tip of the toe. The diagnosis was syringomyelia.

Dr. Richard H. Cunningham recalled having tested the sensation of this patient some time ago, but did not remember the existence of thermo-anesthesia. He had always looked on the case as one of tumor of the cord, and not as essentially syphilitic.

Dr. Pearce Bailey said that several similar cases had been met with at the Vanderbilt clinic during the past three or four years. It is the custom there to examine regularly for such anesthesia, and while he did not recall the individual case, it was exceedingly probable that if thermo-anesthesia had been found it would have been noted and remembered.

Dr. L. Stieglitz was inclined to accept Dr. Collins' view of the pathology, although it was unusual to find such extreme spasticity in such an early stage. He asked whether there was any muscular atrophy present anywhere in the body, and if there was any change in the sympathetic supply to the eyeball.

Dr. C. L. Dana also looked on the condition as syringomyelia Some of the cases of slowly developing spastic paralysis without sensory symptoms seem to him to be really examples of early multiple sclerosis. He has seen such cases develop characteristic eye symptoms after many years.

Dr. Graeme M. Hammond had had an opportunity of examining this man, and entirely agreed regarding the clinical symptoms. He accepted the diagnosis given by Dr. Collins, and said this case was certainly not one of recent development. He could not classify it except as one of syringomyelia.

Dr. Joseph Collins, in closing, said that the right lower extremity was 1½ inches smaller than the left. There were no vasomotor disturbances of the face. In the beginning there might have been an area of gliomatosis, which had, at first, connected with the central canal.

TUMOR OF AQUEDUCT OF SYLVIUS OR OF CEREBELLUM: DOUBLE JOINTS.

Dr. Joseph Collins presented a man, aged 18, exhibiting all of the cardinal symptoms of tumor of the aqueduct of Sylvius, or of the cerebellum. It had first been noticed that he was lethargic about three years ago. Fourteen months ago, while climbing into a window, he had fallen, and shortly after this he had begun to vomit and to suffer from periodic headaches. These were followed by increasing sleepiness, and by a disturbance of the gait. His limbs could be thrown around and the joints bent backward in a remarkable way. The knee-jerks were feeble. There was no nystagmus, and no true cranial nerve palsies nor ocular ones. Both eyes showed choked disc and slight pigmentation.

Dr. C. L. Dana considers this peculiar drowsy condition characteristic of tumors in the aqueduct of Sylvius, and extending forward into the third ventricle, yet, in other respects, the symptomatology was that of a cerebellar tumor. If the tumor were in the aqueduct of Sylvius, it could not be causing much distension or infiltration or there would be some eye symptoms. The weight of the evidence seemed to favor a tumor in the cerebellum. He thought it possible that the double-jointed condition had been increased by the present affection.

CASE OF HEMORRHAGIC ENCEPHALITIS AND MYELITIS.

Dr. Charles L. Dana and **Dr. M. G. Schlapp** presented a report of this case. The patient, a man of 67 years, had come under observation last June. There was no clear history of intemperance. His previous health had been good. During the last seven years he had been somewhat of an invalid. On June 4, 1899, he complained of headache, and after taking two cups of tea, went to bed. A few hours later he fell out of bed, and it was then discovered that he had a left hemiplegia. He was removed to Bellevue Hospital, his temperature 104 F., but this quickly fell. He could not protrude the tongue, and it was almost immobile. He was paralyzed almost completely on the left side. The lips were markedly affected, the abdomen somewhat rigid, the patellar reflexes normal, and ankle-clonus was absent. Sensation to heat and cold was normal. The urine showed nothing abnormal. Four days after admission he had a chill and the temperature rose to 105.5 F., while examination of the blood showed the malarial plasmodium. After having been in the hospital for one week, it was noted that there was no paralysis of the right arm or leg, and the most notable feature was the paralysis of the tongue and lips. He was unable to make any distinct articulate sounds. He could swallow and cough, and understood perfectly what was said to him. Death occurred on June 25.

At the autopsy, made by Dr. Dana, only the brain and cord were examined. Slight edema and congestion of the arachnoid was noted. The vessels of the base were not atheromatous. In the right hemisphere there was an area of capillary hemorrhage and softening in the lower portion of the posterior central convolution, and superior part of its marginal gyrus. It involved mainly the deep part of the upper lobe of the fissure of Sylvius. In the centrum ovale were two or three smaller areas of hemorrhage. There was no evidence of hemorrhage or softening in any part of the cerebrum, cerebellum or pons. The spinal cord showed two foci of softening, one in the upper dorsal and the other in the lumbar portion. The brain was hardened in formalin, and stained by various methods. The microscopic examination showed, in the affected area, much dilatation of the blood vessels, small extravasations of blood, a great proliferation of cells, showing an irritative reaction to the hemorrhages—in other words, the evidence of an encephalitis apparently secondary to the disease of the blood vessels. There were also small areas of softening of the brain in the neighborhood of these hemorrhages, also the result of the breaking and obliteration of the vessels. The walls of the latter were somewhat thickened, but gave no evidence of a syphilitic process. The examination of the rest of the brain failed to show any evidence of sclerosis. The medulla showed no evidence of softening or of inflammation. Examination of the spinal cord had not yet been completed, but the cord showed a small center of poliomyelitis in the dorsal region. Below this was a more extensive poliomyelitis, involving both the anterior and posterior horns. The appearances very closely resembled those described by other writers on encephalitis hemorrhagica.

Regarding the occurrence of speech disturbance in a case of this kind, Dr. Dana said that in the great majority of patients with this form of hemiplegia there is no speech disturbance except a few days after the attack. This might be ascribed to shock. In another class of cases of hemiplegia there is a slight uncertainty in speech, lasting for several months. In another class the hemiplegia is associated with some difficulty of speech, and sometimes true aphasia. He has never observed any sensory aphasia in these patients. When the lesion is well below the cortex, involves the motor neuraxons and the collaterals going to the opposite hemisphere, there would be some hesitation in speech; when the lesion is still lower down, there would be no disturbance of speech. A very general opinion prevails to the effect that bulbar palsies of cerebral origin are due to lesions in the lenticular nucleus, but our present knowledge of the anatomy of the brain makes such a view untenable. Concerning the disturbance of the tongue, he said that Dr. Collins, who had given a critical description of this subject, placed the tongue center in the anterior and upper part of the foot of the anterior central convolution. Some of the centers of the movement of the tongue are probably deep in the fissure of Sylvius, and not subject to experimental stimulation. In the patient under discussion mastication and deglutition were not impaired. The case also brought up the subject of non-suppurative encephalitis, and it seems to be established that there is an infectious hemorrhagic encephalitis in infants; also a hemorrhagic poliomyelitis in adults; and an acute hemorrhagic encephalitis of adults due to some acute infection such as influenza. In the case presented there was a distinct history of malarial infection and of alcoholism, and this combination was responsible for the lesions discovered. Such a case might be classified under the name of degenerative hemorrhagic encephalitis. An examination of the autopsy records of 67 cases of apoplexy showed that 42 of them were hemorrhagic, 11 embolic, 11 thrombic and 3 encephalitic.

Dr. E. D. Fisher agreed with the reader of the paper that, in a small percentage of cases, there might be an encephalitis, and that the spinal cord might also be involved. He has seen cases affecting the right hemisphere in which the aphasia was permanent. It is not common for such persons to lose the memory of names and things, but he could recall a few such instances. He does not believe enough fibers pass over from one side to the other to account for that. The right hemisphere is the region in which the center of speech is fixed, and while it is more accentuated on the left, the right can not be entirely excluded. This belief he bases on his own clinical experience.

Dr. B. Onuf thought that, as a rule, dysarthria rarely occurs in connection with lesions of the internal capsule; but is more often met with in lesions of the cortical foci. He has observed it most frequently with lesions of the left hemisphere. To explain this he assumes that all the articulatory muscles are represented in each hemisphere, and that the center of the right hemisphere is subordinated to that of the left through the fibers of the corpus callosum. If there is a lesion of the right hemisphere, there might be a temporary dysarthria; if, however, there is a lesion of the left hemisphere, the dysarthria would be permanent. On the other hand, if the lesion is in the internal capsule, whether on the right or on the left, the dysarthria would occur. If the dysarthria is marked, the lesion is almost certainly in or near the cortex. He believes that there is a double speech center, and that of the right hemisphere is subordinated to that of the left.

Dr. Fisher asked whether Dr. Dana had noticed any difference in the character of the articulation in the first few days between a right hemiplegic and a left hemiplegic. Personally, he has found as much difficulty in the one case as in the other.

Dr. Collins thought the paper proved that a single lesion is capable of producing diffuse and multiple lesions in the central gray matter. This is the first communication of the kind ever presented in this country. It called attention to the possibility of an acute malarial infection giving rise to such a process. The changes discovered in this examination were those which might be theoretically expected. He did not see how this report could have much effect on the question of aphasia, because serial sections of the entire length of the medulla oblongata had not been preserved. Indeed, he was doubtful whether the patient had had true aphasia.

Dr. M. G. Schlapp said that the inflammation in the medulla seemed to be a very recent one. There was a small round cell infiltration, but the large proliferating cells found in the cortex were not present. The infiltrating and the proliferating stages were both represented in the cortex.

Dr. Dana, replying to Dr. Fisher, said that in his experience dysarthria occurs about as often with right hemiplegia as with left, and that it is practically due to the size of the lesion. If this is very large and the hemiplegia complete, there is almost always dysarthria. Where there is only slight hemiplegia associated with dysarthria, it is probable that the lesion is high up in the cortex, or involves a part of it. He had not thought that this case illustrated aphasia, but rather dysarthria. The weight of evidence in this case seemed to indicate that a paralysis of the tongue was the result of a cortical lesion or sudden apoplectic lesion. There had been absolutely no hemorrhagic process in the medulla.

UNUSUAL CASE OF LEAD PARALYSIS WITH AUTOPSY.

Dr. B. Onuf reported this case. The patient was 37 years of age, and a man of good family and personal history. He had been a painter for many years, and had had one attack of lead colic some years ago. A short time ago he received a severe fall, and for some days afterward seemed dazed. From March to August he did no painting, then began again, with colors containing a large percentage of lead. He kept this up during August, but suffered frequently and severely from colic. At the end of August he became quite ill and, in three or four days, almost helpless in the lower extremities and in the left arm.

On admission to St. Catharine's Hospital, in September, 1899, there was complete flaccid paralysis of both lower extremities; absence of both knee-jerks; marked tenderness of the nerve trunks and muscles of the lower limbs. There was also paralysis of the flexor muscles of the left arm and of the extensors of the fingers. The gums showed a "lead line." The spontaneous pain ceased under diaphoretic treatment. On October 4 he had an attack of severe dyspnea, and on the following morning died in a second and similar attack. At autopsy, the extensors and flexors of the right arm were found wasted, as were also the peroneal muscles and the flexors of the thigh. The left lung was the seat of a bronchopneumonia. Microscopic examination showed what appeared to be a poliomyelitis of the anterior horns. The parts examined so far were the second and fifth lumbar, and here there was an enormous infiltration of the walls of the blood-vessels, with round cells. This infiltration was so extensive as to lead to very general distension of the nerve-cells. The anterior roots were markedly affected, but the posterior ones of the lumbar region were normal. The plantar nerve showed increase of connective tissue and endarteritis obliterans. The liver was examined by Dr. Bookman, but no lead was found. As five weeks had elapsed, such evidence is not of much importance.

Dr. L. Stieglitz said that this case showed, in the human being, exactly what he found in his case of experimental lead poisoning. In experiments on thirty-six animals he only obtained an acute poliomyelitis at the post-mortem in one guinea-pig, and also cell infiltration and more or less destruction of the nerve-cells around the foci. This guinea-pig had been paralyzed acutely, and death occurred within twenty-four hours. In his experimental cases he obtained, in every instance, changes in the ganglionic cells themselves. The case presented in the paper was an atypical one of lead poisoning, and hence would not justify any conclusions regarding the ordinary pathology of that poisoning. The cases reported by Oppenheim and by Herter seemed to him the most typical.

Dr. E. D. Fisher thought the clinical history of this case corresponded more with that of alcohol than of lead poisoning. As a rule, in cases of lead poisoning, the lower extremities are the part first involved. Some years ago he called attention to the occurrence of these degenerative changes in the brain and cord in cases of alcoholism. It, therefore, seemed to him that the case reported combined both alcoholism and lead poisoning. The changes in the central nervous system are quite well established.

Dr. W. M. Leszynsky said that it also seemed to him that the reader of the paper had not proved the connection between the lead poisoning and the post-mortem findings. The case appeared to be one of alcoholic toxemia, or of some acute infectious process.

Dr. Hammond said that while it was very probable that the man had suffered from lead poisoning, he very much doubted whether the lead had anything to do with the condition of the spinal cord; it was much more probable that this was the result of some acute infectious process. He did not believe a case of true lead toxemia had been reported in which such changes in the nervous system had been observed.

Dr. Cunningham some weeks ago met with a case of lead palsy in a man who at the same time had developed a mild form of influenza. The phenomena observed were quite similar to those reported in the paper.

Dr. Collins also took the ground that in addition to the lead poisoning there had been an alcoholic neuritis or some acute infection giving rise to the changes in the spinal cord.

Dr. Onuf said that the frequent attacks of colic during the last few weeks the man had been able to work, seemed to show the close connection between the lead poisoning and the other symptoms. Cases of alcoholic neuritis usually present quite a different picture from that exhibited by his patient. The autopsy revealed evidence of a certain amount of alcoholism, but the man had not been drinking for a considerable time previously, and there was no history of an acute infectious process.

Chicago Ophthalmological and Otological Society.

Dec. 12, 1899.

(Concluded from Page 169.)

KERATITIS DENDRITICA.

Dr. William E. Gamble presented a patient who came under his observation ten days before, saying he had had a sore eye for a month previously. At no time had he had severe pain. At times the eye became more sore, accompanied by more photophobia and increased lacrimation. He complains that at about 2 a.m. in each day there is a profuse flow of tears which lasts for a considerable time, after which his eye feels better. As to the appearance of the eye, there was some pericorneal injection and a superficial keratitis. There is no history of foreign body or other injury. There is no history of the patient being ill for several years, excepting that last June he had sore throat with a fever one day, the temperature reaching 103 F. He has not had any herpetic eruption on the face or other parts of the body, nor has he had any catarrhal troubles with mucous membranes. He has lived in Chicago since 1892 and occupies a second flat. His general appearance corroborates this history.

The etiology of this case is not clear. It does not come under the class, keratitis herpes corneæ of Horner, for the reasons above given, i. e., the history shows no herpetic eruption about the face nor trouble with the respiratory tract. However, he did not see the case early enough to determine whether the keratitis began as vesicles or otherwise. Kipp, in 1880, described a series of cases of superficial keratitis complicating malaria, in which the ulceration often assumed a serpiginous form. He called these cases malarial keratitis.

Dr. Ellet, of Memphis, has this year described ten cases of keratitis dendritica, in which an examination of the blood was made. Plasmodia malariæ were present in nine of the cases.

Hansen-Grut, the Danish ophthalmologist, in 1884, described a series of cases that had come under his observation, as being superficial chronic keratitis with a tendency to become serpiginous, which was not identical with Horner's type; neither did he commit himself on the etiology of the cases he described as keratitis dendritica.

The blood of this case was carefully examined for plasmodium malariæ, by Dr. E. L. Brown, assistant pathologist, Illinois Charitable Eye and Ear Infirmary, with negative result. Quinia has no appreciable effect on the progress of the disease. In the absence of more definite knowledge this case might suggest the keratitis dendritica idiopathica, and thereby aid in the classification of these obscure conditions.

Dr. F. C. Hotz—I have seen a number of these so-called dendritic cases in years gone by, and the majority of them, so far as we could confirm our diagnosis of malaria by the efficacy of quinin treatment, were of a malarial nature. In several instances the treatment had been conducted on general principles of keratitis, with atropin, etc., without benefit, or without making any impression on the inflammation. The inflammation, however, quickly subsided as soon as quinin was given. In one case the patient had periodical attacks at regular intervals; he felt very comfortable and the eye exhibited only a slight indication of inflammation on one day; the next day all the symptoms increased, with violent pain, lasting from ten o'clock in the morning until two in the afternoon. In this case quinin broke up the attacks promptly, and in a few days all signs of inflammation had disappeared. I do not think it is claimed that these cases are all of a malarial origin; there are other factors which may bring about a similar eruption, but I am inclined to think that this typical linear ulceration, creeping over the cornea from the margin, and branching out with fine linear offshoots is, in the majority of cases, of malarial origin.

PECULIAR VISUAL PERVERSION.

DR. F. C. HOTZ presented two patients with an affection entirely new to him. The first, a girl of 10 years, was brought by her mother, who two weeks previously had given her medicine for nocturnal enuresis. After she had taken the medicine for one week, her pupils were enlarged, and her sight disturbed, so the medicine was discontinued, but the visual disturbance persisted. Two years previously, in taking medicine under similar circumstances, her sight had likewise been disturbed for some time. She could not read with a book in the proper position, but could do so quite fluently with it upside down. At twenty feet the test types seemed inverted, but when turned upside down the letters appeared straight and she read correctly to the number 30 inclusive. With the 2.5 D. before the eye she could read the same letters as if they were in the right position. But large objects like persons and houses did not look to her to be upside down. The second case presented somewhat similar disturbance in a boy of 6 years, but in this instance no medicine had been given. The boy was not naturally left-handed, but he wrote as we see in a looking-glass: for 18 he wrote 81. He held the book at an angle of 90 degrees, or even upside down, but could not read with it in the correct position. With a 2.5 D. before the eyes he could read with a book in the correct position or while under the influence of homatropin, and five weeks later his mother did not notice any further signs of visual perversion.

DR. HENRY GRADLE—I can not strictly talk pertinently to the subject, as I have never seen any case like the one of Dr. Hotz. His cases, however, remind me of the extensive neurologic literature on reversed or mirror writing. About twenty years ago the attention of neurologists was called to that subject in connection with attempts at writing with the left hand, by patients with right-sided palsy. It was noticed then that many of these patients, in attempting to write would reverse the letters, and in following up the subject it was found that this, too, was not uncommon among the insane, even where there was no motor palsy of any kind. Furthermore, it was learned that children, in first learning to write, occasionally wrote in the same way. As far as I am aware, this subject has not received much attention recently. In this connection it would be interesting to know how the first girl wrote.

DR. HOTZ—I did not test her writing.

DR. GRADLE—The quick recovery of the first girl would lead us to refer the trouble to some central disturbance of a functional character, coming under the head of what is called, with more or less justice, hysteria; but this is simply a term and does not involve any accurate knowledge. It simply means the disturbance of some central process of such a transient character that it can return to the normal on very slight provocation, although it may last almost indefinitely when no interference occurs which returns the innervation to its proper channels.

DR. ALBERT B. HALE—If one might venture an opinion, one could say that this is probably an obliteration of the acquired experiences of the human mind, and a primary interpretation of direct optical phenomena as we are supposed to get them from our visual apparatus.

Some time ago I informally discussed the strange conditions under which my own child was learning his alphabet. I caught him at it one night. He began with A and wrote it in an inverted position. He wrote U inverted and P reversed. For two or three weeks he showed the inversion of type, but soon got over it and has manifested no symptoms of inversion since.

In the *Annals of Ophthalmology*, years ago, there appeared an article by a man in California, who submitted himself to severe tests of patience by arranging a contrivance in which he produced, in the air, an inverted image, and then sat with his head in a box for a week or so until he accustomed himself to the inverted image; he claimed that interpreted the outer world about as well as a person does with experiences of his own and races of past life.

I do not claim this as an exact scientific interpretation. We know that the connection between the optical condition of the retina, and the condition of the brain when interpreting such phenomena is still unexplained; if as we certainly know, there are, in certain abnormal psychic states, lapses of experience and recession to the original and primitive conditions, we may suppose some such analogous process here, with the result of a (temporary) visual inversion.

DR. THOMAS A. WOODRUFF referred to a three-year-old child who, in looking at picture-books, always preferred to have them upside down. This was more noticeable when the child was two years of age than in the last year. If given a picture-book or single picture right side up, she would always turn it upside down, and seemed to see the pictures better in that position. The child is fond of looking at pictures of babies, and often, while turning over the advertising pages of magazines that contain advertisements for baby foods, with pictures of infants, she invariably holds the magazine inverted.

DR. C. D. WESCOTT—That this condition is sometimes a permanent one is illustrated by a case I observed during my student days. I saw a man writing the English language in such a way that I could not make it out. He explained to me, after seeing that I was interested, that he wrote upside down, and when the copy was reversed it looked and read just as English usually is written. He was a man of middle age, and still continued to write the inverted letters. I can confirm what Dr. Gradle has said with reference to the reverse writing of the insane. During my experience as assistant physician at Kankakee these observations were not infrequent.

DR. A. E. BULSON, Fort Wayne, Ind.—A case similar to the one reported came under my observation a few weeks ago. A salesman, in taking an order, wrote with the paper turned upside down, the writing from his position being upside down. I also noticed that in referring to his catalogue he invariably read with the bottom side up. As agents frequently do this in order to have the print so that the customer can read it, I thought nothing of it until I saw him write the order. On inquiry he told me that he had written this way ever since he was a child, and was unable to write in the ordinary way.

DR. ALBERT B. HALE—In reference to the remarks just made by Dr. Bulson, I should say that this is a trick of many traveling salesmen. They like to have the purchaser read the memorandum at once, and therefore write it upside down. It is an acquired trick, making figures, initials, etc. I have seen it done very well indeed. I regard it largely as acquired merely for business purposes. This would not apply, however, to such a case as Dr. Bulson cites.

Ichthyol in Prostatitis.

A. Freudenberg reports excellent results from the use of ichthyol suppositories in this distressing complaint. Forty cases are referred to, all chronic or in late stages of an acute attack, some of the blenorrhagic origin. He prescribes the following:

R. Ammon. sulpho-ichthyol .... 3 to 6 or .7 gm.
Ol. theobrom........................2. to 2.5 gm.

M. ft. suppository. N. B.—No "hollow" suppositories. One suppository in the morning after defecation, and another on retiring at night. The effects were often rapid and surprising, the subjective disturbances—pain, pressure, and frequent, painful and slow urination—disappearing, and palpable decrease of the hypertrophy and inflammatory induration of the gland taking place.

THE JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION.

SATURDAY, JANUARY 27, 1900.

TRANSMISSION OF TUBERCULOSIS.

Dr. Robison's article, published in this issue of The Journal, calls to mind the fact that there seems to be hardly any more fully accepted medical opinion than that of the direct reciprocal transmission of tuberculosis between man and cattle. And yet the direct evidence of the fact is, as Adami[1] says, singularly weak. It ought not to be so as regards the communicability of human tuberculosis to cattle, as experimentation is altogether practicable, though as to the transmission of bovine tuberculosis to man it is out of the question. What we need is careful clinical studies, not generalizations from casual or imperfect observation, however probable they may appear. Such statements as the following, taken from a recent report: "There are practically no cases of healthy herds where attended by patients of sanitary institutions. If the inspector looks first at the people on the farm and finds one or two of them that appear to have traces of tuberculosis, he can predict with absolute certainty that he will find the same disease among the cattle," and "the identity of animal and human tuberculosis first announced by Koch, but often disputed since, has at least been demonstrated beyond the possibility of a doubt," are probably true, but where are we to find the demonstration? Are we accepting the results of careful clinical observations and scientific experiments or merely the general clinical consensus of opinion from indefinite and uncriticized experience and observation? There is a certain reverence to general opinion as marked as that to authority, and we know the misleading possibilities of the latter. It would be well if every physician who is convinced that ingestion of milk or meat from tuberculous animals produces tuberculosis in man would give us the evidence in full that leads him to his conviction. If that were done, we could better answer such statements as the recent one of Moore[2], that there is no evidence of the transmission of bovine tuberculosis to man or that of man to cattle.

Can we not obtain from regions adjoining sanatoria, and elsewhere, careful studies that will furnish the incontestable facts, or what we can accept as approximately such, to settle these questions? Further, can we not have definite experimental proof of the identity of human and bovine tuberculosis? Thus far the literature has been too barren in this regard, though positive assertions are the rule. It is not that the danger is doubted, for there must be a basis for so general a conviction, but there should be a fuller possibility of giving reasons for the faith that is in us. There is certainly no lack of opportunity for investigation, and there are very few questions in medicine that are so universally assumed as solved with so little direct evidence of their solution. The need of further data as to the relative pathogenic actions of animal and human tuberculosis is admitted by those who, like Trudeau and Denison, have formally enumerated the problems of tuberculosis. They recognize the fact that we have still much to learn about the matter, but we fail to find a similar modesty in a large proportion of the publications of others who have written on the subject for professional or popular enlightenment.

The impression which is very often received is that our knowledge of the facts is complete and there is no need for further research. The fact is that we are probably only in the beginnings of our knowledge of many of the problems of this disease, and there is a possibility that many of our accepted beliefs will have to be modified, if they are not overthrown. At present we are working with only a vague and imperfect knowledge of many points, the one here discussed being apparently one of these, and less excusably so than many others that present greater difficulties in their investigation.

TREATMENT OF TYPHOID FEVER BY COLD BATHING.

Although water has been employed for therapeutic purposes more or less systematically for upward of one hundred years, it is only since the publication by Brand, in 1861, of his monograph on the "Hydrotherapy of Typhoid Fever," that the usefulness of this agency has received at all general recognition. Further time was required before the method of Brand was universally accepted, and this result was brought about only by the reduction in mortality that was demonstrated to take place as a result of its adoption. Brand recommended immersion of the typhoid patient for fifteen minutes in water at a temperature of 68 F., whenever the temperature, taken in the rectum every three hours, reached 102.2 F. This formula is, however, not an inflexible one, and its elements may be varied, in accordance with special conditions that may be present, or particular results that may be desired. Thus, the frequency of bathing may be diminished, the temperature of the water raised or lowered, the time of immersion lengthened or shortened, in accordance with the conditions present in the individual case. In general, however, the best results are obtained from a faithful adherence to the fundamental regulations.

The cold bath is not directed merely against the fever or the elevation of temperature—it is not simply an antithermic or an antipyretic measure; otherwise, the same results might be brought about by any of a large number of modern products of the laboratory capable of this effect. The bath, however, does this and much more besides. It influences, in fact, the entire course of the disease; it stimulates the circulatory—regulates and slows the heart, improves the pulse—the respiratory—slows and deepens the breathing—and the secretory functions—heightens metabolism generally, increases the secretion of urine—and those of the nervous system

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[1] The Journal, Dec. 16, 1899.

[2] N. Y. Med. Jour., Sept. 2 and 9, 1899.

—subdues headache, overcomes restlessness, clears the sensoria, induces sleep. The most important result of all, however, is the reduction in mortality. The death-rate from typhoid fever subjected to any or all other forms of treatment has long averaged from 18 to 20 per cent., while, in large numbers of cases submitted to the cold bath, it has averaged between 7 and 8 per cent., and there is striking agreement in this respect between the results obtained, not alone in Germany and on the Continent of Europe, but also in England, in Australia, and in the United States, in fact, wherever the cold-bath treatment has been faithfully and intelligently employed. To the statistics already published, Baumler[1] adds the results of observations made in the Medical Clinic at Freiburg from Oct. 1, 1876, to Sept. 1, 1899. During this time there were treated with cold baths 1019 patients—575 males, 444 females—suffering from typhoid fever, with 95 deaths (57—9.91 per cent. in males, 38—8.55 per cent. in females)—9.32 per cent. These figures include all cases, without reference to the severity of the attack, to the time of admission and of death with relation thereto, to the presence or absence of complications and sequelæ, and to the causes of death. Making allowance, however, for cases admitted moribund or with incurable complications, and for those in which death occurred from tuberculosis after recovery from typhoid fever, the mortality was only 7.9 per cent. —8.58 per cent. in males, 7.37 per cent. in females. These figures agree closely with those of Tripier and Bouveret in Lyons, of Osler in Baltimore, of Wilson in Philadelphia, and of Hare in Brisbane.

ARTERIO-RENAL DISEASE IN EARLY LIFE.

Some of the statements made recently in these columns (p. 179), with regard to the occurrence of interstitial changes in the liver, particularly in young persons, are susceptible of general application to analogous changes in other tissues and organs. The danger from all conditions of this nature depends on the establishment of a vicious circle, in which hyperplasia of the interstitial tissue either takes place primarily or occurs as a result of previous destruction of parenchymatous tissue, and this in turn causes further destruction of parenchymatous elements, this process continuing until it reaches a degree that is incompatible with the continuance of life. It is likely, further—in fact it is the rule—that that same process may involve many organs and tissues contemporaneously or successively, though, as observation has shown, in varying degree. This fact would seem to indicate that the different organs exhibit differences in respect to their response to the same irritant, and it may be anticipated that a certain selectiveness of action, perhaps a certain specificity, may be looked for in this connection. In any event the changes that we are discussing are those that are in a general way responsible for physiologic senility, and which are exemplified in the degenerative process designated arteriosclerosis; and it may be that, as Metschnikoff is recently reported to have stated, we shall be able to prolong life when we have acquired the ability of preventing the early or the excessive deposition of interstitial connective tissue or of causing its disappearance when once it has formed.

For the present at least, that degree of prophylaxis is possible that consists in the avoidance of those irritants that are known to give rise to the morbid process under consideration. It is a generally accepted fact that arterio-renal disease is not a common condition in the young, but recent clinical observation would seem to indicate that it is not so rare as it has hitherto been considered. In fact, it has even been encountered as a congenital condition. Perhaps it would be found oftener if it were more frequently looked for. On general principles one might suspect that the delicate tissues of the young would be more sensitive to irritating influences than the more mature and more resistant tissues of the adult; although children, on the other hand, are not, as a rule, so much exposed to the action of these irritants.

To the small number of cases on record in which chronic arterio-renal disease has developed in childhood, without evidence of previous acute disease of the kidneys, Brill and Libman[1] add another that presents, besides, other points of more than ordinary interest. The patient was a girl, 14 years old, who had always been weak and undersized. Dyspnea was easily induced. Menstruation had not appeared. The face and the cheek had been swollen a year before coming under observation. Cough and expectoration had been present for a short time. The only illness had been an attack of gastro-enteritis at the age of 6 months. There was no evidence of syphilis. A day following a fright the child was found paralyzed on the left side of the body, with rigidity, and some twitching in the affected parts. Headache was present with fever, and slight hemoptysis. The heart was enlarged, and systolic murmurs were heard at the apex and the right base, while the second sound was accentuated and at times duplicated. The radial arteries were tense, thickened, and tortuous. The urine contained albumin and hyaline and granular tube-casts. The condition of the patient grew gradually worse; signs of hemorrhagic infarction of the lungs, the spleen, and the superior mesenteric artery became evident; pericarditis developed; and death ensued after the lapse of some eight weeks. On post-mortem examination in addition to the infarction of the lungs and the cardiac hypertrophy, the aortic valves were found moderately atheromatous, and segments of the mitral valve slightly thickened. The aorta contained patches of atheroma, especially about the openings of the coronary arteries, and these vessels were markedly atheromatous. Patches of atheroma were present also on the endocardium, between the aortic and the mitral valves, and also on one cusp of the mitral valves. The kidneys were exceedingly small and red; the right weighed 50 grams, and was

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[1] Deutsches Archiv. f. Klin. Med., B. lxvi, p. 21

[1] Jour. of Exp. Med., iv, 5, 6, 541

9x4x3 cm. in size; the left weighed 36.5 grams, and was 6.5x3.5x2.5 cm. in size. Their capsules were adherent, the surface irregularly granular, the renal substance firm, the cortex narrow. While there was hemorrhage into the mesentery, no embolism nor thrombosis could be found in the mesenteric vessels, although the superior mesenteric artery was markedly atheromatous. The liver was enlarged, firm and congested, with an increase in its connective tissue. On microscopic examination the lungs exhibited brown induration, with increase in the interstitial connective tissue. The capsule of the liver was thickened, the capillaries of the organ dilated, and there was a little increase in the interstitial connective tissue. The liver was degenerated and pigmented. The hepatic veins were dilated and their walls thickened. The arteries exhibited a marked degree of obliterative inflammation. Areas apparently following the course of the hepatic artery were the seat of lime-deposits. The arteries of the spleen, also, were the seat of marked obliterative inflammation. Both kidneys were the seat of an intense interstitial inflammatory process. The intima of the coronary arteries was greatly thickened, and the seat of extensive calcareous deposits and necrosis, with fibroid metamorphosis of the media. The superior mesenteric artery exhibited irregular thickening of the intima and the media, with small calcareous deposits in the intima. Examination of the blood fourteen hours before death, and also of that from the heart after death, disclosed the presence of the staphylococcus albus, but no especial significance is attached to this, as the death-agony was prolonged. Two other children in the family, likewise, presented evidences of arterio-renal disease.

MEDICAL EDUCATION.

There is a tendency toward premature specialization in some of the schools of medicine in America, the result of better equipment of laboratories as well as the spirit of investigation that has been breathed into our youth from the universities of Germany. It is, however, a tendency to be modified, and to be criticised.

Investigation and original research is the soul of progress, and every medical school should offer the most ample facilities that its exchequer will permit, to encourage original progressive research work within its walls; but the student who is preparing himself to be a thorough, conscientious practitioner of medicine has all he can do to grasp the principles that form the basis of his studies. President Dwight, of Harvard Medical School, in a discussion of the "Position that Universities Should Take with Reference to Education[1]," Dec. 25, 1899, says: "We must look to it that the candidate for the degree of M.D. be not robbed of his time, none too long, for learning medicine as an art, by specially conducted excursions into abstract science."

President Eliot says that a university that is not a place of research will not long continue to be a good place for teaching. It is true that the stimulus that comes from the association with a professor who is himself actively engaged in original work is nearly always greater than that from a man who merely collects the material of other men. It is also true that work in laboratories in which active research is being conducted is more inspiring than work in laboratories that serve merely as class rooms for a certain prescribed routine. If a student has a tendency toward investigation he should be given the opportunities afforded him by the university; but instead of being encouraged to produce unripe fruit in the ambitious twenties, and being left to wander in the mazes of technic and the intricacies of theoretic disputes, he should be trained to sharp, definite conscientious work that will enable him, when he is more mature, to draw ideas from the disassociated facts that are constantly being accumulated in the laboratories of this country. President Dwight says: "The born investigator (and no other is worth much trouble) no more needs encouragement to investigate than a fish does to swim."

The medical school, for its own fame, would much better equip research laboratories, pay an investigating professor an ample salary and provide him assistants for detail technique, than to force men of an investigating spirit to seek private laboratories and do independent work. But all this should be to save the time of the medical student, to add the latest results to the facts he must know, and to present them to him in the way that he can best grasp and put them into practical use.

As a means of instruction, training in research methods is slow and cumbersome, and our medical colleges are in danger of too extensively substituting this round-about training for more direct methods of instruction. A certain amount of training in research methods stimulates the perception and increases the power of self-guidance, but the student-physician can not afford to get his experience along these lines to the exclusion of others. He must get all that accumulated experience has to offer before he starts off to acquire knowledge on his own account: otherwise his education is a narrow, spindling structure, and his judgment dwarfed and immature.

CELERY AS A VEHICLE OF INFECTION.

The dangers of typhoid from truck-gardens, with their free use of fertilizers from all sources, has been often pointed out. A rather striking object-lesson is reported from one of the Eastern states where an epidemic of fever occurred in one of the state institutions. It was found that the disease could apparently be traced to the use of celery grown on some sewage-fertilized grounds, the practice of banking up the stalks making these plants specially adapted to receiving and holding the germs. As soon as the use of the plant was stopped the epidemic diminished, and finally ceased altogether. These facts indicate the need of a caution in using this popular vegetable, which, with its corrugated stems, etiolated by banking up with earth often saturated with fertilizers of one kind or another, and generally eaten raw, might very possibly carry the germs of disease. The danger is not great or we would hear more of it, but that it may exist occasionally, the above case seems to prove. It is not intended here to advise against the eating of celery, but only to suggest that it be well cleansed first, and to call the attention of physicians to what may be a possible cause of some rare cases of disease of obscure etiology.

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[1] Science, January 12.

THE ORIGINAL OF MULTIPLE LIPOMAS.

Many are the theories that have been advanced in regard to the origin of multiple lipomas. The relationship of some lipomas to the nervous system is shown both by clinical and anatomic observations. Askanazy[1] traced the development of multiple lipomas to lymph glands which were finally wholly replaced; this process could be followed clearly in the mesentery and in an anthracotic gland in the neck. The physiologic paradigm of this replacement is seen in the fatty transformation of the thymus and of bone marrow. The fact that in Askanazy's case death resulted from a sarcoma of the neck that had extended to the pharynx and to the thyroid recalls the declaration of Thomas Curling[2], in 1850, that lipomas of the neck depend in some way on disturbances of the thyroid functions.

THE CONJUNCTIVAL SAC AS PORTAL OF INFECTION.

From Römer's[3] experimental studies of infection from the conjunctival sac, we learn that in the case of the rabbit and the guinea-pig, the conjunctival sac is an extremely dangerous route of general infection, as dangerous as, if not more than, any and all other recognized routes; it is not necessary to produce any preliminary injury to the tissues, severe general infection may result from the introduction of microbes into the intact conjunctival sac, and in a large percentage of such cases the resulting septicemias progress more rapidly than when the germs are introduced into the subcutaneous tissue. The germs do not enter the general circulation by way of the conjunctiva itself; it remains protected by its anatomic structure and by being constantly bathed with tears. The resorptive activities of the nasal mucous membrane play the principal part in the general infection; Römer demonstrates, by means of histologic sections, that fine corpuscular elements, such as powdered carmin, introduced into the sac of the conjunctiva, reach the nose by way of the tear passages, and are then taken up by the epithelium of the nose and deposited in the submucous lymphatics. In general infection from the conjunctiva the nasal mucosa is the entrance point. His studies are of interest as to the mode of infection in various forms of acute meningitis. The nose has long been held as a probable route of entrance. As shown long ago by Key and Retzius, the lymphatics of the submucous tissue of the nose communicate with the dura and arachnoid by way of spaces in the sheaths of the olfactory nerves. Micro-organisms, which reach the lymph-vessels of the nose, have thence a straight road, so to speak, to the lymphatics of the brain, and it may be that the nose is reached from the conjunctiva more commonly than now believed. Römer emphasizes the fact that dust is of importance, especially in local infections of the conjunctiva, because it not only produces epithelial lesions, but under its influence the bacterial content of the conjunctival sac rises above the normal.

MEDICAL EDUCATION IN INDIANA.

The State Board of Health of Indiana evidently intends to take a hand in the supervision of medical education in that state. At a recent session of the Board, as noted in our Indiana news, a resolution was adopted requiring each medical college to annually furnish a report of the number of students in attendance, the percentage of attendance of students on lectures, and other particulars bearing on the question of thoroughness of instruction and the qualifications of the graduates. It also concluded, according to the report given to the press, to make annual visits to each college to see that they are keeping up to the required standards. If this plan is carried out thoroughly, the medical colleges of Indiana ought to be forced up to a high standard of excellence. We are not informed as to the details of the legislation qualifying the State Board of Health, but it certainly has a comprehensive understanding as to its functions, and there must have been a liberal allowance of power allotted to it by law. Properly and judiciously exercised, such powers ought to be the cause of great benefits to the state, and this latest move is, we think, in the right direction. If the Board has no more than a merely advisory function in this supervision of medical education it will be possible for medical colleges to go their own way without regard to it, but the probability is that its influence will be felt. The power to judge of the "good repute" of any and every institution of medical education certainly ought to be effective within the jurisdiction of the Board. The medical colleges of Indiana are not that kind always ready to place obstacles in the way of progress toward the higher standard so earnestly sought after by the better men of our profession, and so we may expect to see them co-operate with the Board, and hence great good result.

RELATION BETWEEN MALARIAL INFECTION AND EPILEPSY.

It is recognized as an established clinical fact that acute infectious disease occurring in an epileptic has a tendency to suppress the convulsive seizures, at least temporarily; though these may subsequently recur with their original or even increased frequency and severity. It has been thought that malarial infection especially exerted a favorable influence on epilepsy, but a series of fourteen observations made by De Montyel[1], in the course of eleven years, would seem to demonstrate the contrary. In five cases of mild epilepsy, with slight attacks at long intervals, and with little mental impairment, the symptoms were aggravated in the sequence of attacks of intermittent fever, which themselves yielded readily enough to quinin. In three cases in which there had been no convulsive seizures for a number of years, the attacks returned under the influence of malarial infection. In the remaining six epileptic attacks occurred for the first time while the patient was suffering from malarial fever. Ir one of these the attacks occurred only in association with malarial infection, and in another they were worse under the same condition, although they occurred also independently. In a third, epilepsy developed during a second relapse of malarial fever, the attacks recurring and the patient remaining delirious after the malarial fever was cured. The patients in the remaining three were addicted to the use of alcohol, but this was considered merely a predisposing factor in one case, and the exciting factor in the other two, the malarial infection operating, however, as an aggravating influence. It should be added that all of the patients possessed a neuropathic predisposition.

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[1] Virchow's Archiv., 1899, 158, 413.

[2] Medico-Chirurgical Transactions, 1850, xxxiii, p. 3

[3] Ztft. f. Hyg. u. Infektionskr., 1899, xxxii, 295.

[1] Revue de Médecine, Dec. 10, 1899, p. 921.

MURDER AND SCIENCE.

A writer in the *Catholic World* for January, taking as his text a pamphlet already noticed in The Journal, makes a serious accusation against the medical profession. Under the caption "Murder in the Name of Science," he repeats the *suppressio veri* and *suggestio falsi* of the original with apparently no question as to its entire reliability. The Journal has already shown the malignant misrepresentation of the pamphlet in question, as regards the one instance where it could be sure of its identification of the article misquoted, and the refutation need not be repeated here. It showed how unscrupulous the author was in his perversion of facts, and what little reliance could be placed on the prejudiced statements of the humane association of antivivisectionists. It is unfortunate, however, that it has found a clerical believer to republish the libel in an influential denominational religious journal, and thus impose it still further on the credibility of the public. Physicians do not need to be told that reckless experiments on human subjects are universally condemned by the profession, and are only rarely ventured on by its less scrupulous members even in Europe. Here, however, we find the reverend gentleman repeating the calumny that it is practiced at wholesale there, and his readers will probably accept the statement implicitly. The two instances in this country referred to are the one already explained and another, hard to locate, as it represents the physicians of a hospital of one of our larger cities as inoculating twenty lepers with a still more loathsome and horrible disease. What hospital in a large city in this country could supply twenty lepers for such an experiment? As regards Dr. Berkley's experiments with thyroids, it is unfortunate that he made the slip of saying that death is invariably caused by even a moderate administration of an agent which, though not harmless, is yet not so actively toxic, and which has completely changed for the better the prognosis of one of the most repulsive forms of mental deficiency. That inaccuracy has been the text of these misrepresentations, and the case would probably never have been quoted without it. It should be said here, in justice to Father Searles, that he is evidently not an irrational antivivisectionist. His article is, on the other hand, rather a plea for the restriction of experiments to the lower animals; it is not the *corpora vili* he is concerned about, for he admits that they are ours "for legitimate use of this kind." His article gives no support for the antivivisectionists, but it is in every way reprehensible as taking up and repeating the slander sent out by them as a collateral aid in their attack on the medical profession. If he had only consulted his medical friends in whom he had confidence, assuming of course that he must have had such, or those whose character is such that neither he nor the general public can do otherwise than accept their testimony, he would have learned how unjustified and libelous is such an attack on an honorable profession.

CLUB PRACTICE: HOW SHALL WE MEET IT.

Our Canadian correspondent calls attention this week to the action of the Medical Society of Victoria in reference to lodge practice. It seems that the rapid increase of the various lodges and societies, whose main excuse for existence is supplying physicians and medicine to their members, has become so marked that some action is necessary to prevent the profession being made a mere tool of these societies. The action of the combined bodies brings matters to a focus, and the fight will probably be to the finish. It is certainly to be hoped so, at least. As if the free work now being done by the members of the medical profession in hospitals, clinics, dispensaries and among the deserving poor were not sufficient, these societies are demanding the right to treat physicians and their labor as commercial property to be used as a society may dictate, and pay what they see fit. This lodge business question is a growing one all over the country, and it is time that we recognize it as a question that will have to be met ere long. Whether they shall be compelled to submit to terms dictated by these combinations depends on physicians themselves. If they are contented to let matters take their course in this as they have done, they will soon find a serious problem on their hands. A transfer of the "Battle of the Clubs" to our shores, even over the border, is not a desirable consummation, but in some form or other we will probably see it come to pass. We have the advantage of the experience of our brethren in Great Britain and elsewhere, who have shown that where the medical profession shows a combined front to the evil it will win the fight. At present even we have a foretaste of what may come, not merely in the way of lodge practice and benefit societies, but also the attempted exploitation of our profession by speculative promoters and syndicates that attempt to control medical practice for their own ultimate profit. There have been notices of several proposed organizations that can hardly mean anything else than this. It is not to be admitted that this is going to be a normal phase of our social development, and as loyal to our professional brethren and to our own interests, we should each and every one of us do what we can to nip the evil in the bud. Mere individual action, however, will not be sufficient; what is needed is combined action and perfect organization in this as well as in other efforts. The question is already before us in its beginnings, and it is none too early to give the alarm.

OCCLUSION OF MESENTERIC VESSELS.

The difficulties in the way of an accurate diagnosis of intra-abdominal morbid conditions are often many, and sometimes insurmountable except through surgical intervention and ocular inspection, but an approximate degree of accuracy can often be reached from a careful consideration of all of the features present in the individual case. Nausea, vomiting, and constipation, with a coated tongue, offensive breath and headache are common to many of these conditions, but it is rather their grouping and their association with other phenomena that can be considered to be at all distinctive. Pain is not always referred to its point of origin; fever will be present only when toxic substances are absorbed into the circulation; nausea, vomiting and constipation may be due to other causes than intestinal obstruction, and even this may be due to physiologic—pathologic—rather than mechanical causes; and tumidity may be either of gaseous or of solid origin. When these are elicited, the etiologic factors are of great significance for the diagnosis. A condition to which some attention has been called of late, and which, while not common, can scarcely be said to be rare, consists in occlusion of the mesenteric vessels—arteries or veins—by thrombosis or embolism. Such a condition may result from valvular disease of the heart, atheroma or inflammation of the vessels, arteriosclerosis, or adjacent inflammation. The symptoms consist principally in severe abdominal pain, vomiting, tympanites and signs of collapse. The bowels may be constipated, or there may be diarrhea with bloody stools. A tumor can sometimes be detected on palpation. Unless the effects of the vascular obstruction be speedily neutralized, ulceration or gangrene of the bowel will result. Death often occurs, although there is evidence that recovery may take place. The specimen from a case of hemorrhagic infarction of the small intestine with a fatal termination, was exhibited by Dr. Leon T. DeWald at a recent meeting of the New York Pathological Society. The patient was a drinking man, who presented symptoms of pulmonary emphysema and nephritis, and who complained of cramp-like pain in the epigastrium. Vomiting occurred frequently, the temperature rose to 103 F., and the pulse became small and wiry. After death the lungs were found congested, with a large hemorrhagic infarction at the base of the right. The heart was enlarged and dilated, and the aorta atheromatous and calcareous. The kidneys were enlarged and granular, and the right contained an infarct. The intestines were matted together by fibrinous adhesions, on separation of which a perforation was found in the ileum, about three feet above the ileocecal valve. The intestine for a distance of five inches on either side of the perforation was dark and gangrenous; the mucous membrane was softened; and the walls were dark and infiltrated with blood. The corresponding mesentery was in a similar condition and a thrombus was found in the supplying branch of the superior mesenteric artery.

INNOCUOUS INSOMNIA.

It is said that certain distinguished men of the past and of the present time have been able to do extraordinary amounts of work on a minimum of sleep, the time used for that function ranging from six to four hours, or even less, according to the reports. The statements are popularly accepted as facts without question, and are also repeated in medical works. A recently published text-book on nervous diseases says that some few adults are able to get along with four or five hours of sleep, though the majority require eight or ten. It is a matter of medical as well as popular belief that men like Edison, Napoleon and others can do more work and endure more fatigue than the great mass of men, with only a little more than half as much sleep as is generally supposed to be required. This is a physical anomaly. There is no machine that can be so made as to do a maximum of work on a minimum of repair or rest, the work done by a watch, for instance, which seems continuous, is very little, only equivalent to the force used in winding it. Just how special samples of the human machine contrive to thus reverse physical laws is a difficult question, and perhaps its simplest solution is to say they do not do it, at least for any long continued period of time. There are very few matters in regard to which there is likely to be more self-deception than that as to the amount of sleep. It is not at all uncommon to have persons say they have not slept at all, when in fact they have only had a few brief interruptions to their accustomed ration of slumber. It is perhaps possible that Edison may sleep only four hours—if he says so himself he probably believes it—but if so he is a very rare exception, and we seriously doubt whether he keeps it up over extended periods. That endurance of loss of sleep for a time is pathologically possible, any insane asylum can give evidence, but the victims either wear themselves out or make up the loss by prolonged periods of comparative stupor. In the normal condition it is, however, extremely doubtful whether any one can do good work, either mental or physical, for any length of time without more than four or five hours of sleep in the aggregate twenty-four hours. When the nervous centers are past their period of greatest activity, as in old age, there is an apparent lessening of the need of sleep, but even old men require at least six hours, and very rarely if ever do well on less. In active maturity seven and eight are none too much for the average man. The recently reported proposition of university students in some western institutions, to reduce themselves to a minimum of sleep, is one of the cranky notions of the day and likely to be disastrous if seriously attempted. A lively distrust of the reported stories of the innocuous insomnia of prominent persons, that appears to thus influence their immature intellect, would be a salutary thing to encourage.

PERNICIOUS MALARIAL FEVER.

While perhaps typhoid fever is the more prevalent above and malarial fever below Mason and Dixon's line, the fact should not be lost sight of that cases of each may occur under circumstances amid which they would be least expected. With the information to be gained from examination of the blood as to the presence of plasmodia on the one hand, and of agglutination and sedimentation on the other, in conjunction with other more or less distinctive symptoms, there should be little room for error in the diagnosis of these two diseases. While such error is the more likely to occur from failure in observation, it must in fairness be admitted that the diagnosis may in some cases remain in doubt from a concurrence of unusual circumstances. Of all men the physician must ever be prepared for the unexpected, and he should constantly fortify himself against surprise. A forcible illustration of the necessity for such safeguards is afforded by a fatal case of pernicious malarial fever, reported by Dr. A. A. Smith at a recent meeting of the Practitioners' Society in New York City, and it would be only charitable to forgive a failure to recognize an isolated case of that disease. Neither is it common for malarial fever to prove fatal there. The case in question is therefore of more than ordinary interest. The patient was a man 44 years old, who had lived in Florida and South Carolina for a dozen years, and had been but three months in New York. He had had an attack of malarial fever about a year previously, for which he had evidently been treated inadequately, although improvement resulted. During five weeks there had been daily chills followed by high fever, thirst, drowsiness and headache. The latter became continuous, and there was much pain in the back and the large muscles of the body, especially the calves of the legs. Toward the close there was delirium, nausea, and vomiting. The bowels were constipated. Quinin was given hypodermically a short time before death, but was entirely without effect. Numerous plasmodia of varied kind were found in the blood. On post-mortem examination the spleen was enlarged and softened. The cerebral meninges were edematous and turbid, and in places hemorrhagic. The kidneys presented evidences of interstitial inflammation. It would seem that this case was perhaps one of chronic malaria that had become pernicious from want of proper treatment, and the failure in this direction is difficult to understand except on the basis of the patient's indifference to his condition. It is scarcely possible that the nature of the case should have escaped recognition.

Medical News.

The Topeka (Kan.) Board of Health has authorized the establishment of a detention hospital for "Cuban chickenpox" patients.

The schooner *Vrolana*, on January 18, was ordered into quarantine at Old Point Comfort, Va., owing to the existence of smallpox on board.

Dr. William Davis, St. Paul, Minn., for many years associate editor of the *Northwestern Lancet*, has resigned. Dr. Howard Lankester will be his successor.

According to the *Gazette Méd.*, Paris is on the point of bestowing on a certain street the name of Eugene Bouchut, in honor of his invention of intubation of the larynx.

A new medical monthly—the *Providence* (R. I.) *Medical Journal*, which began publication this month—has been received. It is published by the Providence Medical Association.

The medical faculty at Heidelberg now admits women students on the same footing as men, if provided with the diploma of a German "gymnasium" or high school course.

Travelers in Mexico will be interested in the efforts of the editor of *Anales de Oftalmologie*, Dr. Troncoso, to compel the railroads to have the eyes of their employees tested. There is nothing of the kind in force now.

Owing to the existence of the plague in Asia, etc., orders have been given by the U. S. Treasury Department that hereafter a clear bill of health will be demanded from all vessels clearing from such ports, under a penalty of $5000.

Judge Arnold, of the common pleas court of Philadelphia, has handed down a decision to the effect that artificial coloring of oleomargarin is unlawful. According to this decision it is unlawful to add any hue to the product other than that which it may possess in making.

The City Board of Health, New Orleans, has mandamused the city council with a view to securing the means necessary for carrying on the work of the Board during the current year. The council budgeted the Board for $15,000 only, though an appropriation of $22,209 has been asked for.

Paris has appropriated $1780 for the annual support of a laboratory for the study of favus and tinea. Dr. Sabouraud has been appointed superintendent, and the *Gazette Méd.* states that he has also been charged with the surveillance of all the schools of Paris in respect to favus, tinea and cutaneous diseases in general.

The grand jury has returned indictments against "Divine Healer" Jones of South Omaha, Neb., and Mrs. P. B. Yates of Tabor, Iowa, on the charge of being criminally responsible for the death of the latter's daughter at Council Bluffs, January 5. (See The Journal, p. 117.) The jury decided that the daughter died from neglect, the mother having refused to procure medical assistance.

Two years ago, the *Association des Dames Francaises* founded a hospital near Paris, in which the members of the society serve in turn as nurses, in order to be prepared to assist the surgeons and medical men in case of war. They are now making great efforts to send to the hospital already dispatched to the assistance of the wounded Boers, a consignment of concentrated milk, green vegetables and coffee, and four hundred dollars' worth of inexpensive artificial limbs.

The eight medical journals of Havana are rejoicing at the appointment of General Wood to be governor-general of Cuba, as a compliment to the profession and a guarantee that great things will be accomplished. The *Archivos de la Policlinica* pays a glowing tribute to the "higienizacion" already accomplished by "la intervencion Americana," and the suppression of the scandalous prostitution in the street "forced on the people by the Spanish colonial government."

It has been agreed by the House Committee on Inter-State and Foreign Commerce, in Congress, to report favorably on the bill (see The Journal, p. 182) authorizing the appointment of five scientists to make an examination of the river water, in different localities, used for potable purposes. The Delaware River water will be examined, and it was hoped that the Schuylkill would also be placed on this list, but as it does not flow through more than one state, it will not be examined by the commission.

A chair of intertropical pathology has been created at Havana and Dr. Juan Guitéras appointed to it. He is at present studying in Europe. The *Archivos de la Policlinica* congratulates the Havana faculty on "this brilliant and exceptional acquisition," and expresses its exalted appreciation of "the patriotic act of the Doctor in leaving his position in Philadelphia—the chair of pathologic anatomy at the University of Pennsylvania—to return to Cuba for our welfare and to work for medical culture."

Koch has made the Institute for Infectious Diseases at Berlin quite well-known. He is still in the Dutch

West Indies, and a number of other changes in the staff are announced. Brieger, in charge of the clinical department, has resigned to accept the new chair of general therapeutics at the University, and Pfeffer, chief of the laboratory, for the chair of hygiene at Königsberg. Marx has also left to assist Ehrlich in the Institute of Experimental Therapy at Frankfurt. Dönitsch and Frosch, who have returned from their official study of the plague in Portugal, are to take the places vacated by Brieger and Pfeiffer. The Institute has commenced ten-day courses on the plague in a laboratory outside the city, open to physicians, nurses and bacteriologists who agree to place themselves at the disposal of the Government in case of the outbreak of the plague. The courses are free to those occupying any official position. Other bacteriologists pay fifty marks.

Study of Tropical Diseases.—A board of medical officers to consist of Assistant-Surgeons William J. Calvert and R. P. Strong, U. S. A., and Acting Assistant-Surgeon Joseph J. Curry, has been appointed to meet at one of the general hospitals in or near Manila, P. I., for the purpose of studying tropical diseases as they occur in the Philippine Islands. The Board will receive its instructions from the Surgeon-General of the U. S. Army, and will be under the immediate direction of the chief surgeon, Department of the Pacific.

Concerning the Plague.—Five cases and four deaths were reported officially from Honolulu, January 16, and the same number of cases with no deaths were reported from Manila during the same period. The official reports convey the following information: Santos, Brazil, 38 cases and 13 deaths, October 15 to December 23; Hongkong, China, 42 cases and 42 deaths, November 5 to December 7. Three deaths were reported from Kobe, Japan, December 20, and one case was reported from Nagasaki, December 9. Twelve cases and 9 deaths were reported from Osaka and Hioga, December 2 to 23.

Nebraska's Medical Standard.—The four-year clause of the Nebraska medical law has been sustained by the district court in that state. An applicant who presented a three-year diploma was refused a certificate in October last, by the medical board. He appealed to the Board of Health, consisting of the governor, attorney-general and superintendent of public instruction, and it overruled the decision of the medical board and ordered that a certificate be issued. The Lincoln Medical College, a four years' graded school, applied for an injunction in the district court at Lincoln on the ground that the proposed action was a direct violation of the medical statute. On the showing made, the injunction against the board was made permanent, thus upholding the right of the legislature to fix the standard of medical education for the state.

Smallpox in Indiana.—Dr. A. W. Brayton, Indianapolis, has recently returned from a visit to Clay City, Ind., where he went to investigate one of the epidemics of mild smallpox that are being heard of here and there throughout the country. The whole town has been exposed, and as the younger generation had not been vaccinated, the disease spread freely. Had it been of the usual severe northern type the mortality would have been fearful. It is now in the country round about, and will probably be epidemic at least till spring. It has already extended to Terre Haute, Ind., where compulsory vaccination has been "hung up," so to speak, for two years, by the delay of the supreme court, and the town will doubtless suffer to some extent, if not extensively. The local medical men are, however, wide awake to the needs of the situation, and will keep the disease in check so far as it is in their power. Dr. Brayton is inclined to think the disease will creep still farther north, and may cover a large portion of Indiana and adjoining states. Chicago, he thinks, will escape, as it is the best-vaccinated city in the country, with the possible exception of New York City.

NEW YORK.

The central section of the Long Island College Hospital in Brooklyn is about to be replaced with a four story fire proof edifice, to cost $150.000.

A bill has been introduced into the legislature, by Senator Ambler, providing for the appointment of a staff of consulting physicians for the hospitals for the insane.

Readers of The Journal will recall a recent attempt to poison a family at Armonk, Westchester County, by putting Paris green in the well. The owner of the well has finally succeeded, with the aid of a detective, in running down the culprit and lodging him in jail.

A SUPPOSED CHARITY.

Assemblyman Harburger has introduced a resolution into the legislature calling for a committee of five members, residing within Greater New York, to investigate the affairs of the Gerry Society, and report to the legislature before its adjournment. He also purposes to introduce a bill cutting off the annual appropriation by the city of $30,000, claiming that this sum has been appropriated hitherto on the assumption that the Society was a charitable one, but that, in view of the recent decision of the court of appeals, that it is not a charitable institution, but merely has police powers, it is no longer entitled to this aid.

MONTEFIORE HOME FOR CHRONIC INVALIDS.

This home is located in a high and salubrious region of Westchester County, within forty miles of New York City, and is especially designed for patients with pulmonary tuberculosis. During the last year a laboratory was established for microscopic and bacteriologic work. Of the 67 inmates treated, 63 were consumptives, classified as follows: percipient cases, 26; advanced, 28; far advanced, 10. Of these 39 were discharged during the year, their condition being as follows: apparently cured, 14; improved, 18; unimproved, 6; died, 1. Of 38 inmates, 28 gained in weight, 4 lost, and 6 remained stationary. The highest gain was 26 pounds, the average gain 11, and the average loss 4½ pounds. Of the 38, 1 was able to work regularly on the farm and in the garden, 16 were able to work at intervals, and 13 did not do any work. The property embraces 136 acres, and a fine new sanitarium, the cost of which is estimated at $200,000, is now in course of construction.

STATE HOSPITAL FOR CONSUMPTIVES.

A bill has been introduced in the legislature providing for the establishment of a state hospital for consumptives. It appropriates $200,000 and authorizes the Governor to appoint, with the consent of the Senate, a board of nine trustees: at least two of whom shall be physicians. The trustees will receive no compensation, but are to be allowed $600 each for traveling and incidental expenses. The board is required to report annually to the legislature as well as to the State Board of Charities, and the latter is to determine the amount of the appropriation required each year. The trustees are empowered to appoint the superintendent, who must be a properly qualified physician, not one of the trustees. All medical assistants and examining physicians are to be appointed by the trustees on the nomination of the superintendent; thus the latter is authorized to appoint all necessary employees, and fix their compensation. While pay patients will be received, preference must always be given to the indigent. All persons desiring free treatment must apply to the authorities having charge of the relief of the poor in the district in which they reside, who shall thereupon request the nearest examining physician to make an examination of the patient; and no person shall be admitted without the certificate of one of the examining physicians to the effect that the applicant is suffer ing from incipient pulmonary tuberculosis. Provision is also made for the free transportation of such applicants to the hospital which it is proposed to have located in the Adirondack region.

New York City.

The annual dinner of the New York Society of Alumni of the University of Pennsylvania was held at the Waldorf-Astoria Hotel on January 20.

Immigrants landed at the port of New York last year numbered 303,762. The total deportations of criminal insane, and otherwise undesirable immigrants, during the year, were 3535, a larger number than in any single year since 1893.

There is in Gouverneur Hospital a poor woman, the mother of three children, who has just given birth to triplets. Two of the babies were boys and one a girl, and their combined weight was ten pounds and six ounces. The mother and babies are doing well.

A professional pin swallower, made uncomfortable and dyspeptic by his occupation, recently appealed to the surgeons at St. John's Hospital, Brooklyn, and the following indigestible articles were removed: 3 watch-chains, 2 nickel and 1 brass; 2 latch keys; 6 hairpins, 128 ordinary pins, 10 two and one-half-inch nails, and a ring with a stone in it.

NEW YORK POST-GRADUATE HOSPITAL.

The fifteenth annual report of the directors of the New York Post-Graduate Hospital shows that during the last year 2668 patients were treated in the wards, of whom 1354 were discharged as cured and 320 died. In the report the urgent need of the hospital for an ambulance service is dwelt on. The generosity of one of the ladies interested in the institution has provided sufficient amount for the purchase of one.

POISONING FROM COPPER URNS.

One day last week 180 of the employees of Bellevue Hospital became very ill, apparently from something eaten at the noonday meal. Inspection showed the eatables to be fresh and wholesome, and it is inferred that the poisoning arose from a neglect to properly clean out the large metallic coffee urns.. All those taken sick recovered in a short time, with the exception of one man, whose life for a time seemed in danger.

DEATH CERTIFICATES.

The Society of Medical Jurisprudence having appointed a committee on apparent death, its chairman, Dr. H. J. Garrigues, has sent a communication to the Board of Health urging a radical change in the present method of certifying to deaths. It is an open secret that many physicians are in the habit of signing death certificates on the statements of relatives, friends or others, without having personally inspected the body, although possibly twenty-four hours or more have elapsed since their last professional visit. The communication was listened to with interest and it was afterward asserted that it was quite probable that this agitation of the subject would lead to an amendment of the Santiary Code in this particular. It was suggested by the committee that the chief signs of death should be enumerated on the blank certificate, and that the physician be required to indicate, by writing "Yes" or "No," the presence or absence of each of these signs. It was argued that it would not be enough to require the physician to state that he had personally inspected the body, for, such an inspection might be perfunctory. It was also suggested that an ordinance be passed making it illegal to expose a body to cold, or to use embalming fluids thereon or therein until death had been properly certified to by a legally qualified physician who had been in attendance on the deceased.

PENNSYLVANIA.

The governor has appointed the following as members of the Board of Medical Examiners: Henry Beates, Philadelphia; Hiram S. McConnell, New Brighton; and R. W. Ramsay, Chambersburg.

A child of 14 years, of Reading, about four months ago was bitten by a water spaniel. The wound was cauterized, and as the animal showed no signs of being rabid nothing was thought of the matter until the second week in January, when alarming symptoms of hydrophobia developed and the girl died January 17.

On January 17, Dr. J. H. Oyler, acting state veterinarian, was sent to Berrysburg, near Harrisburg, to examine a herd of cattle supposed to be suffering with tuberculosis. Six animals were found diseased and ordered killed. In another herd of 21 cattle examined, four were ordered killed.

Philadelphia.

At the annual meeting of the Alumni Association of the Medico-Chirurgical College, January 13, the following officers were elected: president, Morton P. Dickeson; secretary, S. C. Burns; treasurer, E. S. Gans.

At the Philadelphia Hospital, last year, the money taken from the pockets of supposed charity patients amounted to $733.74, and for the past eight years it was $3852.88. The inmate of this hospital who recently fell heir to $50,000 will be made to pay the city $500.

During the past week the University of Pennsylvania sent three representatives to attend the New England alumni banquet and reunion in Boston; they were Professors Simon Flexner, Hampton L. Carson and William R. Newbold.

Prof. William Osler of the Johns Hopkins University, addressed the students of the medical department of the University of Pennsylvania on the evening of January 18, on "John Locke As a Physician and Philosopher." After the address a reception was tendered Professor Osler at the University Club, by members of the William Pepper Medical Society.

Dr. Edward Mussey Hartwell, Boston, has given a series of lectures during the past week to students of the Philadelphia Normal School, on "Physical Culture" and Hygiene." Dr. Hartwell has made a special study of physical training in the schools of Germany and Sweden. At present he is at the head of the Boston Municipal Statistical Bureau.

Another thief has been victimizing physicians in this city during the past week. His special plan of deceiving was to call hurriedly at some physician's office and tell the people who met him at the door that the doctor sent him for his instruments, etc. for an emergency case. The man then pawns or sells them.

There will be no executive clemency shown the two men who, as previously noted in these columns, were recently convicted and sentenced to the penitentiary for violation of the oleomargarin laws and afterward endeavored to secure pardons from the president.

MORTALITY STATISTICS.

The number of deaths during the past week was 525, an increase of 21 over that of the previous week and a decrease of 61 over the corresponding week of last year. The principal causes were: apoplexy, 12; nephritis, 33; cancer, 16; tuberculosis, 56; diabetes, 1; heart disease, 47; hernia, 3; influenza, 4; pneumonia, 86; peritonitis, 4; appendicitis, 1; septicemia, 1; suicide, 3.

HOSPITAL FOR CONTAGIOUS DISEASES.

A meeting of the incorporators of the proposed pay hospital for contagious diseases was held during the past week. The following officers were elected: president, Hon. William N. Ashman; vice-president, Edwin G. Hamersly; recording secretary, Clara T. Dercum; corresponding secretary, Edwin Rosenthal; treasurer, J. Madison Taylor. Application was made to the court to change the name from the Health Protective Hospital to the "Pay Hospital for Contagious Diseases."

JEFFERSON ALUMNI.

The fourteenth annual meeting of the Alumni Association of Jefferson Medical College was held January 20. Dr. A. H. Hulshizer, of the State Board of Medical Examiners, presided. Dr. George M. Gould delivered the principal address, entitled "The Story of an Unknown Hero's Life." The following officers were elected for the ensuing year: president J. K. Weaver, Norristown; first vice-president, G. B. Dunmire; second vice-president, J. Van Buskirk; third vice-president, W. S. Stewart; fourth vice-president, T. E. Conrad; corresponding secretary, Thomas G. Ashton; recording secretary, Wilmer Kruzen; treasurer, W. M. Sweet.

MARYLAND.

SECOND MARYLAND HOSPITAL FOR THE INSANE.

The fourth annual report of this hospital (Springfield) has been published. The admissions were 27, total patients 206. Of these 5 were discharged as recovered, 1 on parole and 8 died. The death-rate, 3.88 per cent., is remarkably low, as many of the patients came from the city's poor-house, and were broken-down alcoholics and syphilitics. It is attributed to the excellent hygienic arrangements and location as well as the dietary and treatment. Tuberculosis seems likely to be eliminated from the death-roll. The open-door treatment and employment of patients has been literally carried out, and no patient has had a key turned on him. Occupation, with the largest liberty compatible with the safety of the patient and other patients, is the rule. It is surprising, remarks Superintendent Joseph Clement Clarke, what good effects a few hours' work on the farm or the garden has on restless patients. The farm and garden patients take as much interest in the growing crops as employees. In addition to working daily in the garden, farm, ward, kitchen, laundry, dining-room, and tailor-shop, the patients have dug a ditch 8100 feet long, 2 feet wide and 3 feet deep for a water main, and have cut and husked 75 acres of corn, cleaned out the reservoir, and graded and made the roads and walks around the hospital. A new group of buildings on the block plan, for females, is now in course of construction and rapidly nearing completion. The demand on the state, however, is for a separate hospital for the colored insane, and Dr. Clarke points out the advantages offered for this at Springfield, with its abundant water-supply, natural drainage, the land being owned by the state, the water system being established and the electric plant already in operation.

Baltimore.

A BENEFIT for the Maryland General Hospital was given at the Zoo on the 17th, to raise funds to furnish supplies, etc., for the free wards.

TO THE Frick department of the Medical and Chirurgical Faculty's Library, 326 new books were added in 1899, making 1357 volumes in that collection. The number of readers was 4031.

SCHOOL INSPECTION.

Health Commissioner Charles H. Jones is inspecting the public schools. Inadequate air space is the most glaring defect so far found. In many buildings there is less than 70 cubic feet of air per pupil. In nearly all, except those recently constructed, there is also defective ventilation. Cloak-rooms are almost invariably absent. One school is said to be almost directly over a sewer, and when the windows are opened the sewer gas is noticeably present. Offensive odors are also noticed from wraps hanging on the walls of the class-rooms. Some of the schools are overcrowded while others have vacant rooms.

SANITARY PROPOSALS.

Health Commissioner Jones has proposed a change in death certificates so as to require a statement that the physician signing it has viewed the body. He does not consider it necessary that the physician shall indicate the presence or absence of certain signs of death, as has been proposed in New York City, and noted in another column. He proposes that the certificate shall be signed before anything is done which would cause pain or injury to a live body, as embalming, putting on ice, etc. So far as danger of burial before death is concerned, Dr. Jones has never known a case of the sort.

EYE, EAR, NOSE AND THROAT HOSPITAL.

The eighteenth annual report of the Baltimore Eye, Ear, Nose and Throat Charity Hospital shows increases in every department. During the last year, 4029 patients were treated and 13,280 visits made to the dispensary. Of the patients, 2321 were white, 1708 colored; 2599 had eye diseases, 808 throat and 622 ear diseases; 475 surgical operations were performed, 343 on the eye, 81 on the ear, and 51 on the throat and nose. In the eighteen years, 44,021 patients have been treated, [illegible] surgical operations performed and 147,250 visits made to the dispensary. The hospital is chiefly dependent on voluntary contributions, and the rapid growth of its work since the new building was erected in [illegible] leads to an appeal to the public for assistance.

MORTALITY STATISTICS.

The death rate of this city, according to the annual report of the health commissioner for 1899, was 18.76 per 1000, against 19.19 in 1898. There were 153 deaths from typhoid fever. A hard fight was maintained against diphtheria, and the average cases per month were less than in 1898. One of the great nuisances to health is the milk from city stables. There are 450 of these. By a number of prosecutions [illegible] have been closed, and the rest kept in fair condition. Imperfect surface drainage in the newly-acquired annex, two miles north and west of the old city limits, creates many nuisances.

MILK CONDITIONS.

Less milk is condemned by the inspectors than formerly. City Chemist Lehmann says the milk standard—12 per cent. of solids and 3 per cent. of fat—is too low, and a better one would be 14 and 4. An ordinary cow, well fed, will produce the ratio of 15 to 4½. Hence producers have a wide margin for dilution, five gallons of milk being made from four by dishonest dealers, it still passing the test. It does not follow, however, that milk not coming to the test has been adulterated; it may arise from poor feeding, as in slop-fed city cows. Dirt and filth in milk does not necessarily mean danger to health, in the absence of disease in the cow and disease or pus germs in her milk. In ideal dairies everything coming in contact with cows during milking is sterilized; the clothes of milkers are passed through a steam chest and all utensils sterilized, even the cow's udders.

ILLINOIS.

Chicago.

THE INITIAL number of the *Doctor's Magazine*, edited and published by Dr. George F. Butler, will appear February 1.

THE PUBLIC school inspectors examined 4537 pupils during the week, of whom 364 were excluded from school to prevent infection of other pupils.

AT A recent meeting of the city council, an ordinance was introduced providing for a commission to make arrangements with a number of existing hospitals for the care of emergency cases.

DR. J. G. HUIZINGA has resigned the professorship of ophthalmology at the Chicago Eye, Ear, Nose and Throat College, to accept a similar position at the Post-Graduate Medical School.

A SURGICAL SOCIETY has just been organized with the following charter members: Drs. Owen, Murphy, Bevan, Van Hook, Harris, Ferguson, McArthur, Steele, Allport, E. W. Andrews, Beck, Plummer, Frank, and Eisendrath.

THE TRUSTEES of the Wesley Hospital will place that institution under the control of the Deaconess' Society of the Methodist Episcopal Church, June 1. The Northwestern University Medical School will provide the hospital staff.

COOK COUNTY HOSPITAL STAFF.

At the annual meeting of the staff of Cook County Hospital, Dr. Denslow Lewis was elected president, and Dr. L. Blake Baldwin was elected secretary. The Executive Committee consists of Drs. Weller Van Hook, George F. Butler, A. I. Bouffleur, and the president and secretary, ex-officio.

MORTALITY STATISTICS.

The total mortality of the past week was 511, an excess of 30 over the preceding week, the increase being caused by deaths from bronchitis, pneumonia and diphtheria. There was but 1 death from influenza during the week, 39 less than the mortality of the corresponding period of last year. In the weekly bulletin, the health commissioner calls attention to the fact that the opening of the sanitary drainage canal will not materially affect the water-supply, as many sewers will continue to empty into the lake until the work of constructing the intercepting sewers is completed.

WISCONSIN.

A MEETING of the State Board of Medical Examiners will be held in February, in LaCrosse, for the convenience of physicians in the southwestern part of the state to register and obtain licenses.

Milwaukee.

SIGHT AND HEARING OF CHILDREN.

An examination into the condition of the sight and hearing of the children in the Milwaukee public schools has been instituted by Dr. H. V. Würdemann, by request of the Milwaukee School Board, under the direction and authority of the Board of Health. He has associated with him in this work Drs. Nelson M. Black, John S. Barnes and Charles Zimmermann. The general plan of the investigation consists in instructing the teachers [illegible] physi- [illegible] for special investigation, [illegible] the most common defects and diseases of the eye, ear and nose which are productive of poor sight and hearing, and instructions for examination of the eyes and ears. The statistical data for the investigation are obtained by a series of ten simple questions: 1. Does the pupil habitually suffer from inflamed lids and eyes? 3. Do the eyes and head habitually grow weary and painful after study? 4. Is the pupil apparently "cross-eyed"? 5. Does the pupil complain of earache in either ear? 6. Does matter (pus) or a foul odor proceed from either ear? 7. Does the pupil fail to hear an ordinary voice at twenty feet in a quiet room? 8. Does the pupil fail to hear the tick of a good-sized watch at three feet with either ear in a quiet room? 9. Does the pupil fail to breathe properly through either nostril? 10. Is the pupil a habitual "mouth breather"? If an affirmative answer is found to any of these propositions, the pupil is given a card of warning of non-obligatory nature, advising that the child be taken to a reputable physician, and stating that pupils with eye or ear disease can not attain best results in school.

OHIO.

Cincinnati.

TRAINING SCHOOL FOR NURSES.

Considerable surprise is manifest over the statement that this school has been conducted by the trustees of the city hospital without warrant of law. Although the records have been searched by the trustees no authority has yet materialized. The annual cost of maintaining this branch of the hospital has been in the neighborhood of $25,000. The committee of trustees to which the question of legality was referred is of the opinion that the training school should be continued on a less expensive scale. Sixty nurses are employed at $25 a month, and it is stated that a reduction in the corps will be recommended at the next meeting of the board. The committee will also recommend that local applicants be given preference as those from other cities remain long enough to receive an education at the expense of the taxpayers, and leave the hospital when their services might be of value to the community.

INDIANA.

It is reported that two deaths from hydrophobia have occurred at Richmond.

MEDICAL COLLEGE AFFAIRS.

The State Board of Medical Registration and Examination held a semi-annual meeting January 15, at Indianapolis, and re-elected the following officers: president, J. C. Webster, Lafayette; vice-president, W. T. Gott, Crawfordsville; secretary, W. F. Curryer, Indianapolis; treasurer, James M. Dinnen, Fort Wayne, and W. A. Spurgeon, Muncie. A resolution was adopted by the Board requesting each medical college in the state to furnish, annually, the following information: The number of students in attendance during the college year; the per cent. of attendance at the lectures by each student; the number of lectures delivered by each teacher; the per cent. of attendance of each student at such lectures, and the number of students failing to pass the entrance examinations, with their addresses. The Board also concluded to hereafter pay an annual visit to every medical college in the state, for the purpose of ascertaining whether they are keeping up to the required standards.

MICHIGAN.

The annual report of the St. Mary's Hospital, Saginaw, shows that 450 patients were treated in the institution during the past year. The total receipts were $11,065, and the expenditures $12,010, leaving a deficit of $945.

RESOLUTIONS ON ANTIVIVISECTION BILL.

At the meeting of the Wayne County Medical Society, January 4, in Detroit, Dr. H. O. Walker presented the following preambles and resolutions, which were adopted:

Whereas, It has come to the knowledge of this Society that a bill has again been introduced into Congress for the purpose of the prevention of cruelty to animals in the District of Columbia, and

Whereas, The real object of the bill is to prevent vivisection and aid in the passage of like bills in the several states. It is

Resolved, That every member of this Society sign an appeal against the passage of this bill, to be presented to Senator James McMillan, chairman of the Committee on the District of Columbia; and, further, it is

Resolved, That every member of this Society be requested to write a personal letter to each of the senators of this state and the representative of this district asking them not to vote for the passage of said bill.

MINNESOTA.

Dr. J. H. Dunn, of Minneapolis, will go South to regain his health.

The first wing of the new City Hospital, Minneapolis, is being rapidly completed and will be ready for occupancy in the early spring.

Dr. Charles Mayo, Rochester, has been appointed by the governor to succeed Dr. Wesbrook on the State Board of Health. Dr. Wesbrook will continue to do the laboratory work for the Board, at the University laboratory in Minneapolis.

The Northwestern Hospital of Minneapolis, which has always had a visiting staff composed of women physicians, has changed its plan and appointed the following staff: surgeon, James E. Moore; physicians, H. H. Kimball, J. W. Bell, E. S. Stout and C. Nootnagel; assistant surgeons, Rollin E. Cutts and Cora V. Roberts; consulting surgeon, J. Clark Stewart; consulting gynecologist, Amos W. Abbott.

PACIFIC COAST.

Several mild cases of smallpox developed in Spokane, Wash., recently.

Dr. S. B. Limerick has been appointed to the Seattle (Wash.) Board of Health, vice Dr. George Newlands.

Dr. John W. Waughop, for many years superintendent of the Western Washington Hospital for the Insane, is now residing at Koloa on the Island of Kauai, H. I.

Thirty-one applicants for license to practice in Washington were examined by the State Medical Examining Board at Tacoma, January 2.

Dr. John F. Calbreath, of McMinnville, has been appointed superintendent of the Oregon Hospital for the Insane. Dr. D. A. Paine, the former superintendent, has resigned and will make a trip to Europe next year.

Assistant Attorney-General Vance, of Washington, has rendered an opinion to the effect that any person can practice osteopathy in the state without holding a medical certificate, provided such practitioner does not affix "M.D." or "M.B." to his name, and does not prescribe drugs or medicines. He holds that osteopathy is nothing but a sort of massage treatment.

CANADA.

(From Our Regular Correspondent.)

Toronto, Jan. 20, 1900.

A case of smallpox is reported from Montreal. It is thought the disease has been introduced from New Brunswick, where several cases exist.

Dr. E. H. Stafford, first assistant physician, asylum for the insane, Toronto, has resigned his position and will recuperate his health in Bermuda.

Regarding the smallpox outbreak in Essex County, Ontario, Dr. Bryce reports that four new families have been infected since December 23. All the old cases are convalescing rapidly, and so far no deaths are reported.

In the smallpox epidemic in Quebec, which started three months ago, 352 persons have recovered from the disease, 13 are still sick and 8 houses are now infected. No deaths have occurred.

Detective Rose, for the Ontario Medical Council, had several citizens of Toronto arraigned in the public court last week charged with practicing medicine without the necessary qualifications. Most of them were "Christian Scientists."

The annual concert of the Ontario Medical College for Women was held the 18th inst. Since the inception of this institution in 1883, 150 students have been trained and there are at present 30 in attendance.

The militia department has purchased 1500 emergency bandages for the wounded, one of which will be carried by each man of the second contingent, the other being kept at the base.

The medical board appointed by the Dominion Government to inspect the transport steamer *Montezuma*, as announced in

THE JOURNAL last week, has advised the rejection of the vessel owing to the cases of typhoid occurring among its crew.

THE MONTREAL Maternity Hospital has just been given $15,000, Sir William Macdonald and Messrs. Ross and Angus contributing $5000 equally. Lord Strathcona, who has already given $10,000, promises another $1,000 if nine others will donate a similar amount.

IN CONNECTION with the outbreak of typhoid fever in Westmount, a suburb of Montreal, it is stated that a milk-dealer is confined in the Western Hospital there with the disease, contracted from the milk which he himself had supplied.

THE FOLLY of treating their own children by parents was aptly illustrated in Hamilton this week. A child 4 years old was attacked with convulsions, and the mother, who was lying ill in bed, instructed her husband to place it in a hot bath. The result was that it was so severely scalded that it died two or three hours later.

OF THE $30,000 indebtedness of the Victoria Hospital for Sick Children, Toronto, $25,000 has already been subscribed, largely through the generosity of the fraternal organizations throughout Ontario. It is expected that the balance will be made up by the end of February.

FOR INTIMIDATING the medical health officer of Toronto in connection with that officer's examination of the city's firemen, recently, a citizen was convicted in the assize court, but allowed to go on suspended sentence after his attorney had made a public apology to the health officer.

NURSING-AT-HOME MISSION.

The twelfth annual report of the Toronto Nursing-at-Home Mission shows that during the past year 374 women, 26 girls, 26 infants, 24 boys and 14 men were treated. Out of this number 38 were sent to the various hospitals, 30 deaths took place, and 7157 visits were made. All told, 2858 patients were treated and 3027 prescriptions issued. The work is carried on among all classes and conditions of people, regardless of race or creed.

A CANADIAN HOSPITAL SHIP, THE "MAPLE LEAF."

Major Napier Keefer, Toronto, of the Bengal Army, retired, has come forward with a project and the offer of $1000 toward the equipment and maintenance of a hospital ship for the Canadians now at and on their way to South Africa. He is of the opinion that if Canada could fit out and equip such a vessel, the gift to the Imperial authorities would be greatly appreciated. Canada will very soon have upward of 3000 men in the field, when the Strathcona Horse, which the Canadian High Commissioner, Lord Strathcona, has so patriotically offered to the Home Government at his own expense, shall have been enrolled and dispatched; and the sick and wounded from this force might be given a prior claim for admission in this hospital ship.

LODGE PRACTICE IN VICTORIA, B. C.

As announced in last week's JOURNAL, the physicians of Victoria have set their faces hard against lodge contract practice, but they still have the lodges to reckon with, and it will be interesting to follow the actions of the interested parties as to the outcome of the struggle. Following fast on the declaration of professional independence by our confrères in the West, comes the news that the representatives of some seventeen fraternal organizations in that city have held a mass meeting at which the doctors came in for much abuse, not unmixed with threats of what the lodges would do if the physicians did not come to time and mend the error of their ways. It was decided that an advertisement should be inserted in the provincial papers for two or more qualified physicians. The idea of the fraternal societies is to form cottage hospitals throughout the city and have their own special physicians paid by salary, whose further duty it shall be to attend only to the families of fraternals. (See also p. 242.)

SMALLPOX IN NEW BRUNSWICK.

The dread disease has made its appearance in and around Campbellton and Moncton, and there are now three provinces in Canada having centers for the spread of infection. The local Board of Health is arranging for a general vaccination, and as the sections in Quebec and New Brunswick infected are contiguous, and traversed by the Intercolonial Railway, every precaution will be taken to prevent the spread of the disease along the railway line. All employees on trains and at stations, whose duties bring them into relation with the traveling public, have been ordered to be vaccinated, and arrangements have been made for the disinfection of all passenger cars. It is thought that it would be a wise precaution to vaccinate all the members of the Second Canadian Contingent, as they will be passing through the infected districts on their journey to Halifax, whence they embark for Cape Town.

ONTARIO STATISTICS.

The death-rate for this province last year was a trifle over that for 1898. In 1899 there were 23,426 deaths reported to the Provincial Board of Health, making a percentage of 10.5, against 11 per 1000 for 1898. Consumption caused the death of more persons than all other contagious diseases put together, 2315 dying from tuberculosis alone. Deaths from the other contagious diseases were: scarlet fever, 214; diphtheria, 363; measles, 43; whooping-cough, 90; typhoid fever, 381. During December alone 99.75 per cent. of the population reported—the largest on record. This represented 746 municipalities, the total deaths for the month being 1843. Of these consumption was responsible for 157. Marriages appear to be on the increase in the province. During 1898 the total number was 15,293, an increase of 381 over the previous year. In Toronto alone there were 1696 marriages in 1898, or an increase of 195 over the previous year.

ROYAL VICTORIA HOSPITAL, MONTREAL.

The annual meeting of the governing board of this institution took place last week, the election of officers for the ensuing year resulting in the selection of the Hon. R. B. Angus as president. The report of the superintendent showed that during the past year 2537 patients have been admitted to the hospital. Of these 1545 were free patients, 656 public ward patients paid at the rate of 50 cents per day, and 336 private. The increase over the previous year has been 256. On Jan. 1, 1899, there were 133 patients remaining from 1898, and during the year 2543 have been discharged, of whom 1530 were well, 613 improved, 119 unimproved, 140 not treated, 111 died, and 157 remained on Dec. 31, 1899. Of the 111 deaths, 31 took place within forty-eight hours of admission, the death-rate for the year being 4.41 per cent. The highest number of patients in the hospital on any one day was 200 and the lowest 134. In the out-patient department there were 16,721 consultations, as against 14,681 for the previous year, the increase being attributed to the opening of the new laryngologic department. The medical consultations were 6228; surgical, 5218; eye and ear, 2685; nose and throat, 1527; and diseases of women, 1963. The ordinary income for the year was $113,892.71, the expenditure amounting to $94,851.64, the balance being applied toward the new out-patient department.

Correspondence.

Medical Practice in the Philippines.

MANILA, P. I., Dec. 12, 1899.

To the Editor:—This is a difficult place in which to put anything into literary form, one being in a sweat-bath most of the time, and having to stop every few minutes to wipe one's hands and face.

PRACTICE IN MANILA.

The old Spanish law, under which we are administering the civil government here, required the passing of an examination for dentists and veterinarians, but none for physicians, who were only required to have a diploma, to register and pay an annual tax of $50 to $150, according to supposed income, by which they were classified. There is no field here for American physicians, for several reasons. In the first place the fees are too small. I was called once to an American house where I had been attending the family, and found a native physician there, sent for in emergency by the servants. He withdrew as soon as I arrived, but I asked him what fee he expected. His reply was that the usual honorarium was *dos pesos*, equal to $1 in our money. He is a *mestizo*, of good professional standing and education, a graduate of the University of Barcelona, Spain, in medicine, and yet he only expected $1, gold, for an emergency call to an American family. Among his own people he would probably expect an average of 50 cents, Mexican, equal to 25 cents in gold, for each visit. In the next place, the people who pay for their medical service are well to do *mestizos*, and they prefer their own race, who speak both Spanish and Tagalog, and use remedies with which the people are familiar. There are plenty of such men here, who have been educated first at the local medical college, which is connected with the University of Manila, and have taken a supplementary degree in Spain. There are also several first-class English physicians here, who attend their own nationality as well as other foreigners, and have a considerable clientele among the wealthy natives. Several American physicians have tried to settle here during the last year; some after leaving the Army or Red Cross organization, others having come out specially for that purpose. With one or two exceptions they have failed to establish a practice and have gone home. Several of them told me that they could not do anything except to "fake it" among our soldiers, on venereal disease, and preferred to quit rather than do so.

A MEDICAL GATHERING.

As to what the medical men are doing here clinically, there is not much to say. There is no opportunity for meeting one another regularly, and we of the army are worked so continuously that we have no time in which to look each other up. We had a pleasant meeting on the hospital ship *Relief*, a short time ago, at the invitation of Major Perley, the surgeon in charge. A paper was read and discussed to some extent. This is the only occasion on which we have met for such purposes since the occupation.

HEALTH OF THE PHILIPPINES.

Manila is not an unhealthy city. It has a most excellent water-supply, the gift of one of the former Spanish Governors-General, who left a large private fortune for this purpose, requiring that the water should be free to all citizens. There are public hydrants in every street, even far out in the suburbs, and no one pays a cent for water obtained therefrom. The only water-rates are paid for service inside houses, and those who don't wish to have the service laid can employ Chinese water-carriers to fill their water-jars daily, carrying the water from the public hydrants. When this water is boiled and filtered, as is commonly done by Americans, it leaves nothing to be desired in this respect. Out on the lines, where the men have to drink what water they can get, there is much malarial and other water-borne affections; but in the city it is nearly always one's own fault if sickness comes, speaking generally. If the cases of wounds and injuries, venereal affections, and bowel troubles due to excess or carelessness in eating and drinking, were eliminated from the sick reports of the army, during the time when it lay here in Manila, there would have been but little left of the sick-lists. But we have had two armies of unseasoned recruits to deal with, and just as soon as the first army began to know what should be avoided to keep in good health, it had to go home to be mustered out, and the second one of recruits came to go through the same experience. On the lines the case is different, of course. Rough food, roughly prepared, poor water, and heat, prostrate many. Convalescence from any disease is very slow in this climate; and the shortest fever leaves the patient very weak for a long time.

NATURE OF THE FEVERS.

The fevers are not malarial in most cases, as quinin does not control them; but they usually correspond to the forms of continued fever which Manson treats in his "Tropical Diseases," under the title of "Unclassed Fevers of the Tropics." We have had a good deal of typhoid, and it has been of a severe type, and very fatal. One case now going on under my care in a woman, began four weeks ago with a temperature of 105.5 F. For three days I used quinin sulphate, bisulphate, and hydrochlorate in daily doses of 30 grains, given between 6 a.m. and 12 m., and found the temperature at 105.5 every evening. Then I dropped quinin and had a blood-test made, which showed a well-marked Widal reaction. Soon abdominal symptoms developed and the case settled down into regular typhoid, but today the fever remains at 100 minimum and 102 maximum, after more than four weeks of continued fever. There are good points about the case, however, which give me great faith in the ultimate recovery. There have been no mental symptoms, the tongue is always moist and clean, and the strength is well sustained on two quarts of milk a day. Whenever I check the number of stools by an opiate, the temperature immediately rises and goes to 104 F.

DHOBIE ITCH.

One form of skin disease has given us much trouble, the so-called "Dhobie Itch;" a ring-worm affection which prefers the crotch and the axillæ in most cases, and is very obstinate in the field. Patients in the city soon get rid of it by the help of local germicides, especially chrysarobin ointment, but when it is neglected, as must of necessity occur in the field, it often affects the cellular tissue below the skin and causes a severe cellulitis.

SYPHILIS NOT PREVALENT.

Syphilis, contrary to our expectations, is very seldom seen, but chancroids and chancroidal buboes are very common, and seem to be the prevailing form of venereal infection.

MORTALITY AMONG NATIVES.

Among the natives, the death-lists, which are published daily, show that most of the mortality occurs from convulsions—probably infantile—and beri-beri. There are sometimes 14 or 15 deaths daily from each of these, to 1 or 2 or 3 from any other cause. The natives suffer from *calentura*, which means any kind of fever, whenever a cool wind prevails, and they say themselves that when the north winds blow there is *mucho infirmidad*—much sickness.

In the army there have been three deaths which have been suspected to have been due to beri-beri; but this is doubtful, the disease being practically unknown here among Europeans or other white races. Multiple neuritis has been seen quite often among our men, but the particular form of neuritis named beri-beri is confined to the native population. In view of the outbreak a few years ago, in an insane asylum in Dublin, Ireland, we may expect to have it among our white prisoners in the local penitentiary, but it has not yet been seen there, which fact speaks well for the sanitary condition of the place.

Women and children do very well out here, in fact they have had less sickness proportionately, than any other class of our American population. This is partly explainable by the greater care taken by them as regards food, drink and exposure to the sun in the middle hours of the day.

This army has been magnificently and munificiently supplied with everything. There has been no breakdown in any department, and no want of anything essential to the care of the men, sick or well. The medical department has been highly praised by foreign officers visiting our hospitals. Captain S. S. Long, deputy assistant adjutant-general of the British Army, came here from Hongkong during the early operations, before the fall of Manila, and looked into every department of our service. On his return he published an article in the *Journal of the United Service Institution in India*, in which he said: "If the spirit of the troops was excellent, it was even surpassed by that of the medical branch, who, in spite of a defective transport and many other difficulties, always had their hospitals as complete and efficient as it was possible for human ingenuity to make them. It speaks well for the skill of the department that they were completely successful in a large number of cases of abdominal wounds." You will find Captain Long's article reprinted in full, in the issue for July, 1899, of the *Journal of the Military Service Institution*, published at Governor's Island, New York Harbor. You will see also that he was not generally complaisant or friendly in his criticisms of other departments, a fact which gives greater weight to his commendatory words concerning the medical service.

Samuel O. L. Potter,
Major and Brigade Surgeon, U. S. V. Attending Surgeon.

Typhoid Fever and Leprosy.

New York City, Jan. 20, 1900.

To the Editor: Dr. Alfredo Garces, of Colombia, says: "In places where leprosy reigns it is necessary to avoid the quick changes of temperature which might stop perspiration; such are baths in very cold water, being tired, drafts of cold air when coming from a hot room, or when just awakened, or coming from a dance, or from the neighborhood of a baker's oven, or from the ironing board. Don't live in damp places, especially during confinement, or any other illness, for experience teaches that after a confinement, women predisposed to the disease, acquire it easily, and the same is observed in convalescence from grave diseases, as *typhoid fever;* dysentery, etc. We have instances of *all* these circumstances, etc."

Any disease may be intercurrent in leprosy.

ALBERT S. ASHMEAD, M.D.

Deaths and Obituaries.

ABRAM H. WITMER, M.D., first assistant physician at the Government Hospital for the Insane, Washington, D. C., died in that institution January 20, from complications following an attack of pneumonia. He was born near Lancaster, Pa., in 1845, and was graduated from Jefferson Medical College in 1866. He then located in Mount Joy, Pa., and after a residence of eighteen months in that city, became assistant physician at the department of the insane of the Philadelphia almshouse. About the same time he engaged as a private teacher and demonstrator of anatomy at Jefferson Medical College, remaining until 1872. In 1876 he became third assistant physician in the Government Hospital, and in a short time was advanced to the position of second assistant physician. In 1885 he was promoted to the post of first assistant physician in charge of the department for females, which he held until his death. He acted as superintendent of the hospital many times in the absence of the late Dr. W. W. Godding, and possessed the entire confidence of his chief. In 1888, on account of ill health, he went to Europe, visiting the English asylums for the insane, and noting the methods in treating and caring for patients. During this time he acted as a delegate to the International Medical Congress at London. In 1890 he again represented the hospital at the International Congress, and spent six months on the Continent, visiting hospitals and asylums. Dr. Witmer was a member of the AMERICAN MEDICAL ASSOCIATION, the Medical Society of the District of Columbia and many others, and was on the staff of the Georgetown University Medical College.

ABRAM H. WITMER, M.D.

LAVIN F. GOSNEY, M.D., superintendent of the Central Kentucky Lunatic Asylum, died on the 19th inst., at Lakeland, Ky. He had been ill for about a week, his death being due to an organic lesion of the heart. Dr. Gosney was 66 years of age and he had been superintendent of the asylum for three years. He was born at Versailles, Ky., and graduated at the University of Louisville, beginning the practice of medicine when 20 years of age. He practiced at Carrollton up to the time that he was appointed assistant physician at Lakeland, being promoted to the position of superintendent on the death of the former superintendent, Dr. Hugh McNary. He was a member of the Kentucky State, Mississippi Valley and AMERICAN MEDICAL associations and was a prominent Mason.

CHARLES W. NEFF, M.D., died in Baltimore, Md., January 17, aged 61 years. He was born in Frostburg, Md., graduated at Dickinson College, and took his M.D. degree in New York City in 1864. During the Civil War he was surgeon at hospitals in Annapolis and Baltimore, and since that had practiced in Baltimore.

JOSEPH C. MULHALL, M.D.—Fitting resolutions have been received, as passed by the faculty of Beaumont Hospital Medical College, St. Louis, Mo., and the St. Louis Medical Society, on the death of Dr. Mulhall, of whom an obituary was given in these columns last week.

W. L. ATLEE, M.D., Philadelphia, a graduate of the Jefferson Medical College, died suddenly January 14. During the Civil War he volunteered as hospital steward, and served in the 10th Regular Pennsylvania Reserve Volunteers. He was born in Lancaster in 1842.

E. C. STARNES, M.D., Asheville, N. C., a graduate of the Jefferson Medical College, class of 1888, aged 39 years, died at his home January 6. In 1890 he was elected city physician, and in 1895 county physician. During the late war he served as surgeon, being stationed at the hospital at Fort McPherson, Ga.

We also note the following deaths:

S. P. Bartleson, M.D., Clifton, Pa., January 16, aged 69 years.

A. A. Cooling, M.D., Wilton Iowa, January 11.

C. T. Duncan, M.D., Harrodsburg, Ky., January 13, aged 35 years.

F. V. Fravel, M.D., La Porte, Ind., January 7.

George Gladden, M.D., Homestead, Pa., of Bright's disease, January 18, aged 48 years.

M. W. Hall, M.D., Roxbury, Me., aged 51 years, January 10.

L. G. Lowe, M.D., Algiers, La., January 9, aged 31 years.

G. H. Malech, M.D., San Francisco, Cal., January 10.

W. B. Montgomery, M.D., Columbia, Ky., January 15, aged 59 years.

Albert D. Orwig, M.D., Toledo, Ohio, January 15, 42 years old.

J. H. Patton, M.D., Trenton, Mo., January 12, aged 56 years.

W. B. Price, M.D., New Berlin, Ill., January 6, 75 years of age.

J. E. Schroeder, M.D., South Brooklyn, N. Y., January 13, aged 45 years.

T. A. Snider, M.D., Sacramento, Cal., January 12, aged 74 years.

Leslie E. Tefft, M.D., Elgin, Ill., aged 62 years.

E. W. Terrell, M.D., Cullman, Ala., January 13.

J. E. Thompson, M.D., Salem, Mo., January 19, aged 75 years.

Jared Turner, M.D., San Jose, Cal., January 14, aged 75 years.

E. N. Wood, M.D., Buchanan, Va., aged 74 years.

Miscellany.

Malaria-Bearing Mosquito.—A writer in the *Indian Medical Gazette* states that the Anopheles or malarial-bearing mosquito was not to be found in the small pools near houses, as had been discovered by Ronald Ross, but that he was able to find them in rice fields surrounding one of the towns.

Permeability of Hypodermic Needles. Behn writes to the *Polytechnique Med.*, that he does not care to put his hypodermic needles to his mouth to blow out the drop or so remaining after an injection. He keeps a small rubber bulb and tube with the syringe, and after using the needle removes it, and fits the tube of the bulb over the end. As the bulb is squeezed all the fluid is expelled from the needle.

Examination Not Required to Make an Expert.—The fact that a statute may make it necessary for a person to be examined by a medical board in order to practice medicine legally, the court of criminal appeals of Texas holds, in Sebastian vs. State, does not render it necessary for a physician to be examined by such board before he is qualified to testify as an expert, the statute having nothing to do with his qualifications as an expert witness.

Contagion Through Telephone.—A medical committee was appointed in Paris by the Post and Telegraph Department, to report on the danger of contagion of diseases from the use of public telephones. The committee unanimously asserted that no case of disease thus transmitted was on record, and that all possible danger would be suppressed by wiping the parts of the telephone most in use with a cloth moistened with carbolized water, spraying the walls of the cabinet with the same solution and airing them sufficiently. A circular of instructions to this effect has been sent to each telephone station.

Medical Study in Russia.—The faculty of the imperial medico-military Academy at St. Petersburg has unanimously decided, with the approval of the education and war departments, to in future admit graduates of the technical as well as the classic course in the preparatory schools. This step has also recently been taken in France, but not so unanimously as in Russia. The *Presse Med.* adds to this announcement that the St. Petersburg faculty even announce that they are convinced the technical training in modern languages, physico-mathematical sciences and drawing, is a better foundation for a medical education than the Greek and Latin classic course. It has been decided, however, that as prescriptions are always written in Latin in Russia, a certain knowledge of Latin is to be required at the preliminary examination.

Yellow Fever Precautions.—The sanitary authorities of Rio Janeiro have recently signed a treaty with the National Board of Health of the Argentine Republic requiring a medical certificate from every third-class passenger embarking at Rio and Santos for Argentine ports, between November 15 and May 15, with disinfection of clothing, baggage, and other quarantine regulations, appointing a committee of one Brazilian and one Argentine physician at each port to see that the measures of the treaty are enforced. It has aroused a storm of protests from the profession at Rio, as it practically admits that yellow fever is endemic at Rio and Santos, which they assert is untrue. Some of the most prominent medical authorities, in articles over their signatures in *O Brazil Médico* and in public meetings, insist that yellow fever is not endemic but can be traced every time to infection from without, and denounce the libel inflicted on their city by the "fatal convention."

Prizes of the Paris Academie de Medecine for 1902.—The conditions are simple, and described at length in the JOURNAL of April 3, 1897. The subjects are as follows: Academy prize of 1000 francs, annual, subject, "Toxins in Pathology." Alvarenga, 800 francs, best work in any branch of medicine. Amussat, 1000 francs, for work or research based simultaneously on anatomy and experimentation, which has realized or prepared the most important progress in surgery in the last three years. Baillarger, 2000 francs, best work on therapeutics or hospitalization of mental diseases in the past two years. Barbier, 2000 francs, absolute cure for an "incurable" disease. Boullard, 1200 francs, for best work or best results in treatment of mental diseases. Bourceret, 1200 francs, best work on circulation of the blood. Dupierris, 2300 francs, for best work on anesthesia or affections of the urinary passages. Capuron, 1000 francs, relations between fibrous tumors of the uterus and pregnancy. Chevillon, 1500 francs, best work on treatment of cancerous affections. Civrieux, 800 francs, diverse forms of dementia. Clarens, 400 francs, for best manuscript or printed work on hygiene. Dandet, 1000 francs, best work on incurable affections. Desportes, 1300 francs, for best work on practical medical therapeutics. Falret, 700 francs, somnambulism. Godard, 1000 francs, for best work on internal pathology. Herpin, 1200, quadrennial: abortive treatment of tetanus. J. Herpin, 3000 francs, for best work on epilepsy and mental diseases. Laborie, annual, 5000 francs, for the work that has materially advanced the science of surgery. Larrey, 500 francs, for best work on medical statistics. Lefevre, 1800 francs, "Melancholia." Lorquet, 300 francs, for best work on mental diseases. Meynot, 2600 francs, for best work on affections of the ear. Nativelle, 300 francs, for best research in regard to the extraction of the essential principle of some drug not previously isolated. Portal, 600 francs, study of experimental inoculation and contagion of cancer. Pourat, 700 francs, experimental research to elucidate the question of the immediate or remote destination of albuminous food elements. Saintour, 4400 francs, for best work in any branch of medicine. Stanski, 1400 francs, for demonstration of existence or non-existence of miasmatic contagion, by infection or contagion from a distance. Vernois, 700 francs, for best work on hygiene. The list also includes the great Audiffred prize of an annual income of $5000 for a specific for tuberculosis, unless awarded before 1902. The prizes offered for 1901 include annuals: Chevillon, Clarens, Desportes, Larrey, Lorquet, Nativelle and Vernois. The subject for the Academy prize for 1901 is partial epilepsy from the clinical and experimental standpoint; of the Capuron, rigidity of cervix during delivery not due to cancer or fibrous growths; Civrieux, rôle of alcohol in mental pathology; Dandet, best surgical methods of treating cancer of the breast. The Jacquemier, 1700 francs, is for the work on obstetrics published at least six months previously, that has realized an important progress, and the Godard, for the best work on internal pathology. The subject for the Louis, 3000 francs, is thyroid medication and the Meynot is for the best work on diseases of the eyes; the Portal, lesions of the nerve centers caused by tetanic toxin, and the Pourat, circulation of blood in the lungs.

Losses of Volunteer Troops During the Spanish War.—The adjutant-general of the army has recently issued a *statistical exhibit of strength of volunteer forces called into service during the war with Spain, with losses from all causes.* The losses include discharges on account of disability and deaths, the latter arranged under the headings: killed in action; died of wounds received in action; died of disease; accident, drowning, suicide and murder or homicide. The total number of volunteers accounted for on the muster rolls is 10,017 officers and 213,218 enlisted men; total 223,235. Of the officers, 18 were killed in action; 90 were wounded, 3 of whom died; 119 died of disease, 4 by accident, 1 by drowning, and 3 by suicide. Of the men, 4544 were discharged for disability; 190 were killed in action; 1189 were wounded in action and 78 of these died of their wounds; 3729 died of disease, 97 by accident, 21 by drowning, 11 by suicide and 30 by murder or homicide. Among the officers mustered in were 1010 general and staff officers, including 143 belonging to the medical department of the volunteers. The only casualty among these medical officers was 1 death from disease. Of the staff officers, 3 were killed, 1 belonging to the quartermaster's department, 1 to the subsistence department and 1 to the signal corps. The statistics of the line are arranged by regiments, and casualties among regimental medical officers are not shown.

The Twentieth Kansas and First Dakota regiments each lost 3 officers killed; The First Nebraska had 2 killed and 11 wounded, of whom 1 died. The enlisted men of this regiment suffered the heaviest battle casualties; killed 19, wounded 166, of whom 13 died. The Twentieth Kansas lost 19 enlisted men killed, and 11 died from 120 wounded. The First South Dakota had 20 killed and 4 deaths among 90 wounded. These casualties occurred in the Philippines. The First U. S. Volunteer Cavalry, the "Rough Riders," had 21 killed, and 3 deaths among 97 wounded in the attack on Santiago de Cuba.

The regiments that served in Cuba suffered most from disease. The Ninth Massachusetts lost 4 officers and 110 men; the Second Massachusetts lost 2 officers and 86 men; the First Illinois 84 men; the Thirty-fourth Michigan 1 officer and 79 men; the Seventy-first New York 2 officers and 77 men, and the Ninth U. S. Volunteer Infantry 3 officers and 73 men. On the other hand, the Twenty-second New York, a full regiment of 1351 officers and men, had no death from disease during its service. The Eighteenth Pennsylvania lost only 1 man from its strength of 893, and the First Massachusetts Volunteer Artillery, 1 man in its strength of 757. Three full regiments lost only 2 men each—the Second Pennsylvania, the Third New Jersey and the Seventh Illinois. The First and Eighth U. S. Volunteer Infantry lost each 3 men, and the Fourth New Jersey 4 men.

The largest number discharged from disability in any one regiment was 145 in the Twntieth Kansas. The Second Louisiana lost 122 and the First North Carolina 115 from this cause.

As an offset to this, however, several regiments had an excellent record in this respect. The First Vermont, Second Massachusetts and Fifth Pennsylvania lost no men by disability; the First and Second Wisconsin, First Kentucky and Thirty-fourth Michigan lost only 1 man each, and the Second Mississippi and Ninth Massachusetts and Second U. S. Volunteer Infantry only 2 men each.

Queries and Minor Notes.

UNIFORM PRACTICE LAWS.

IOWA CITY, IOWA, Jan. 15, 1900.

To the Editor: I have been informed that the present congress will have presented before it a measure providing for a national board to look after the standing of medical schools throughout the country, and to bring up the standard of instruction, so that when a man graduated from such standard schools he would be entitled to practice anywhere in the United States. If this is not the exact nature of the measure can you give me any information about it. I was informed that the AMERICAN MEDICAL ASSOCIATION and other societies are pushing the matter. If you can advise me on the subject I will be greatly obliged. M. B.

ANSWER—There is no such matter pending in Congress, and no such law could be passed, operative in the several states. Congress is without that power. The Legislative Committee of the AMERICAN MEDICAL ASSOCIATION has decided to request the state delegates to secure such legislation in their respective states at the earliest opportunity.

BACTERIA AND THE MICROSCOPE

GREENSBURG, KY., Jan 15, 1900

To the Editor: Lately, conversing with a gentleman, he remarked that in all diseases of which bacteria were supposed to be the causal origin, without exception, the microscope revealed the pathogenic bacillus in them. I claimed that while that might be the rule, it, however, had its exceptions, as in some well-marked cases of enteric fever, diphtheria, and some other diseases of supposed bacterial origin, thus denying that bacteria, as pathogenic factors, were always and "invariably" found present in such cases. Will you please tell me whether I am correct as to these exceptions—exceptions, which if true, like Banquo's ghost, have refused to be "down," even at the most imperious mandate of the strongest microscopic searchlight. Respectfully, P. C. S.

ANSWER:—Our correspondent is probably correct. Aside from the disorders that are supposed to be of bacterial origin, and the bacteria of which have not been satisfactorily revealed, there are others of unquestioned and known microbic origin in which in some stages or conditions no bacteria are found. Such a one, for example, is diphtheria, which in the form of membranous rhinitis sometimes or at some stages shows no Klebs-Loeffler bacillus with the most careful technique in microscopic examination. It may be objected that such cases are not true diphtheria, but they occur sometimes in connection with or succeeding the most unquestionable forms of the disease, the Klebs-Loeffler bacillus and all. It does not seem necessary for a bacterial disease always to reveal the germ, it may possibly, in some cases, only exist long enough to elaborate the toxin and the disorder may continue without it. This appears to be a probable explanation of the facts of rabies, and possibly also of some cases or forms of tetanus and diphtheria. Unless one holds that the bacteriologic diagnosis is the only correct one in all cases, it would seem to be a broad assertion that the germ must always be revealed. One can not, however, on the other hand, assume that germs do not exist because they are not found.

THE INDEPENDENT MEDICAL COLLEGE AGAIN

GEORGETOWN, TEXAS, Jan 19, 1900

To the Editor:—We have some diplomas recorded in our district clerk's office here, from a school styled thus: *Collegium Medicinae Independentia*, Chicago, Ill., etc. The faculty is as follows: J. Armstrong, M.D.; Chas. M. Hooney, L.L.D.; Thos. A. Bland, L.L.D., M.D.; M. L. Reed, M.D.; A. E. Opecka, M.D.; J. F. Cook, M.D.; F. E. Legan, M.D.; J. E. Rallison, M.D.; H. Scott, M. D. Is such a school chartered by the State of Illinois, and, if so, is it recognized by the Association of American Medical Colleges, or by the AMERICAN MEDICAL ASSOCIATION?

Fraternally, E. M. T.

ANSWER:—The charter of this "college" was revoked by the Cook County Circuit Court in 1899, on account of its being a fraudulent institution. For information as to the legal steps taken to eradicate this "diploma-mill," see THE JOURNAL of March 12, 1898, p. 630, and October 21, 1899, p. 1054.

The Public Service.

NATIONAL QUARANTINE FOR THE PHILIPPINES.

The following circular from the Division of Customs and Insular Affairs, War Department, was published January 9, 1900, by Major-General Miles to the army for the information and guidance of all concerned.

CIRCULAR NO. 35, DIVISION OF CUSTOMS AND INSULAR AFFAIRS.

WAR DEPARTMENT, WASHINGTON, Jan. 4, 1900.

The following order of the President, relative to quarantine regulations for ports in the Philippine Islands, is hereby published for the information and guidance of all concerned:

EXECUTIVE MANSION, WASHINGTON, Jan. 3, 1900.

To prevent the introduction of epidemic disease, it is ordered that the provisions of the act of Congress approved February 15, 1893, entitled "An act granting additional quarantine powers and imposing additional duties upon the Marine-Hospital Service," and all rules and regulations heretofore or hereafter prescribed by the Secretary of the Treasury under that act are to be given full force and effect in the Philippine Islands, in so far as they are applicable, and the following additional rules and regulations are hereby promulgated.

The examination in ports of the Philippine Islands of incoming and outgoing vessels and the necessary surveillance over their sanitary condition as well as of cargo, passengers, crew, and of all personal effects, is vested in and will be conducted by the Marine-Hospital Service, and medical officers of that service will be detailed by the Secretary of the Treasury as quarantine officers at the ports of Manila and Iloilo immediately, and at other ports in the Philippine Islands as soon as practicable or necessary.

Quarantine officers shall have authority over incoming vessels, their wharfage and anchorage, in so far as is necessary for the proper enforcement of the quarantine regulations, including vessels of the army transport service and non-combatant vessels of the navy.

Collectors of customs at ports of entry will not permit entry without quarantine certificates.

Any vessel leaving any port in the Philippine Islands for any port in the United States, or its dependencies, shall obtain a bill of health from the quarantine officer, when such officer is on duty; said bill of health to correspond to the consular bill of health now required by treasury regulations; and the bill of health shall not be given to an outgoing vessel unless all quarantine regulations have been complied with. At ports where no medical officer is detailed the bills of health will be signed by the collector of customs or other officer to whom such duty has been legally delegated. Special regulations relating to the bills of health to be obtained by vessels of the U. S. Navy will be promulgated by the Secretary of the Treasury.

The medical officer detailed under this order as quarantine officer at the port of Manila shall be the chief quarantine officer for the Philippine Islands. It shall be his duty to make appointments and removals from the service in the Philippines (subject to the approval of the Secretary of the Treasury), and he shall authorize necessary expenditures, under such regulations as the Secretary of the Treasury may prescribe.

The regulations for the government of the Marine-Hospital Service shall, so far as practicable, have force and effect in the management of the quarantine service in the Philippine Islands.

The expenses of the quarantine service will be charged against the revenue of the islands, and a sum of not to exceed three hundred thousand dollars ($300,000) in each fiscal year is hereby set aside from the revenues collected in said islands for this purpose. The expenses shall be paid therefrom upon the certificate of a detailed quarantine officer and upon the approval of the chief quarantine officer for the Philippine Islands.

The chief quarantine officer shall render a report on the last day of each month to the Supervising Surgeon-General of the Marine Hospital Service, who will issue to him necessary instructions.

The epidemic fund will be reimbursed from the revenues of the islands for the cost of disinfecting appliances and materials ordered to be forwarded to the islands prior to the date of this order.

[Signed] WILLIAM MCKINLEY.

This order to be duly proclaimed and enforced at ports in the Philippine Islands

[Signed] ELIHU ROOT, Secretary of War

ARMY CHANGES.

Movements of Army Medical Officers under orders from the Adjutant-General's Office, War Department, Washington, D. C., from January 5 to January 11, 1900, inclusive.

Peter J. A. Cleary, lieut.-col., deputy surg.-gen., U. S. A., from Fort McPherson, Ga., to Vancouver Barracks, Wash., for duty as post surgeon and as chief surgeon, Department of the Columbia.

John Ryan Devereux, acting asst.-surgeon, from Fort Warren, Mass., to Washington, D. C., for annulment of contract.

David J. Johnson, acting asst.-surgeon, from Fort Slocum, N. Y., to Fort Warren, Mass.

Richard W. Johnson, major, surgeon, U. S. A., leave of absence granted.

Henry S. Kilbourne, major, surgeon, U. S. A. now on duty in New York City, N. Y., as medical superintendent of transports, is relieved from further duty at Madison Barracks, N. Y.

Edward Lyon, Jr., acting asst.-surgeon, on the expiration of his present leave to report for duty at Fort Schuyler, N. Y.

John H. Macready, acting asst.-surgeon, from the Division of Cuba to the Department of California.

Daniel C. Moor, acting asst.-surgeon, from New York City, N. Y., to Toledo, Ohio, for annulment of contract.

Robert A. Seale, acting asst.-surgeon, previous orders directing him to proceed from Holly Springs, Miss., to San Francisco, Cal., revoked.

Hugh L. Taylor, acting asst.-surgeon, from Fort Douglas, Utah, to Waco, Texas, for annulment of contract.

Elmer S. Tenny, acting asst.-surgeon, from Winchester, N. H., to duty at Fort Douglas, Utah.

William J. Wakeman, captain, asst.-surgeon, U. S. A., from duty as attending surgeon and examiner of recruits at Philadelphia, Pa., to Fort Thomas, Ky.

Timothy E. Wilcox, major, surgeon, U. S. A., from Fort Schuyler, N. J., to Columbus Barracks, Ohio.

NAVY CHANGES.

Changes in the Medical Corps of the U. S. Navy for the week ending January 13, 1900.

Asst. Surgeon R. W. Plummer, detached from the *New Orleans* and ordered to the *Petrel* and also to the Cavite Naval Station.

Asst. Surgeon D. G. Beebe, detached from the *Bennington* and ordered to the *Petrel*.

MARINE-HOSPITAL CHANGES.

Official list of the changes of station and duties of commissioned and non-commissioned officers of the U. S. Marine-Hospital Service for the 7 days ending January 11, 1900.

Surgeon H. W. Austin, to report at Washington, D. C., for special temporary duty, to rejoin station at Philadelphia, Pa.

Surgeon L. L. Williams, granted leave of absence for ten days.

P. A. Surgeon G. T. Vaughan, detailed to represent the service at the meeting of the National Pure Food and Drug Congress at Washington, D. C., March 7, 1900.

P. A. Surgeon H. D. Geddings, detailed to represent the service at the meeting of the National Pure Food and Drug Congress at Washington, D. C., March 7, 1900.

P. A. Surgeon M. J. Rosenau, detailed as delegate to the 13th session of the International Congress of Medicine to be held in Paris, France, August 2-9, 1900; detailed to represent the service at the meeting of the National Pure Food and Drug Congress at Washington, D. C., March 7, 1900.

Asst.-Surgeon H. B. Parker, granted leave of absence for 30 days.

Asst.-Surgeon L. D. Fricks, detailed to represent the service at the meeting of the National Pure Food and Drug Congress, at Washington, D. C., March 7, 1900.

Asst.-Surgeon W. C. Billings, detailed to represent the service at the meeting of the National Pure Food and Drug Congress at Washington, D. C., March 7, 1900.

Acting Asst.-Surgeon J. C. Rodman, granted leave of absence for four days.

HEALTH REPORTS.

The following cases of smallpox, yellow fever, cholera and plague have been reported to the Surgeon-General, U. S. Marine-Hospital Service, during the week ended January 12, 1900:

SMALLPOX—UNITED STATES.

Georgia: Brunswick, Dec. 22 to Jan. 4, 6 cases.
Illinois: Cairo, Dec. 30 to Jan. 6, 17 cases, 1 death.
Indiana: Evansville, Dec. 22 to Jan. 6, 8 cases.
Louisiana: New Orleans, Dec. 28 to Jan. 6, 19 cases, 1 death.
Massachusetts: Boston, Sept. 3 to Dec. 29, 37 cases, 4 deaths.
Nebraska: Omaha, Dec. 26 to Jan. 6, 3 cases.
North Carolina: Charlotte, Dec. 1 to 31, 2 cases.
Ohio: Cincinnati, Dec. 28 to Jan. 6, 3 cases; Hamilton, Dec. 28 to Jan. 6, 1 case; Youngstown, Dec. 28 to Jan. 6, 1 case.
Oklahoma: Shawnee, Dec. 27, 12 cases; Oklahoma City, Dec. 27, 14 cases; Yukon, Dec. 27, 4 cases.
Pennsylvania: Pittsburg, Dec. 28 to Jan. 6, 1 case.
Utah: Salt Lake City, Dec. 22 to Jan. 6, 10 cases.
Virginia: Portsmouth, Dec. 22 to Jan. 6, 4 cases, 4 deaths.

SMALLPOX—FOREIGN.

Austria: Budapest, Dec. 17 to 24, 1 case.
Belgium: Antwerp, Dec. 8 to 16, 4 cases, 4 deaths.
Bohemia: Prague, Dec. 8 to 23, 48 cases.
Brazil: Rio de Janeiro, Nov. 20 to Dec. 1, 133 cases, 94 deaths.
Egypt: Cairo, Nov. 18 to Dec. 2, 2 deaths.
England: London, Dec. 8 to 16, 1 death.
Greece: Athens, Dec. 8 to 16, 5 cases, 1 death.
India: Bombay, Nov. 20 to Dec. 5, 25 deaths.
Mexico: Chihuahua, Dec. 23 to 30, 13 deaths; Vera Cruz, Dec. 21 to 28, 1 death.
Russia: Moscow, Dec. 2 to 16, 9 cases, 1 death; Odessa, Dec. 16 to 23, 6 cases, 2 deaths; St. Petersburg, Dec. 2 to 16, 31 cases, 5 deaths; Warsaw, Nov. 30 to Dec. 6, 2 deaths.
Spain: Corunna, Dec. 8 to 23, 3 cases, 1 death; Madrid, Dec. 2 to 16, 3 deaths.
Straits Settlements: Singapore, Nov. 4 to 16, 4 deaths.
Turkey: Constantinople, Dec. 13 to 23, 1 death; Smyrna, Dec. 10 to 17, 2 cases.

YELLOW FEVER—FOREIGN.

Brazil: Rio de Janeiro, Nov. 17 to Dec. 1, 10 deaths.
Cuba: Havana, Dec. 22 to 30, 18 cases, 3 deaths.

CHOLERA.

Brazil: Rio de Janeiro, Nov. 17 to Dec. 1, 10 deaths.
Cuba: Havana, Dec. 22 to 30, 18 cases, 3 deaths.

PLAGUE—UNITED STATES.

Hawaii: Honolulu, Dec. 25, 3 cases, 2 deaths.

PLAGUE—FOREIGN.

Brazil: Santos, Oct. 15 to Dec. 9, 37 cases, 11 deaths.
China: Hongkong, Nov. 16 to 25, 12 cases, 12 deaths.
India: Bombay, Nov. 28 to Dec. 12, 305 deaths; Kurrachee, Nov. 27 to Dec. 9, 6 cases, 4 deaths.
Japan: Formosa, Tamsui, Oct. 17 to Nov. 28, 36 cases, 6 deaths; Kobe, Dec. 7, 1 death; Osaka and Hiogo, Nov. 25 to Dec. 2, 3 cases, 2 deaths.
Madagascar: Tamatave, Nov. 11 to Dec. 3, 10 cases, 7 deaths.

CHANGE OF ADDRESS.

Allen, T. G., from Aurora, Ill., to 338 E. 57th, Chicago.
Becker, F. S., from 718 S. Halsted to 245 LaSalle Ave., Chicago.
Crume, G. P., from Earl Park, Ind., to 503 7th St., Minneapolis, Minn.
Ehmer, J. W., from 154 E. 25th, Chicago to Northwestern University Medical School.
[illegible], G. M., from Malden, Mass., to Suncook, N. H.
Forrester, Jos., from 814 Sassafras St., Erie, Pa., to Butler, Pa.
Hillebrand, H. J., from 799 W. Wrightwood Ave., to 863 Armitage, Chicago.
Hughes, G. M., from 241 N. 18th St., to 1831 Chestnut St., Philadelphia, Pa.
Johnstown, W. W., from Chicago Heights to Cameron, Ill.
Michener, A., from Marshall, Mich., to State Home, Geneva, Ill.
[illegible], R. J., from [illegible] to 814 Genesee Ave., Saginaw, Mich.
McCall, N. J., from Twining to Elkton, Mich.
Ormsby, O. C., from Logan, Utah, to Pocatello, Idaho.
Pettyjohn, J., from Humboldt, Tenn., to Commercial Hotel, Augusta, Ga.
Piper, E. D., from Waukegan, Ill., to 2116 W. Monroe St, Chicago.
Runyon, J. P., from Pine Bluff, to Little Rock, Ark.
Reed, R. C. Stockton, from SantaFe Springs to 209 S. Olive St., Los Angeles, Cal.
Smith, A. M. B., from 720 Adams to 879 Jackson Boul., Chicago.
Seymour, W. F., from Reedsburg, Wis., to 357 LaSalle Ave., Chicago, Ill.
[illegible], P. C., from [illegible] to Greensburg, Ky.
Smith, N. M., from 315 E. 5th to 600 E. Grand Ave., Des Moines, Iowa.
Stehman, H. B., from Chicago, Ill., to 752 Colorado, Pasadena, Cal.
Small, H. E., from Chicago to Academy of Music, Sterling, Ill.
Simpson, W. B., from 1312 Canal to 604 Carondelet, New Orleans, La.
Schilling, F. W., from Kent, to Louisville, Ohio.
Vedeler, C., from 618 S. 11th St., to 1029 W. 7th Ave., Denver, Colo.
Womack, C. W., from Chapel Hill, to Tullahoma, Tenn.
Wallace, T. A., from 6658 Wentworth Ave. to 170 E. 79th, Chicago.

THE JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION

is published weekly, at 61 Market Street, Chicago, Ill. The subscription price is five dollars per annum in advance. Postage in the United States, Canada, Mexico, Guam, Porto Rico and the Philippines, free; foreign postage, $2.50. Subscriptions may commence at any time. Volumes begin with the first issue of January and of July.

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The qualifications for membership require that the applicant be a member, in good standing, of a state or local medical society entitled to send delegates to the annual meeting of the American Medical Association. A list of these societies will be sent on request. Applications must be accompanied with a certificate showing that the applicant is a member of a recognized society, and should be sent with the annual dues—five dollars—to the treasurer, Dr. Henry P. Newman, 100 Washington Street, Chicago. Members receive the Journal free. Subscribers to the Journal may become members of the Association without expense if they are members of medical societies recognized by the Association, and those desiring to have their names transferred from the subscription to the membership list should send certificates as above, with a receipt for their subscription to the Journal, covering the current fiscal year.

FISCAL YEAR.

The fiscal year of the American Medical Association is from January 1 to December 31; and the annual dues paid by a new member cover only the fiscal year, no matter at what time of year the membership is obtained. Those who pay their dues and join the Association at the annual meeting in June, for instance, pay only for the fiscal year which ends with the December following, and the annual dues for the following fiscal year are payable the succeeding January, at which time the treasurer sends a statement to each member. Such members, however, are entitled to the Journal for the full year, even though the membership be not continued.

PAPERS READ AT THE ANNUAL MEETING.

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NEWS.

Our readers are requested to send us items of news of a medical nature, also marked copies of local newspapers containing matters of interest to members of the medical profession. We shall be glad to know the name of the sender in every instance.

ORIGINAL PAPERS.

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In ordering a change of address it is important that both the old and new address be given.

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The Journal of the American Medical Association

VOL. XXXIV CHICAGO, ILLINOIS, FEBRUARY 3, 1900. No. 4.

Address.

THE CODE OF ETHICS.[*]

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Ethics may be defined to be the adjustment of acts to ends. In medicine the acts relate, for the most part, to conduct, impliedly, good conduct, which "gains in ethical sanction" in proportion as the "activities do not necessitate mutual injury and hindrance" . . "but consist with and are furthered by co-operation and mutual aid."

In a homogeneous citizenship the evolution of conduct proceeds with the development of Christian civilization, and by common consent, becomes the type of moral standard which will unify the adjustment of acts to the attainment of a common purpose among the component constituency of any avocation in civilized life.

There is no occupation or trade without rules of conduct, either written or unwritten, which are either good or bad as the ends to be obtained rise or fall in the scale of morality and good citizenship. A man may inherit or acquire the qualities of a gentleman. He need not be a Chesterfield in manners, nor a monk in the abstemious dicipline of self-denial, but he can be a gentleman only by virtue of the adjustment of his acts to the aims of good conduct in the activities of human life. As with individuals, so with classes and communities.

The popular contention that gentlemen do not need a formulated system of ethics for their guidance is flatly contradicted by the history of every ecclesiastical and parliamentary body, social club, business organization, scientific society, and the unwritten *esprit de corps* of numerous classes of educated and cultivated people. In fact, in many instances, the unwritten ceremonial requirements of classes and of society in general are more rigorous and less tolerant than those of formulated systems of ethics. The inherent right of private judgment can not be protected, either in public or private life, without the restraint of accepted authority. Two persons may differ in opinion, on any debatable question, but neither has the right to push the difference to physical collision or sink it to the grade of moral turpitude.

In small populations, as with occupations with limited constituencies, the evolution of good conduct develops along the line of co-operative and mutual adjustment of acts in the promotion of the common good, but with increasing numbers "one is forced to live more and more in the presence of his fellows." In large and constantly increasing populations and membership in occupations, heterogeneity may, and frequently does, become a disturbing element, and organization with defined limitations of restraint and toleration becomes an important and necessary factor in the evolution of the highest type of ethical conduct. In other words, those acts which may be, as well as those which should not be, done must be set forth in such manner and form as may best promote the attainment of the highest standard of mutual good conduct.

Medicine is a composite science, and is, confessedly, the most difficult and intricate of sciences. The medical profession is, perhaps, the largest and most broadly educated class in every civilized community. Accessions come to it from every class and race of civilized people. In the broadness of thought and the beneficence of its acts and ends it invites every class and caste of civilized races to its ranks, that it may continuously widen and expand the scope of its usefulness and philanthropy to the end that every person and all peoples may seek and obtain through its good offices the full measure of a beneficent science.

In this country the evolution of medical ethics culminated in the adoption, at Philadelphia, in 1847, by a body of representative men—now known as the AMERICAN MEDICAL ASSOCIATION—of a code of American medical ethics, which, with a few explanatory declarations, has been accepted by the profession at large as the common basis and guide of good conduct. Previous to that date the profession, in a few isolated localities, had established codes to segregate the qualified and honorable from the charlatan and mercenary impostor, with satisfactory results.

The unanimity of its adoption, general acceptance and continued enforcement through half a century, without material alteration, eliminates any doubt of the wisdom of the adoption of such a system of good conduct. The question of policy being, therefore, settled, this discourse will be limited to the consideration of such salient features as set forth the influence of the unification of ethical conduct, to the end that every member of the profession of medicine may exert "his best ability to maintain its dignity and honor, to exalt its standing, and to extend the bounds of its usefulness."

The code is subdivided into three sections, under the separate headings of: "The Duties of Physicians to Their Patients;" "Obligations of Patients to Their Physicians;" "Of the Duties of Physicians to Each Other, and to the Profession at Large;" "Of the Duties of the Profession to the Public, and of the Obligations of the Public to the Profession." The principles outlined in these headings are emphasized in detail, so that the whole is a concrete expression of the consensus of opinion of the duties and obligations which constitute the highest ideal of ethical conduct.

"Every individual on entering the profession becomes thereby entitled to all of its privileges and immunities," and, "should therefore observe strictly such laws as are instituted for the government of its members." Every organization of physicians which, by the adoption of its code of ethics, becomes affiliated with the AMERICAN MEDICAL ASSOCIATION must possess the inherent right to prescribe and enforce such restraints as may, at times, be needful to dicipline refractory members. Dishonorable conduct must have a limit. The Code, however, is free from any threat of restraint by prosecutions and penalties. It seeks to promote the evolution and unification of ethical conduct by sharply contrasting good and bad conduct and by marking the border line beyond which misdemeanor becomes a *corpus delicti*. It appeals to the nobler qualities of a higher standard of moral excellence and beneficence, in that the physician may be the minister of hope and comfort to the patient, and bases this appeal on the postulate that as the standard of qualification advances, so should ethical conduct rise along the gamut of evolution. "No scientific attainment can compensate for the want of correct moral principles." The Code pleads for mutual forbearance, fraternal courtesy and a broad and generous fellowship, that contumely, bickering, and discord may not fritter away the power and influence of the profession for good. Probity, candor and truth are qualities not less essential in support of professional character. "There is no profession from the members of which greater purity of character and a higher standard of moral excellence are required than the medical; and to attain such eminence is a duty every physician owes alike to his profession and to his patients." In such incisive words the Code vouches for honor and integrity, and stamps the derelict with the seal of condemnation.

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[*] Annual Address of the President of the Medical Society of the District of Columbia, delivered Dec. 20, 1899.

The inviolability of the confidential communications of patients to their physicians is the first and most sacred obligation of professional life. It has come to us through the ages past as an unbroken rule of conduct, and all codes of medical ethics stigmatize with dishonor the voluntary disclosure of such confidences. The precept of the Code extends the obligation of secrecy beyond the period of professional service, to the end that "none of the privacies of personal or domestic life, no infirmity of disposition or flaw of character observed during professional attendance should ever be divulged except when imperatively required to do so." The force and necessity of this obligation are so great the profession has sought the protection of statute law. In twenty states and in this District such laws have been enacted, the object of which is the extension to citizens of liberty of privileged communications and their protection in the enjoyment of the rights of unreserved and confidential confession to physicians. Such statutes add the force and fiat of law to the decree of the medical profession, which has always and everywhere throughout the civilized world resisted the compulsory disclosure in open court of information "acquired in attending a patient in a professional capacity and which was necessary to enable the physician to act in such capacity."

With equal cogency the system of ethics sets forth the obligation of qualification: "Medicine is a liberal profession, and those admitted into its ranks should found their expectations of practice upon the extent of their qualifications, not on intrigue or artifice." To this is added the more authoritative declaration that "a regular medical education furnishes the only presumptive evidence of professional abilities and acquirements, and ought to be the only acknowledged right of an individual to the exercise and honors of his profession." So also does it insist that "the public ought likewise to entertain a just appreciation of medical qualifications, to make a proper discrimination between true science and the assumptions of ignorance and empiricism." These significant averments point to a high standard of scientific acquirement and expand the scope of ethical conduct.

Medical ethics, as formulated in the national Code, combines knowledge with morality, and emphasizes in spirit, if not in letter, the truism, that in medicine the highest attainment of either can not compensate for the want of the other.

The educational influence of the Code is attested by history and observation. The assemblage at Philadelphia, in 1847, was composed of the most distinguished and best equipped medical men from all parts of the country, who had come together to confer and devise a plan of organization, which should have for its object the unity of the profession on a basis that would define the duties and obligations of each individual member to each other, to the profession and to the public at large, thereby creating a compact body that would assert and make effective its prerogatives pertaining to the promotion of good conduct and elevation of the standard of medical education. Whilst the maximum development along these lines of progress has not been reached, sufficient has been accomplished to invoke the gratitude of every true and conscientious physician. It gave impetus to new thought, out of which have come the state medical practice acts; state and municipal sanitary legislation; the organization of health boards, associations, and departments; improved, enlarged and higher medical college curricula; a higher grade of scientific attainments; a more complete, and better adapted hospital construction, and improvement in hospital management; the protection, not yet complete in all the states, of the confidential communications of patients to their physicians from exposure in open court; and, with all, a wider scope of beneficence, a broader utility and more general diffusion of knowledge of sanitation and public hygiene. These and other reforms are the outcome of those precepts in the Code, which enjoin the duties of good citizenship.

The educational obligations are not, however, limited to the promotion of a higher standard of professional qualification. Under the heading of "obligations of patients to their physicians," the Code sets forth some very simple and géneral recommendations, which might contribute to the comfort and well-being of patients and increase the efficiency of medical service. "The members of the medical profession, upon whom is enjoined the performance of so many important and arduous duties toward the community, and who are required to make so many sacrifices of comfort, ease and health, for the welfare of those who avail themselves of their services, certainly, have a right to expect and require that their patients should entertain a just sense of the duties which they owe to their medical attendants." No suggestion is made to interfere with the right of selection, but it does insist that a medical adviser shall be one who has received a professional education. Nor is the right to dismiss a physician denied, but justice and common courtesy require that the reasons for such dismissal should be declared. No physician not cognizant of the causes of his dismissal, can protect himself from sinister innuendo and defamation of character. Candor and frankness on the part of dissatisfied patients or their friends, and forbearance with good temper on the part of the physician, would eliminate, in most such cases, friction and discontent. Patients naturally depend on the skill, attention and fidelity of their physicians, who should so "unite tenderness with firmness, and condescension with authority, as to inspire the minds of their patients with gratitude, respect and confidence." If every case committed to the care of a physician was treated "with attention, steadiness, and humanity" we would, probably, hear less of antagonism between physicians and patients, and professional work would more frequently result in mutual benefit.

The duties of physicians to the public comprise another educational function, which is so distinctly stated that nothing more is needed to invite attention than its re-statement in the language of the Code: "As good citizens it is the duty of physicians to be ever vigilant for the welfare of the community, and to bear their part in sustaining its institutions and burdens; they should also be ever ready to give counsel to the public in relation to matters especially appertaining to their profession, as on subjects of medical police, public hygiene, and legal medicine. It is their province to enlighten the public in regard to quarantine regulations; the location, arrangement and dietaries of hospitals, asylums, schools, prisons and similar institutions; in relation to the medical police of towns, as drainage, ventilation, etc.; in regard to measures for the prevention of epidemic and contagious diseases," and "when called on by the legally constituted authorities, to enlighten coroners' inquests and courts of justice on subjects strictly medical." The American Public Health Association is the outgrowth of these injunctions, and has, perhaps, accomplished more than any other organization in the fulfilment of the "duties of physicians to the public," by popularizing the study of the science of sanitation and promoting legislation in the interest of public health. In some measure it has removed the mask of exclusiveness, which obstructs the diffusion of useful knowledge among the people, and enlarged the opportunities for the practical application of the duties and obligations of good citizenship.

The very generous and magnanimous compliance of the profession with these injunctions has enlarged the sphere of its humane and beneficent instrumentalities, thereby contributing to the welfare of communities in the diminution of disease, preservation of health and prolongation of life. So much has been accomplished along these special lines of progress that one is surprised at the defiant antagonism of the lay directories of some hospitals and other medical charities, and of legislative bodies, which seek, by hostile interference, and other reprehensible practices, to limit and thwart the counsel of those who are the only competent advisers. Such obstructive methods will not cease until the profession asserts and maintains its prerogatives in all the offices of good citizenship which pertain to the health of communities.

There is another thought entitled to consideration in this connection, which invokes a more general fellowship with the great body of scientists, and that larger class of persons, not specialists in any branch of science, but patrons of learning, seeking to acquire and diffuse knowledge among all classes of educated people. The profession must abandon the privacy and exclusiveness of the closet and meeting-room and engage more widely and effectively in the education of the public in preventive medicine, in which lies the hope of obtaining the highest aims of scientific medicine.

In affiliation with other local scientific and learned bodies constituting the Washington Academy of Sciences, this Society has entered a new and larger field of usefulness, which abounds in the opportunities of a broader conception of its duties and obligations that it may live more and more in the presence of the public at large. Scientific medicine must fail in its mission of humanity and beneficence in so far as it falls short of asserting the inalienable right to lead, direct, control and dominate popular ignorance, prejudice and cupidity, to the end that legislators and all others in authority must come to know its force and power in all things pertaining to the advancement of sanitary science and preventive medicine. The art of healing can not be dissociated from the science of prevention. The education and betterment of the people in sanitation is not less humane than the healing of the sick. During recent years this Society has made creditable progress in this department of medical policy, and now, with the co-operation of cognate and allied associations, it must hope to accomplish other reforms, still in abeyance through lack of information on the part of a suffering community.

The beneficent, moral and educational functions of the Code are more distinctly and conspicuously set forth than the lucrative. Moral duty "is independent of and superior to all pecuniary considerations," nevertheless, the services of physicians "are of such a character that no mere pecuniary acknowledgements can repay or cancel them." And inasmuch as the office of a physician can not "be supported as an exclusively beneficent one," it is the duty of the faculty in every town or district to "adopt some general rules, relative to pecuniary acknowledgements from their patients, and it should be deemed a point of honor to adhere to the rules with as much uniformity as varying circumstances will admit." Justice and equity are distinctly contrasted with mercenary extortion and gratuitous services to the affluent.

Non-sectarianism is a cardinal tenet of the Code. There is not one article or clause in it "that interferes with the exercise of the most perfect liberty of individual opinion or practice," or that interdicts, under any circumstances, professional services whenever there is pressing or immediate need of them. It does, however, assert that professional abilities and acquirements "ought to be the only acknowledged right of an individual to the exercise and honors" of the profession, and excludes from such association those whose practice is based on an exclusive dogma, to the rejection of the accumulated experience of the profession, and of the "aids actually furnished by anatomy, physiology, pathology and organic chemistry." In no trade or occupation do "mankind rely on the skill of an untaught artist." Medical knowledge is not intuitive. Every physician must "rely upon the rectitude of his judgment," because there is no tribunal other than his own conscience, enlightened by knowledge, to adjudge the penalties of carelessness, neglect or ignorance. The creed of medicine condemns the idolatrous dogmas of divine metaphysics, divine healing, "Christian Science," and other equally fraudulent practices, and relegates them to the jurisdiction of criminal codes.

The spirit and precepts of the Code have been legalized in most of the states by medical practice acts. In this district three systems of medicine have been legalized, with the requirement of the same standard of qualification of all licentiates in the branches of anatomy, physiology, chemistry, pathology, hygiene, histology, surgery, obstetrics and gynecology, diseases of the eye and ear, and medical jurisprudence, leaving the qualifications in the branches of materia medica, therapeutics and practice to be determined by the special requirements of each system. The movement, which originated with this Society, now in progress to unify the requirements of the state medical practice acts, is in the direct line of the teachings of the Code, and it may be desirable, in the near future, to eliminate from these acts all reference to different systems of medical practice and base the issuance of licenses to practice medicine on a uniform standard of qualification in the sciences which make up the science of medicine, leaving the disputed problems of therapeutics to the enlightened and conscientious judgment of licentiates.

Persistent misrepresentation of the non-sectarian spirit of the national Code of Ethics did in some measure, for a time, interfere with the progress of medical education, but with the inauguration under the auspices of the Code, of the new era of a higher standard of qualification, legislatures have come to know their constituencies would not longer tolerate the prevailing ignorance among practitioners in the "sciences which make up the art of medicine." By these adjustments of acts to ends, good conduct has obtained the sanction of law and the teachings of the Code have been re-inforced by the will of the people. Much, however, remains to be done, and the profession can not hold itself blameless for such shortcomings as may retard or impede the progress of education.

To such extent has this misconception grown that many people and some physicians believe the appellation of allopathy to the regular medical profession is a complimentary designation, and not, as intended, an opprobium. If there is a class or sect of people who hold the therapeutic doctrine that diseases are curable by the production of other diseases, such persons are outside of the regular profession and not fit to practice the healing art. The Code denominates its adherents and followers, "the regular profession," not in any invidious spirit, but because the system is based on a knowledge of the sciences which make up the science of medicine.

In matters of etiquette, ceremony, intercourse and consultations, the Code is distinctly advisory, but not in any sense mandatory. To promote the best interest of patients and to avoid reprehensible and contumelious interferences, professional intercourse must be guided by such uniform rules of good conduct as may conduce to harmony and co-operation in act and spirit. No hard and fast regulations can be made applicable in all cases. In exceptional instances all rules are subordinated to the emergency which demands immediate aid, but no circumstances can justify dishonorable and ungentlemanly conduct. If consultants were permitted to rush pell-mell, before the time agreed on, into the sick chamber, proceed with their examination without the aid to be furnished by the attendant, consultations, which are for the benefit of the patients, would in most cases be unsatisfactory, and in many disastrous to patients. The Code advises consultations in difficult and protracted cases, because they "give rise to confidence, energy and more enlarged views of practice," and enjoins on the consultant "the most honorable and scrupulous regard for the character and standing of the practitioner in attendance." To this end uniform formalities of etiquette and decorum dignify and emphasize the *esprit de corps* of professional intercourse, but really are of infinitely greater importance to the welfare of the patient.

Misconception of the tenor and misrepresentation of the purpose of the formal declaration of the duties and obligations of physicians in support of professional character have given rise to much inane criticism and sometimes sneering denunciation of medical ethics. There are very many good and well-meaning people who can not understand why physicians should not submit to their unstable will, and change and modify the ordinary courtesies of good conduct to sanction interference or to gratify caprice. Medicine is a deliberate and painstaking science, conducted as will best conduce to the attainment of its highest aims. It is not an emotional profession, to be swayed by every outburst of bad taste, bad breeding, ingratitude and discontent. If the Code tolerated submission to malevolent criticism and malign detraction, the practice of medicine would be degraded to the slavish service of menial servility. Medical men with loose and unethical methods, and others who have agreed on their honor to comply with the system of ethics have incited popular censorship by their failure or refusal to comply with its precepts.

No part of the Code has been so much assailed by dissenters and pretenders as that section that declares it "derogatory to the dignity of the profession to resort to public advertisements, or private cards, or handbills inviting the attention of individuals afflicted with particular diseases, publicly offering advice and medicine to the poor gratis, or promising radical cures, or to publish cases and operations in the daily prints or suffering such publications to be made; to invite laymen to be present at operations, to boast of cures or remedies, to adduce certificates of skill and success, or to perform any other similar acts. These are the ordinary practices of empirics, and are highly reprehensible in a regular physician." These are the most positive interdictions of the Code. They set forth and condemn such meretricious methods to gain popular favor. Medicine is not a mercantile occupation, but a beneficent and life-saving science, and can not, therefore, accept the rules and practices of trade and business as the guide of good conduct in matters pertaining to the discharge of its special duties and obligations. The medical profession would soon sink to the level of the advertising and mercenary quack if it permitted its members to display their qualities and successes in the public press, or in hand-bills through the bill-poster, or in bulletins thrown into the doorways of private dwellings. In the rivalries of such reprehensible practices the ignorant and most unscrupulous would always be in the lead, and chicanery, duplicity and falsehood would be the winning qualities in the fierce struggle for subsistence.

"Equally derogatory to professional character is it for a physician to hold a patent for any surgical instrument," medicine or discovery, to dispense a secret nostrum, "or to give certificates attesting the efficacy of patent or secret medicines, or in any way to promote the use of them." The public at large can not appreciate the force and necessity of these restrictions, because it fails to discriminate between the objects and methods of business and those of a beneficent and liberal science, which seeks to promote the welfare of the people. The patenting of surgical instruments, medicine and discoveries is not only "inconsistent with beneficence and professional liberality," but would retard the progress of medical science and limit the sphere of its good offices and usefulness. If Jenner had patented the discovery of vaccination, smallpox would have continued to scourge the world. In what condition would medicine and surgery be to-day, if Morton and Simpson had, respectively, patented ether and chloroform anesthesia? The lessened mortalities in medicine, surgery and midwifery, due to these discoveries, can not be measured by the money value of the agents employed. If Sir James Simpson, Gustave Simon and Marion Sims had patented their inventions and discoveries, gynecology could not have reached its present state of development. In fact, surgical gynecology must base its achievements on the discovery of anesthesia in 1846, and the invention of the duck-bill speculum in 1848. If antisepsis had been patented, Lord Lister would not now be a peer of England, but a private citizen of Scotland, living, perhaps, on the accumulated royalty of his patent. Honor comes to whom honor is due, but never to one who traffics in beneficence. Such are some of the illustrations going to show the wisdom of these interdictions.

In this connection I must invite attention to another injunction, to the effect that physicians should exercise "their option in regard to the shops to which their prescriptions should be sent." The time has come when the public welfare and individual reputations impose this obligation on practitioners of medicine. The claims of right, by pharmacists, to prescribe across the counter, to sell poisons without restraint of law, to repeat and duplicate a prescription containing poisons without the knowledge and consent of the physician making it, and to dispense it to others than the original holder, have become such common evils, fraught with such danger to health and life, as to demand regulation by statute law. It may be that if any organized body of physicians should issue and enforce its mandate that patronage would cease with the continuance of the practice, the evil would diminish. While reputable pharmacists might accept the option of physicians as the rule of conduct, there are others who openly and defiantly declare their purpose to disregard any such restriction.

Proprietary pharmacy is the most pretentious of the artful devices of empiricism. The daily mails bring to every physician the advertising bulletins of proprietary pharmacists, filled with the certificates of physicians, setting forth the wonderful virtue of some special compound, mixture, tablet, or pill, each of which is extolled as a panacea for diseases having no etiologic nor pathologic relation to each other, and the credulous practitioner goes forth on his daily rounds enthused with the single idea that he has at last discovered a remedy with which he can drug, dose or feed every patient, and, when the day's work has been finished, congratulates himself with the accomplishment of the highest aims of a beneficent science.

The National Code of Medical Ethics is the official declaration of the policies of the regular medical profession of this country. As such it will continue to command the respect and attention of those who believe that ethical conduct is an element of success in the attainment of the confidence of the public. Observation and experience attest the soundness of this belief. Popular censorship never fails the detection of apostasy, and is quick to stamp dereliction with the badge of dishonor. No physician ever failed in the practice of medicine because of his high ethical standing. The occasional loss of a client because of adherence to the prescribed rules of good conduct is much less frequent than losses from such irregularities as invade professional etiquette and desertion of clients. Those who stand on the highest plane of ethical conduct and highest standard of professional qualification will most surely command the respect, confidence and admiration of the public and reap the richest reward. The more the Code is studied, the more highly will its precepts and policies be appreciated, and the more widely will it be accepted as the guide of good conduct.

Original Articles.

ETIOLOGY OF NON-MALIGNANT RECTAL STRICTURE IN WOMEN.*

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Complete or partial narrowing of the rectum, having its origin in developmental anomalies, will not be considered in this paper.

Acquired rectal strictures are much more common in women than in men. Gosselin and Dubar[1] estimate the proportion as 4 women to 1 man. Of the cases of rectal strictures collected by Juliusburger[2], there were 103 women and 15 men, or about 7 of the former to 1 of the latter. Out of 110 cases treated by Allingham[3] in St. Mark's Hospital, there were 92 females to 18 males, or in the proportion of 5 to 1. The ratio is even greater in Cripp's[4] series of 70 cases, as out of this number there were only 7 males, or in the proportion of 9 to 1. Carré's statistics in 266 collected cases show 4 women to 1 man afflicted with the disease. The same ratio was found by Gant[6] in 25 cases, while the proportion in the 21 cases recorded by Quénu and Hartmann[7], in their recent work on the rectum, is considerably less, since there were only twice as many men as women. The only exception seems to be Kelsey[8], who in a series of 99 non-malignant strictures found 64 in males and 35 in females, or nearly twice as many males as females. However, the preponderance of evidence is in favor of the relative frequency of the condition in women, and justifies the presentation of the subject for discussion before a special society such as ours.

For the purpose of etiologic study, strictures of the rectum are conveniently divided into: 1, those where the caliber of the tube is diminished by pressure from without, organic changes in the rectal walls being secondary; 2, those where the rectal walls are primarily affected, narrowing of the rectum resulting from these organic changes.

1. *Strictures due to pressure from without.*—A tumor occupying the pelvic basin may so encroach on the rectum as to produce a decided hindrance to the passage of the fecal mass. It is exceptional, however, for a complete stricture to be formed, except in the presence of malignant growths, or localized inflammations of the mass where the increased pressure arises from bands of adhesions rather than the increase in size or peculiar position of the tumor. The writer recently recorded a case where temporary complete obstruction resulted from the pressure, on the upper part of the rectum, of what was found to be a malignant growth springing from the sacral region.[9]

In women this class of rectal strictures is usually caused by suppurative disease of the appendanges. Kelsey[10] reports an interesting case of a double stricture of the rectum caused by a pelvic abscess. Couper[11], Biggs[12], Balzer[13], and Quénu and Hartmann[14] have reported similar cases. At the present time, the true cause of the stricture is recognized and the condition rectified by the appropriate surgical procedure. Neglected cases, where the appendages are matted together and compress the rectum by dense adhesions, sometimes are not benefited by the removal of the genital organs, as illustrated by the following case in the writer's practice:

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*Read by title before the American Gynecological Society, May 25, 1899.

The patient was a woman of 38, who had had attacks of pelvic peritonitis for fourteen years. On three occasions an abscess had been forced through the vagina. In the past four years she had experienced more and more difficulty in obtaining bowel movements. An examination showed the pelvis filled with an exudate, in which uterus and ovaries could not be distinguished by means of bimanual examination. The rectal examination showed the bowel compressed against the coccyx by the pelvic mass. The uterus and appendages were removed through an abdominal incision, the adhesions being so dense that fingers were of no avail and the knife and scissors had to be employed. The patient recovered from the operation, but the symptoms of rectal stricture recurred gradually. A rectal examination, made about six months after the operation, revealed a stricture due to perirectal inflammatory tissue, situated about 2½ inches above the anus. The forefinger could not be forced through the compressed portion of the intestine. Any operative procedure short of a colotomy would have been of no avail. This the patient refused, and the case was lost sight of.

2. *Strictures resulting from organic changes primarily affecting the rectal walls.*—As in other organs of the body, an inflammatory infiltration of the rectal walls followed by an increase of connective tissue may lead to contraction and stricture of the rectum. Since these changes are distinctly inflammatory in their nature, strictures resulting therefrom can be grouped under one head, whether the primary cause of the inflammation be trauma, dysentery or syphilis. Whether a gross or microscopic examination of these strictures will enable one to definitely determine the primary or underlying cause in each case is still a mooted question, and because unsettled has had much to do with the preparation of this paper.

For convenience, the causal conditions which have preceded the inflammatory changes may be considered under the following heads: Trauma, dysentery, gonorrhea, tuberculosis and syphilis.

Trauma.—It is evident that an injury to the mucous membrane of the rectum, severe enough to cause loss of substance and ulceration, could result in a stricture. Foreign bodies introduced by the mouth or anus may be the cause of such injuries. Numerous instances have been recorded where bottles, wine-glasses and similar objects have been introduced into the rectum either by the insane or sexual perverts [15], [16]. However, a search through the literature has failed to reveal any recorded case where a stricture could be positively traced to the results of such violence to the parts. Of more interest is the alleged dependence of rectal stricture on protracted labors, associated with long-continued pressure of the head on the rectum. Allingham[17] mentions a case of this kind in a woman with no history of tuberculosis or syphilis. The stricture was almost complete, and was relieved only with difficulty. Quénu and Hartmann[18] have recently reported a case of stricture following a severe labor of thirty-six hours, ended by craniotomy. The stricture was complicated by rectovaginal and vesicovaginal fistulas. It is not improbable in this case that the stricture was caused by a perirectal inflammation superinduced by puerperal sepsis. In fact, this may be the true explanation of the majority of these strictures.

Not infrequently unskilful operations on the rectum, such as the removal of too much tissue in operations on hemorrhoids, the failure to secure union in the Whitehead operation, [illegible] be followed by stricture. Any resection of the rectum is liable to result in stricture, because of the difficulty of securing primary union between the proximal and distal extremities of the intestine.

Dysentery.—Since dysentery is marked by ulcerative processes in the colon and rectum, it has been assumed that large ulcerative patches formed by the confluence of a number of ulcers could result in the contraction of the affected part. This is the more probable since it has been shown by post-mortem examinations that the submucosa and muscularis can be invaded by the dysenteric ulcers. But, as pointed out by a number of authors, diarrhea consisting of mucus, pus and blood, accompaniments of any stricture of the rectum, has been called dysenteric, when in reality such was not the case. Undoubtedly strictures have followed a true dysenteric process, or the dysenteric ulcers have served as points of entrance of other germs, which in turn have led to inflammation, connective tissue hyperplasia, and narrowing of the rectal tube. Ballance[21], Costex[22], Allingham[23], and Quénu and Hartmann[24] report cases where there can be but little doubt as to the dysenteric origin. It probably is an exceptional outcome, considering the large number of people afflicted with dysentery. Woodward[25] calls attention to the fact that no case of rectal stenosis consecutive to dysentery has ever been reported to the surgeon-general, either during the war or since. In the writer's four years' experience as pension examining surgeon, although many hundred applicants were examined who complained of disabilities resulting from army diarrhea and dysentery, no cases of stricture were found, although each applicant was subjected to a careful rectal examination.

Gonorrhea.—Although occasional mention is made by the older writers, of gonorrhea of the rectum, the first undoubted case may be said to have been reported by Hecker[26], in 1788. Since that time more and more attention has been directed to the possibility of the rectal mucous membrane being a not infrequent seat of the disease. Yet even in recent years, since the discovery of the gonococcus has enabled the disease to be absolutely demonstrated, there is considerable controversy regarding its frequency. Wolff[27] had never met with rectal gonorrhea in women. Verchère[28], in a service of 800 patients, two-thirds of whom had genital gonorrhea, had never seen a case of gonorrhea of the rectum. Schultz[29], on the other hand, found 14 with rectal gonorrhea out of 174 women suffering from genital gonorrhea, and Bear's [30] statistics show even a larger percentage, for out of 129 cases of gonorrhea in women, 38.2 per cent. were found affected. These conflicting statistics can only be explained on the supposition that the proper methods of examination were not employed where the disease was not found.

In the same way, formerly gonorrheal ulceration was thought to be quite uncommon, but Bear, in the same article, states that it is not infrequently present. From studies of gonorrheal inflammation in more accessible parts of the body, it has been found that, while the gonococcus produces an intense surface inflammation, the underlying tissues are also affected, round-celled infiltration, connective tissue hyperplasia, and subsequent contraction resulting in a certain proportion of the cases.

If, then, gonorrhea can produce a proctitis, proliferating and stenosing, are we justified in assuming that in this lies the explanation of the frequency in women of rectal strictures? While gonorrhea may be the exciting cause of rectal stricture in a certain proportion of the cases, it is still far from being proved. It is assuming too much and jumping too quickly to a conclusion to say that because gonorrhea of the rectum exists, it and not other conditions must be responsible for rectal stenosis.

Tuberculosis.—Ball[31] calls attention to the fact that a considerable proportion of cases of rectal stricture die from pulmonary phthisis, and thinks this "tends to show that in all probability a larger number of cases have really commenced in rectal tuberculosis than has hitherto been recognized.

Tubercular ulceration and stricture of the rectum have been noted for some time; especially was it found that tubercular disease of the rectum was liable to follow dysenteric ulceration. Tillaux[32], in 1894, published a case which he considered tubercular, but bacteriologic proof is wanting. It remained for Sourdille[33] to furnish these proofs, he being able to demonstrate the tubercular nature of a stricture of the rectum, a piece of which had been removed for microscopic examination during a posterior rectotomy. Inoculations also showed the tubercular nature of the disease.

In another communication, Sourdille[34] exhaustively considers the question of tubercular strictures and reviews the records of seven such cases. He thinks that at least one-third or one-fourth of the cases commonly supposed to be syphilitic are in reality tuberculous. This probably is an overestimate, but it at least serves to call our attention to the importance of carefully examining each case for the existence of the disease. An interesting feature, emphasized by the same author, is that the starting-point of the disease may not be a tubercular ulceration, but a submucous infiltration of the rectal walls, gradually ending in sclerosis and contraction.

Syphilis.—Whatever may be the rôle played by syphilis in the production of stricture of the rectum, it can not be denied that a relatively large proportion of those in which the condition exists give a syphilitic history.

Poelchen[35] states that in 119 patients suffering from rectal stricture, a doubtful syphilitic history existed, in 96 there was a positive history of the disease, while in only 6 could it be absolutely eliminated. Juliusburger[36], in 118 collected cases, has noted other syphilitic lesions 47 times, and in 25 cases a positive history of syphilis, the proportion affected by syphilis being 66 per cent. [illegible][37], in 67 cases, finds 41 with syphilitic histories.

Gosselin[38] seems to have been one of the first to deny that all strictures of the rectum were of syphilitic origin, a belief quite universally held up to this time. The writer, from a careful perusal of his paper, agrees with Kelsey[39] that Gosselin has been misquoted, and that he did not intend to convey the idea that strictures were due to chancroids extending upward, but that the disease is simply a local manifestation, due to the presence of the plaques [illegible] have caused. Fournier[40] believes in the existence of a simple fibrous infiltration of the rectal wall, and possibly ending in an [illegible]. From the contraction of this fibrous tissue results the so-called syphilitic stricture of the rectum. This anorectal theory of Fournier's will not include all cases of what may be justly considered syphilitic strictures, when they result from the contraction of large ulcerations of the mucosa and submucosa. These lesions are secondary to the breaking down of gummatous deposits in the rectal wall. (Esmarch[41], Tuttle[42].)

Within the past few years two opinions stand forth prominently regarding so-called syphilitic rectal strictures. There are those who, like Schuchardt[43] and Rieder[44], claim that microscopic examinations of excised strictures show clearly that they are of syphilitic origin, and secondly, those who, like Duplay[45], Kelsey[46], Quénu and Hartmann[47], believe that a diagnosis of syphilis can not be positively made with the microscope, and that clinical and pathologic examinations of rectal strictures tend to show that they are due to a proctitis, among the causes of which may be numbered syphilis.

In his microscopic examination of rectal strictures removed from persons known to be syphilitic, Rieder has found that the arteries are nearly always normal, that the veins are markedly diseased, and that there is a chronic inflammatory infiltration of all the layers of the intestinal wall. The older the case, the more connective tissue is there present. By a special staining method of his, Weigert[48] is able to bring out elastic fibers about the veins. In the last stages of the disease very few changes characteristic of syphilis can be made out. Reider gives the name "venosclerosis syphilitica" to the changes about the veins, but admits that they may be produced by processes other than syphilis. Reider also seeks to explain the frequency of rectal stricture in women on the basis of a spread of the syphilitic virus by means of the veins. The initial seat is usually situated near the fourchette, and from here to the lower rectal veins is a much nearer route than from the foreskin of the male to the rectum by way of the vesical veins.

Schuchardt considers certain bluish-red nodules, to be found on the surface of the mucosa, pathognomonic of syphilitic disease. The submucosa is involved simultaneously with the mucosa. Breaking down of the tissues follows and cicatricial contraction results. It would seem as if Schuchardt had not succeeded in proving the correctness of his conclusions, for it is well known that gummata can not at all times be distinguished from certain tubercular formations. It may be noted that Rieder's statements regarding the involvement of the veins to the exclusion of the arteries is confirmed by the microscopic findings in one of Quénu and Hartmann's[49] preparations. Certainly, if it be left to microscopic examination to determine the syphilitic character of the disease, it is hardly just for this examination to be made in the last stages of rectal stenosis, when all that remains is a mass of sclerotic tissue. Future examinations made in the early stages of the disease will prove of the greatest value, and it is to be hoped that such investigations will be forthcoming.

As a slight contribution to our knowledge of the subject, the following case is reported. The patient was shown Dec. 7, 1898, before the Chicago Medical Society[50].

Mrs. K. R., married, aged 35, gave a negative family and no history of congenital syphilis. The menstrual periods, although painless, have never been regular. She was married fourteen years ago, and three years later gave birth to a male child who has shown no constitutional taint. No history could be obtained of acquired syphilis, gonorrheal infection or ulcerations about the anus or within the rectum. Since girlhood the patient has suffered from an obstinate form of constipation, evidently aggravated by neglect, as she only went to stool at intervals of several days. Eight years ago she noticed that the fecal masses were becoming smaller and flattened. From this time up to the present she has experienced more and more difficulty in evacuating the bowels, until before applying to the clinic she had not had a passage for nearly two weeks. Of late she has had considerable discharge of pus and slime from the anus. For the past year she has been gradually losing flesh and strength. Examination showed the patient considerably emaciated. The heart, lungs and kidneys were normal. There were no physical characteristics of constitutional disease. A vaginal examination showed the uterus to be retroverted and the appendages enlarged and adherent. Rectal examination revealed, one inch above the external sphincter, a dense tubular stricture of the rectum through which the finger could not be forced. By the vagina the thickened gut wall could be traced upward some inches, although the upper extremity could not be reached.

In March, 1898, nine inches of the rectum and sigmoid flexure were removed through an abdominal incision, an anastomosis between the upper and lower fragments of the gut being made outside of the anus by a modified Monsell operation. The patient made a perfect recovery, gained sixty pounds and was perfectly well when last seen, one month ago, a year after the operation. Before the rectum was enucleated, the appendages, consisting of a pyosalpinx on one side and a hydrosalpinx on the other, were removed. The following is the report of Prof. F. Robert Zeit, of the Klebs Pathological Laboratory, Post-Graduate Hospital:

> Report on Case No. 409. Specimens received for examination: Stenosis of the rectum. One ovary with dermoid and hydrosalpinx of same side. Other ovary adherent to tube with hemorrhagic follicle. Pyosalpinx of same side. Microscopic examination of pyosalpinx shows a dense infiltration of all three coats of the tube, with hyperplastic mucosa. The intima of all vessels is greatly thickened. Endarteritis obliterans present, with thrombi containing pigment. The same pigment is found also in the tunica intima. None in the tunica muscularis of these arteries. Endarteritis obliterans and thickened intima is also found in the walls of the hydrosalpinx. The stroma of the distended tube is densely infiltrated. The ovaries show much small-cell infiltration, some hyaline degeneration of vessel walls, with several hydrops folliculi and a corpus fibrosum. The rectum presents an hypertrophic muscular coat, with much small-cell infiltration and thrombotic vessels, thrombi containing pigment. The mucosa is slightly hyperplastic, but otherwise normal. Weigert's new stain for elastic fibers brings out numerous partly obliterated lymphatic vessels and small veins, but the larger vessels do not show any marked increase in elastic fibers. The intima of the arteries is not perceptibly thickened. Around the veins much small-cell infiltration still exists.

This case presents many interesting features. There was absolutely no history nor evidences of syphilis, yet the microscopic findings would lead one to think that such was the origin of the trouble. However, a positive diagnosis of syphilis could not have been made in spite of the endarteritis obliterans in the walls of the tubes, certainly not a common condition except in the presence of syphilis. A gross examination of the segment of rectum removed showed a normal mucosa, which was confirmed by the subsequent microscopic examination. This shows that the disease started in and was confined to the deeper layers, hence it could not have had its origin in chancroid, gonorrhea or trauma with ulceration. It corresponds with the descriptions of Fournier's "anorectal syphiloma." The microscopic findings of the arteries and veins correspond closely to those described by Rieder. The veins and lymphatics were the vessels affected, and the arteries were almost normal. The use of Weigert's stain brought out obliterated veins and lymphatics in the sclerosed portions of the tissue.

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Orexin in Persistent Vomiting of Pregnancy.

When instead of, or in addition to, the characteristic morning sickness, which does not affect the appetite or digestion later in the day, there is persistent rejection of food, impairing the general nutrition and threatening to exhaust the patient's strength, orexin in 5 grains after each meal is recommended by Dr. F. Hermanni (*Therap. Monats.*), who reports nine cases so treated with great success, the vomiting being quickly relieved, and the appetite returning mostly within a few days.—*The British Physician.*

ACUTE SUPPURATIVE ARTHRITIS OF CHILDREN.*

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I wish to call attention to the acute inflammation of joints, variously described under the titles "Acute Suppurative Arthritis of Infants," "Epiphysitis" and "Acute Ostitis of Growing Bone." I chose this subject because these cases are not generally understood, and many joints and lives are sacrificed on the altar of our ignorance.

These inflammations occur, as a rule, either as complications or sequels of other diseases, and may begin either as a synovitis, an epiphysitis, or an osteomyelitis. The majority of cases begin as an osteomyelitis. When accompanying the exanthemata, diphtheria or typhoid, they are usually due to a streptococcus infection. Cases complicating pneumonia have been reported in which the diplococcus was the cause. The joints most commonly affected, in the order of their frequency, are the hip, knee, shoulder and elbow.

In the synovial variety the symptoms are as a rule comparatively mild. There is local heat, swelling and tenderness, with a temperature of from 101 to 102 F. When the joint is quiet, the pain may not be severe, but the slightest motion will cause severe pain. When it occurs as a complication of some fever, the diagnosis is comparatively easy, but when it comes as a sequel or without known cause, it may be difficult. In the latter instance the febrile condition accompanying the joint inflammation is frequently mistaken for an essential fever.

When a decided rise of temperature or a sudden attack of pain occurs in a child suffering from, or recently recovered from, any of the above-mentioned diseases, all of its joints should be carefully examined. This precaution is especially indicated when the child is too young to call attention to the seat of its pain.

The most common error in this as in all other joint inflammations is to make a diagnosis of rheumatism. The latter does not remain in any one joint to the exclusion of others for any length of time, and it is not a suppurative affection.

Suppurative synovitis as a complication or sequel may be polyarticular. I have at the present time a patient who had suppuration of one elbow and of the sacro-iliac synchondrosis, as a sequel of typhoid, but it is not to this very grave form of disease, formerly known as pyemia, that I wish to call attention.

Suppurative arthritis may be confounded with the bone affection of infantile scorbutus, but in the latter careful examination will demonstrate that the soreness is in the shaft of the bone. When in doubt as to the character of the contents of a swollen joint, one should draw off a small amount with an aseptic hypodermic needle. When this disease is recognized and promptly treated, the prognosis is good, but when neglected, the joint surfaces are destroyed and the patient's life endangered. When the diagnosis is thoroughly established, the only treatment to be considered is free incision and drainage. The following is a typical case of suppurative synovitis:

In January, 1895, Dr. Disen, of Minneapolis, referred to me a child 4 years old, who had recently recovered from an attack of measles, and was then suffering from an acute inflammation of the left knee joint. The child was suffering some pain constantly and very great pain on motion. The swelling extended up and down beyond the limits of the joint, but was most marked at the joint. This diffuse swelling is quite characteristic of the streptococcus infection. There was marked local tenderness and a temperature of 102 F. The color over most of the limb was normal, but at a point on each side of the patella there was a dull, red spot. The joint was flexed and the patient kept the limb with its outer side resting on a pillow.

The only difficulty was to differentiate between a suppurative synovitis and an osteomyelitis. I based my diagnosis of synovitis on the facts that the beginning was rather subacute, the temperature comparatively low, and that the swelling began in the joint as soon as the child complained.

A free incision was made on each side of the patella and rubber drainage-tubes were introduced, and notwithstanding the fact that the joint seemed completely disorganized, the child made a prompt recovery, with perfect motion in the joint.

The openings in these cases should always be free. It is a mistake to fill them with gauze without drainage-tubes, because gauze will not drain pus. It is always wise to explore these joints with a finger, for fear the original trouble may have been an osteomyelitis, as in that case more operating would be necessary. Irrigation with a warm normal salt solution is the best means of cleansing the joint. The dressing should be a large moist one, and should be changed frequently.

Prominent writers on joint diseases, as Macnamara and Howard Marsh, whose writings were published in the eighties, gave extended descriptions of epiphysitis as a disease of frequent occurrence in childhood. More recent writers, however, have demonstrated that while occasional undisputed cases of acute epiphysitis or epiphyseal osteomyelitis do occur, the vast majority of these cases are osteomyelitis beginning in the diaphysis just outside of the epiphyseal line. In these young patients the epiphyseal cartilage is very tender and may easily be perforated, but in the hip, the capsule of the joint extends beyond the cartilage, so that a perforation of the diaphysis close to the cartilage allows the escape of pus into the joint. When the disease does begin in the epiphysis it extends quickly to the joint, so that the joint symptoms soon overshadow the bone symptoms. It is well to remember, in this connection, that it is quite possible to have a sympathetic, catarrhal inflammation of a joint accompanying an osteomyelitis of the shaft, for what would be the only proper treatment for a suppurating joint would in this instance be a grave mistake.

Of these inflammations beginning as an osteomyelitis there are two well-marked varieties; one in which the symptoms are comparatively mild and which under proper treatment makes a complete recovery; and another in which the symptoms are those of an acute osteomyelitis with added acute joint symptoms, which, unless promptly and vigorously treated, results in more or less permanent injury to the joint. The latter variety may cause ankylosis, or there may be shortening and loose-jointedness from separation of the epiphysis. Between these two extremes are many grades of the disease, so that it is not always easy to classify a given case; my personal experience, however, teaches me that the prognosis after a timely operation is better than the findings would seem to justify.

In the mild variety the pain is not very severe, the temperature is not very high and the progress of the disease is comparatively slow. Swelling comes on gradbadly, and the little patient refuses to use the joint. There is local heat and tenderness. The patient loses appetite and flesh. This type occurs most frequently in the hip-joint, and is unaccompanied by redness. The skin is white and the blue veins may become quite prominent. I have found it sometimes difficult or impossible to differentiate this disease from a rapidly growing sarcoma, until I had used the exploring syringe. This disease has very commonly been mistaken for tuberculosis, and has sometimes been pronounced typhoid. The prognosis in this class of cases is good when the disease is recognized and promptly treated, but when neglected, the joint is destroyed and there is more or less destruction of bone, which may cause shortening. The only treatment is free incision and drainage. The following is a typical case of the kind:

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*Read before the Western Surgical and Gynecological Association, Des Moines, Iowa, Dec. 27 and 28, 1899.

May 2, 1898, I was called by Dr. Benjamin of Minneapolis, to see H., aged 15 months, who at that time was comparatively free from pain when quiet, but suffered greatly when the left thigh was moved. The thigh was slightly flexed, was white and swollen, with enlarged veins over the surface. There was local heat and tenderness. The child was pale and emaciated, and lay perfectly quiet, making no effort to move the limb. At this time the temperature was about 100 F. The history given by the Doctor was that the child had been perfectly healthy until March 29, when he was called and found it with a temperature of 103 F., and a tympanitic abdomen. It was crying from pain which was seemingly in the abdomen. The temperature soon dropped to about 100 F. The child lay quiet but suffered when moved. Between two and three weeks after he was called, the left thigh was found to be flexed and somewhat swollen. The symptoms continued about the same until May 2, when I was called. We made a diagnosis of suppurative arthritis of the hip, but the thigh so closely resembled a rapidly growing sarcoma that it was deemed wise to use an exploring needle, which confirmed our diagnosis.

On May 14 the joint was opened and a large amount of pus evacuated. A drainage-tube was introduced and the child began to improve at once, and in six weeks was perfectly well. Examination on Dec 19, 1898, proved the child to be perfectly well, with free movement of the joint and no shortening. We have no knowledge as to the cause of the inflammation in this case.

The second variety begins as an osteomyelitis and quickly extends to the joint. The onset is usually quite sudden. There is often a chill and sometimes repeated ones followed by a temperature of 103 or 104 F. The pain is usually very severe and the whole limb is helpless. There is local heat, and tenderness and swelling soon follow, although this is not one of the early symptoms.

When the disease is in the hip, the swelling is not marked, and in a fleshy child may not be noticeable. At an early age, when the disease begins near any joint but the hip, local tenderness and sometimes swelling can be made out near but not in the joint. When it begins near the hip-joint this is not practical, owing to the distance from the surfaces, of the parts involved.

Those of us who have been in the profession for fifteen years or more were taught that these were cases of acute suppurative periostitis, and the result was that our methods of treatment were incomplete and disappointing. We know now that primary suppurative periostitis is very rare, if it ever exists, and we also know that the stripping of periosteum from a portion of the bone does not cause necrosis, but that necrosis is due to an inflammation beginning in the bone marrow, and that this inflammation is always suppurative.

We all understand the necessity of early diagnosis in all cases of osteomyelitis in order that we may promptly make an opening into the medullary cavity and thus stop the ravages of the disease, but the practical point I wish to make is that in infants and young children there is, owing to the anatomic peculiarities already mentioned, the added danger of an early invasion of the neighboring joint. By timely diagnosis and heroic treatment this joint invasion may be prevented. In all joints save the hip, the diagnosis and treatment are comparatively easy, but in the hip both diagnosis and treatment are more difficult.

When the disease is located in the lower end of the femur, there should be an early diagnosis and an opening promptly made into the center of the bone. I have never been content with drill-holes, but have always cut a window in the bone shaft, and have never had occasion to regret it. When the disease is located in the upper end of the femur, Macnamara has recommended and practiced drilling out the center of the neck through the trochanter, and reports some satisfactory results. I have never been fortunate enough to see one of these hip cases until after the joint has been involved, and have therefore had no occasion to resort to the drill, but have laid the joint wide open. I know of no instance in which free incision and drainage are followed by more satisfactory results than in these cases. Under this heroic treatment joints can be saved that are seemingly completely destroyed.

I have found that the easiest way to enter a hip-joint is from the front, through the opening recommended by Bradford in the operation for congenital dislocation of the hip. Theoretically this route is objectionable, because the pus must flow upward to get out, but practically it is perfectly satisfactory.

When called to one of these cases in which there is evidently an osteomyelitis, and in which there is also swelling of the joint, the surgeon should first aspirate the joint to ascertain whether there is a simple sympathetic or a suppurative synovitis. If serum is found in the joint, it will only be necessary to operate on the bone. If, however, pus is found in the joint, it must be opened and drained at the same time that the bone is operated on.

In the hip-joint, when the exact seat of the disease in the bone can not be located, it is usually quite safe to drain the joint, depending on the bone to drain itself through the joint. Unfortunately in these cases the epiphysis is often found separated.

I have met with several cases in which there had evidently been an acute suppurative inflammation of the hip-joint, which had opened itself, resulting in some cases in complete cure, while in others the sinuses remained open on account of necrosed bone or a separated epiphysis.

The following will illustrate this class of cases. A boy, 7 years old, was brought from the country to Asbury Hospital, Minneapolis, and was referred to me by Dr. Eitel. He was walking on crutches and was believed, by the friends and doctors at home, to be suffering from tuberculosis of the hip. The thigh was flexed and on motion crepitus could be detected. He was quite spare and in evident poor health, but there was no atrophy of the thigh. We learned that about six months before he came to the hospital he was taken suddenly with severe pain in the hip and high fever, which at first were thought to be due to rheumatism and later to hip-joint disease. He continued with more or less fever and pain until he came to the city. I made a diagnosis of non-tubercular inflammation of the hip with separation of the epiphysis, and advised operation, which was readily accepted by the parents. On opening the joint I found the epiphysis separated and acting as a foreign body. It was removed and the joint thoroughly cleansed out. The boy began to improve at once, and in six weeks his wound was healed and he was able to stand on the limb. In this case there was a history of a traumatism, but it was not altogether satisfactory, so the cause may be said to be unknown.

The last case I shall report is that of baby O'Keefe, aged 16 months, a patient of Dr. Sweetser of Minneapolis, to whom I am indebted for the history.

On July 11, 1898, the child retired in perfect health, but cried the next morning when he put weight on his left leg. He crawled about that day and stood by a chair, but was too lame to walk. On this day he was examined by Dr. Sweetser, who found a normal temperature and pulse, no changed appearance of the hip, but slight flexion and tenderness. He had been walking for three weeks, had always been healthy, partly breast fed and partly on sterilized milk, and had had no intestinal trouble, no scurvy and has a good family history. He had measles the February previous, and a history of slight injury a few days before. Rest in bed was prescribed. July 16 he was worse, with some fulness about the hip and obliteration of the gluteal fold; temperature 102 F. July 17 he moved the leg with less pain; temperature 103 F. The next day the temperature was 100 F. The child was kept in bed, with an icebag on the hip; there was pain on motion. For the next month he continued about the same, with temperature fluctuating between 101 and 105. Toward the last he was very restless, perspired profusely and lost flesh rapidly.

On August 19, five weeks after the onset of the disease, I first saw the patient, in consultation, and we made a diagnosis of acute suppurative arthritis of the hip, and confirmed the diagnosis by removing pus with an exploring syringe. The pus was sterile under culture and contained no tubercle bacilli. The joint was drained through the anterior incision. The patient began to improve immediately, and on the third day the temperature became normal. In three weeks the wound was healed and the patient perfectly well, with motion in the joint perfect in every direction; the patient creeping, standing and making efforts to walk; no apparent shortening.

On December 15, five months after the attack and about four after the operation, I examined the child and found motion perfect in every direction, but with about half an inch shortening. While no necrosed bone could be found at the time of operation it is evident that there was either actual destruction of bone or of the growth center. If the shortening increases with the growth of the child, this will be conclusive evidence of the correctness of the latter supposition.

Traction of the Tongue in Hiccough.

This method of arresting uncontrollable hiccough by continuous traction of the tongue for one to two minutes, has been mentioned casually before in The Journal. Noir establishes it on a scientific basis in a recent communication to the *Progrès Méd.*, in which he cites observations and states that he has never known it to fail.

A PRELIMINARY INVESTIGATION OF THE THEORY OF THE INOCULATION OF MALARIAL FEVER THROUGH THE AGENCY OF MOSQUITOES.

BY ALBERT WOLDERT, M.D.

PHILADELPHIA.

The inoculation theory of malarial fever through the agency of mosquitoes is not a new one. It is said to have been mentioned by Roman writers about the time of the Christian era. Linne[1] and Sir Henry Holland viewed the transmission of malarial fever through the bite of the mosquito favorably. In 1807 Crawford[1] published a paper on "the Mosquital Origin of Malarial Fever," and King[2], in 1883, one on the same subject. It, however, remained for Patrick Manson to lay the foundation on which Ronald Ross has raised the superstructure of so many facts in connection with this important question. Battista Grassi probably formulated the axiom, *laddove c'è malaria ci sono zanzare*—where there is malaria, there are mosquitoes. Manson, after a long series of deductions, finally arrived at the conclusion that the mosquito acted as the intermediary host in the propagation of the malarial parasite, and published his most convincing paper on the subject in 1894. In the Goulstonian Lectures delivered in 1896 he further explained his convictions in regard to this theory. These publications of Manson influenced Ross to carry on the investigations which culminated in the present work now transpiring in various parts of the world. After Ross came Grassi, Bignami, Bastianelli, Celli, Marchiafava, and Dionisi of Italy, and later came Koch of Germany. The observations of Ross have been concurred in by Koch, Kossel, Nuttall, and Pfeiffer of Germany, by Laveran and Metchnikoff of France.

REASONS URGED AGAINST THE ACCEPTANCE OF THE THEORY.

Objections to the theory are many. One is that the entire subject is too new. Most men will probably agree that it is not the usual way in which infectious diseases are conveyed to man, and from one person to another. Again, it may be urged that the theory is against experience on this question; that only a few species of mosquitoes are capable of inoculating the disease; that observers, through their zeal, have mistaken artifacts for other than the spores of the malarial parasite; and lastly, one may ask, why should the malarial parasite choose the mosquito to act as the intermediary host in the perpetuation of its species? It is not the purpose of this paper to attempt to answer these objections. "Good reasons must perforce give place to better."

NATURAL ORDER OF MALARIAL PARASITES.

The natural order to which all recognized forms of malarial parasites belong, whether in man or birds, is to the order of *Gynosporidia*, class *Sporozoa*.

The foundation for the theory of the inoculation of malarial fever in the case of man has been built upon the experiments with bird-malaria—*Proteosoma* (Grassi), and *Halteridium* (Labbé).

HOW THE SPORES OF PROTEOSOMA ARE SUPPOSED TO BECOME STORED UP IN THE BODY OF THE MOSQUITO.

According to the theory of Manson, the first stage necessary for the propagation of the malarial parasite in the system of the mosquito is the development of flagellated bodies, which in turn become fertilized, after which they become more motile and penetrate the stomach and intestinal walls of the insect. Lodging in the muscular layer of these organs, a coccidium (zygote) or cyst is developed in which develop germinal rods or spores. After the lapse of seven or eight days it is believed this coccidium ruptures, setting free the spores into the body-cavity of the mosquito, thus entering the blood, by which they are conveyed to the veneno-salivary glands, where they become stored up to be inoculated into man at the moment the insect bites. The veneno-salivary—or venomo-salivary—glands are two in number, and located one on each side of the insect's neck. Each consists of three lobes, the latter of which communicates with the proboscis or beak by means of a duct which bifurcates in front of the esophagus in the shape of the letter Y. Two of the lobes of each gland are supposed to be salivary in function, while the central lobe is believed to pour out a secretion which has the power to cause constriction of the blood-vessels, or which has the power of coagulating albuminous substances. These secretions are ejected at the time the insect bites. It is known that the bite of this insect does not give rise to hemorrhage which is believed to be due to the properties of the secretions from these glands.

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[1] Baltimore Observer.
[2] Popular Science Monthly.

DEVELOPMENT OF THE GERMINAL RODS OR SPORES OF HALTERIDIUM AND PROTEOSOMA.

MacCallum, experimenting on birds whose blood contained *Halteridium*, observed that the parasites escaped from the infected corpuscles. After the lapse of a certain period they assumed a spherical form, and some of them emitted flagellæ which became detached and, after swimming about for a time, subsequently approached other spheres, which they entered, thus causing impregnation. Watching one of these impregnated bodies, he found that renewed vigor was manifested by very active motion and the power to penetrate both white and red blood-corpuscles. This same process occurs in the case of *Proteosoma*. It is believed that this impregnated body has the power of penetrating tissues and, after being formed in the stomach of the mosquito, finally penetrates its walls, and afterward forms the coccidium with its contained spores—germinal rods or germinal threads.

With certain modifications analogous processes are supposed to occur in the body of the mosquito, in the case of the human malarial parasite, to that observed in *Halteridium* and *Proteosoma*.

BIRD-MALARIA.

Ross has studied both species of bird-malaria, the results of which have been recorded by Manson as follows: The characteristics of *Halteridium* are that it extends along the nucleus of the red blood-cell and forms sporulating appendages at the end of this halter-shape of jugum. On the contrary, the *Proteosoma* sporulates in a different fashion. It is a more concentrated parasite, so to speak, occupying rather the center of the oval red blood-corpuscle, and, in order to obtain room, displaces the nucleus latterly. Both species of these parasites resemble the human malarial parasite in their structure. They are both intracorpuscular; they are both composed of pale protoplasm carrying a large number of grains of black pigment; they also sporulate and form flagellated bodies, so that in every way they seem strictly analogous and closely allied to the human malarial parasite. Bird-malaria in the tropics is prevalent in the warm season. Out of 111 wild sparrows caught in Calcutta, Ross found that 15 or 13 per cent. were suffering from *Proteosoma*. In most of these, the parasites were few in number and, excluding two of them, an average of only one parasite was found in each microscopic field.

THE FLAGELLATED MALARIAL PARASITE.

It was formerly held by some observers that the flagellated body represented a degenerated form of plasmodium, but through the patient investigations of Dock, MacCallum, and Ross it would appear that such does not hold good. In a letter to Manson, Ross tells of the following experience while examining the blood from a patient suffering from malarial fever: "I said I was going to watch free flagellæ. I found one in my first specimen and watched it continually for three hours. So much for the statement that free flagella soon become quiescent and vanish in the serum. At first it wriggled about for twenty minutes like a trypanosoma so that I could hardly follow it. Then it brought up against a phagocyte and remained there so long that I thought the phagocyte had seized it. Not so; it was neither killed nor sucked in, but was actively engaged in attacking the phagocyte. The flagellum kept at this for about a quarter of an hour and then wriggled away across two fields and in the direction of another phagocyte. Into this second phagocyte it pushed in several places with one of its ends and the phagocyte seemed to rear up and try in vain to get round and envelop the flagellum. At last the phagocyte seemed to give up the struggle and flatten out itself against an air bubble, the flagellum still attacking it. After fifty minutes and when the flagellum seemed to be getting exhausted a very curious thing happened. A third phagocyte approached coming rapidly across the field; but it had no sooner got near when the flagellum left its fallen foe and attacked a new one, holding on to it and shaking like a snake on a dog. In one minute the third phagocyte turned sharp round and quickly made off; it went right across a whole field the flagellum holding on. This continued for five minutes, after which the flagellum left the phagocyte. By this time the flagellum had become much more visible and had a large swelling in the middle. I watched it steadily as its movements became gradually slower. It was certainly able to attach itself to the cover glass (as shown by touching this with a pen) by either end, and even perhaps by the swelling. At last this swelling moved to one end nearly, and became very large and distinct until after three hours the creature evidently died; at any rate it curled up and ceased to move."

After penetrating the walls of the stomach and intestine of the mosquito, and after the stomach and intestine of the mosquito, and after the formation of the coccidium and germinal rods, this insect is supposed to act as the intermediary host of the malarial parasite in the same way as it does in the case of *Filaria Nocturna, Filaria Medinensis, Cyclops quadricornis;* and in the same way as do swine in tenia solium, and trichina spiralis. And it is further held that the malarial parasite is capable of being inoculated into man by the mosquito in the same way as is Texas fever into cattle by the bite of the tick—*Boophilus bovis*—and the tsetse-fly disease by the bite of the tsetse-fly—*Glossina morsitans*

BIRDS INFECTED WITH PROTEOSOMA THROUGH THE AGENCY OF MOSQUITOES.

Ross found that mosquitoes fed on birds infected with *Proteosoma* contained enormous numbers of germinal rods within the veneno-salivary glands. He subsequently allowed these to feed on birds in which there were no parasites of *Proteosoma*, with the result that they became infected with the disease in from five to eight days. Ross, experimenting further with *Proteosoma*, found that by feeding gray mosquitoes on sparrows, larks and crows containing this parasite, he was able to recover the pigmented bodies characteristic of this organism, within the tissues of the mosquito. Of 245 gray mosquitoes fed on sparrows whose blood contained the *Proteosoma,* 178, or 72 per cent., showed the pigmented bodies, while in 249 fed on the blood of sparrows devoid of this parasite, *not one* showed the pigmented cells in the walls of its stomach. Out of 28 originally healthy sparrows subjected to the bites of gray mosquitoes—previously fed on diseased sparrows—22, or 79 per cent., became infected within from five to eight days. Out of 22 birds experimented on by Daniels in the same manner, 54 per cent. became infected. Ross collected the larvæ of mosquitoes and kept them until they became adults, when he allowed ten of them to bite birds in which the *Proteosoma* were very abundant, and in dissecting out the stomach of the mosquito he found an average of 100 pigmented cells. Ten of these mosquitoes were next fed on birds in which the *Proteosoma* was only of a moderate quantity, and only an average of 29 pigmented cells were found; while of ten fed on birds containing no *Proteosoma, no* pigmented cells were found.

MAN INFECTED WITH MALARIAL FEVER THROUGH THE AGENCY OF MOSQUITOES.

Reasoning by analogy of what had been found in the case of *bird-malaria,* Amico Bignami, of the Institute of Pathological Anatomy of Rome, under the direction and supervision of Battista Grassi, records the following experiments made on man: "Thus was begun, on September 26, 1898, the third experiment. S——, who was by this time completely recovered from the indisposition following upon the preceding experiment, again consented to be the subject. I could not find any one else intelligent enough to understand the importance of the test and so self-denying as to submit to it. Along with S—— there slept in the mosquito-room another patient with nerve disease who, like S——, had never had malaria, nor as far as we were aware had never been exposed to the infection. And for a couple of nights a third patient, also a nerve case, slept in the room, but with this man the experiment was not continued. On October 3, I was obliged, for want of more material, to suspend the experiment. On the 10th to the 14th, there was an abundant supply of mosquitoes. On the 10th, S—— complained of headache. On the evening of the 16th, at 6 p. m., his temperature was 37 C., and on the following day he felt better. From the 17th to the 21st, there were but few mosquitoes left in the room; nevertheless both patients showed evidences of having been bitten. From the 19th to the 23d, no fresh mosquitoes were brought; on the 23d, there was a new but small supply. From this day onward until the experiment came to an end there were but very few mosquitoes in the room. The patients were, however, certainly bitten. During the last days of October S—— complained of malaise and headache. On October 31, his temperature showed a slight elevation to 37.2 C. (99 F.). On November 1, at about 3 p. m., he was seized with shivering which lasted until 5 p. m., the temperature rising rapidly to 39 C. (102.2 F.), between 9 p. m. and 10 p. m., when he again experienced a sense of chilliness. The fever continued all night. On the morning of November 2, his temperature was lower and during the night remained at 39 C. (102.2 F.), and on the morning of the 4th it rose to 40.4 C. (104.7 F.), the patient being in great agitation and suffering. A careful examination of the blood made on November 2, gave a negative result; in spite of the most diligent search not a parasite was found. On the morning of November 3, I found young ameboid parasites, few in number, mobile or discoid and without pigment. These went on increasing in number during the course of the day and in the afternoon were present in considerable quantity, some of them presenting pigmentation at the edges, the pigment being in fine granules. They stained with Romanowsky's method and with eosin and hematoxylin. The parasites belonged to the estivo-autumnal variety. The room in which the experiment was carried out forms one of the annexes of the San Carlo ward where none of the physicians have ever known an autochthonous case of malarial fever to occur, nor has malarial fever ever been known to originate in any of the neighboring towns. This fever then, identical with those prevalent at Maccarese, was contracted by S—— in surroundings in which there was neither water nor the soil of Maccarese (the mosquitoes having been sent from the latter place), but only its mosquitoes. Hence we are forced to the conclusion that the fever was actually inoculated by these mosquitoes. The varieties of mosquitoes experimented with were the *Culex penicillaris,* the *Culex malaria* (so-called) and *Anopheles claviger,* but of this last species only a few individuals were sent and only on one occasion during the course of the experiment."

At the present time it is claimed that the *Anopheles claviger* is the species of mosquito most concerned in the propagation of the malarial parasite. Grassi claims that he first discovered that the *Anopheles superpictus* could carry malaria, and was first to claim that *all* species of *Anopheles* could propagate it.

It has been said that the mosquito does not harbor the malarial parasite throughout the entire year, and that from January to May the forms are absent from this insect. Just how long the insect may live under favorable circumstances has not been definitely proven. In cold climates, should they find a suitable place, such as cellars or barns, they probably survive the winter. Many of the adult females die soon after depositing their eggs, and their bodies are readily devoured by the young larvæ, which are said to possess ravenous appetites. Ross has found the alimentary tract of the larvæ stuffed with the scales, fragments, limbs, and other remains of the parental insect. In this way it is supposed the malarial parasite may pass from one generation of mosquito to the next.

THE COCCIDIA OF PROTEOSOMA.

The youngest coccidia (or xygotes) of *Proteosoma* which have been discovered are those seen on the second day. At this time they have been described as being small oval bodies about 8 microns in the long diameter, and containing numerous fine pigment granules. They grow rapidly until the sixth day, and when they may attain the diameter of 60 or 70 microns, and on the seventh day are said to be mature zygotes. About the second or third day a faint capsule develops around the parasites, in which may be seen pigment granules and vacuoles. The pigment granules are often arranged concentrically as seen in diatoms. On the seventh or eighth day the coccidia are seen to contain 1, a large number of delicate thread-like, spindle-shaped reproductive bodies—germinal threads, germinal rods, sporozoites, sporozoids, spores, zygotoblasts; 2, a smaller number of large black sausage-shaped bodies, the nature of which has not been determined. The germinal threads are said to be from 12 to 16 microns in length, and about 1 micron in width, slightly twisted, and in the third dimension are flattened. The middle portion of the germinal thread contains crescents and pigment granules, and is much wider than the other extremity, which is pointed.

The large black sausage-shaped bodies when mature are from 10 to 20 microns or more in length and from 2 to 7 microns in thickness. They have been described as having a cylindric shape, curved, sigmoid, or variously twisted. Ross has found germinal rods together with these black bodies contained within the same coccidium. They have been fed by the mouth, to sparrows, without giving rise to *Proteosoma*. Ross is of the opinion that they may be able to infect the larvæ of the mosquito at the period of maturation.

WHERE THE COCCIDIUM AND GERMINAL THREADS OF PROTEOSOMA ARE FOUND IN THE TISSUES OF THE MOSQUITO.

The coccidium (zygote) of the *Proteosoma* has been most frequently found in the stomach and intestinal walls of the mosquito, while the germinal rods are for the most part found stored up in the venomo-salivary glands and ducts. But the latter have also been found dispersed throughout the insect's body. Ross thus describes the tissues of the stomach of the mosquito: "If you examine a mosquito's stomach with a microscope (1-12 oil-immersion lens), you will find the wall is made up of several layers. The outside layer is composed of ramifications of the air vessels of this insect. Beneath this you will find a structureless sort of membrane which does not stain easily; and below this again and forming the lining membrane, the mucous surface, so to speak, of the mosquito's stomach, what might be called the epithelial layer, composed of several strata of cells. The pigmented cells of *Proteosoma* do not occur as might be supposed among the soft epithelial cells lining the inner surface of the stomach, but they lie in the outer homogeneous layer covering this or between the meshes of the muscular fibers." On dissecting out the insect's stomach, he found that by exercising only slight pressure on the cover-slip the coccidium ruptured, setting free myriads of germinal threads. The germinal rods have been found in greatest abundance in the venomo-salivary glands. Here they lie scattered both within and without the cells, while the salivary duct has been found to contain myriads of them. As a rule more sporozoites are found in one gland than in the other. They have also been found in the blood, muscular tissue, and juices of the head and thorax of the mosquito. The black bodies have been found in the muscular and connective tissue of this insect (?).

OTHER PARASITES FOUND IN THE BODY OF THE MOSQUITO.

Besides the coccidium, bodies of *Proteosoma*, other parasites have been found in the body of the mosquito, e. g., a nematode, a fungus, a gregarine, a sarcosporidium (?); a coccidium (?) and certain swarm spores, besides one or two doubtfully parasitic forms; yet Ross has been unable to trace any of these parasites to the ingestion of malarial blood, nor has he observed special protozoa in the evacuation due to such ingestion.

DISCOVERY OF PIGMENTED CELLS IN MOSQUITOES WHICH HAVE BEEN FED ON MEN SUFFERING FROM MALARIAL FEVER

The changes which have been found to occur in the system of the mosquito in avian malaria are, with certain *modifications*, supposed to also occur in the case of human malaria. Many theories remain unproved. On Aug. 16, 1897, Ronald Ross allowed eight mosquitoes—genus *Anopheles*—to feed on a patient whose blood contained crescent malarial parasites. Four of them were killed at once, for the purpose of studying flagellated bodies. Of the remainder, two were examined on the 18th and 20th days respectively, without anything being noted. The seventh insect was killed on the 20th, four days after having been fed. In the upper half of the stomach, lying among or within the cells, a dozen round or oval (12 to 16 microns in diameter) pigmented cells were found. The outline was said to have been sharp and colorless, without nucleus, and the contents were filled with vacuoles. Each cell contained from ten to twenty black or dark pigment granules identical in appearance with the well-known and characteristic pigment of the malarial parasites (large quartans and crescents—derived spheres. These cells were devoid of contractile, intracellular or ameboid movement. The pigment granules were not scattered throughout the cell body, but arranged in lines transversely or peripherally, or in small circles round the center. They did not become more refractive on change of focus. In some cases the pigment granules showed a rapid oscillation, but did not change their relative position in the field. "Owing to their blackness, so different from the bluish yellow and green granules and debris found in and about the neighboring cells, they arrested the eye at once. Upon being irrigated with a 40 per cent. solution of formalin, the bodies became more visible than before, as compared with the stomach cells." On the fifth day other similar cells were found nearer the esophageal end of the stomach and were distinctly larger and more substantial than on the fourth day, and had a thicker outline.

Manson states that Bignami and his co-workers found that two days after the estivo-autumnal blood rich in crescentic bodies had been taken into the stomach of the mosquito, the coccidium forms had found their way into the stomach and intestinal wall, and lay encapsulated between the muscle fibers. On the sixth day they had increased enormously in size, and projected into the lumen of the alimentary canal. Very gentle pressure at this stage sufficed to rupture the cyst and set free the germinal rods or spores.

A correspondent of the *British Medical Journal*, of recent date, writes that during the fever among the West Indian troops at the suburb of the Wilberforce barracks, mosquitoes are caught and examined daily, and found to belong to the genus *Anopheles*. All varieties of fever are said to prevail there, and it is presumed that the genus is capable of giving rise to all kinds of malarial fever. He states that the parasites have been found in all stages, namely, the young zygotes and the mature ones, and the zygotoblasts or germinal threads have been found in the veneno-salivary glands of this insect. The quartan and tertian can be recognized by their contained pigment, that of quartan being of a dark-brown color and comparatively scanty, that of tertian being copious and fine and of a light-brown color. The youngest tertian zygotes are said to resemble the mature gametocytes, non-sporulating forms found in the human blood itself. "They differ from those of *Hemameba relicta 'Proteosoma Grassii'* by being considerably shorter, thicker, and less twisted and bent, and lie in bundles, and not irregularly placed in the gland." In one insect in which the stomach showed numerous empty capsules, the salivary cells were packed with numerous hosts of zygotoblasts, bundles of which could be seen lying outside the cells, but within the containing capsule of the gland; while other bundles lay within the cells, others again were making their way into the central duct.

The duct itself was said to have been crammed with these bodies lying parallel to its axis. The insects were caught gorged with human blood and kept two or three days until the meal was evacuated; they were then examined and found to contain zygotes of the second and third day, or zygotes corresponding to the time elapsed since the insect was fed, while at the same time older zygotes were found, showing that these had been infected at a previous meal.

It is believed that when the insect bites, not all the germinal threads escape from the venomo-salivary gland, hence any number of persons may become infected by a single mosquito. It is stated by Bignami and Bastianelli that certain differences exist in the arrangement of the sporozoids—germinal threads—in the sporozoon in the different forms of malarial fever. The sporozoids are more regularly arranged in the capsule of the tertian, and from this disposition of the sporozoids they are able to distinguish whether a mosquito is infected with a tertian or estivo-autumnal parasite.

The *zygotes of human malaria are differentiated* from bird-malaria, as has been mentioned, from the fact that in the former they are considerably shorter, thicker, and less twisted and bent, and they lie in bundles and not irregularly placed in the venomo-salivary gland.

NOMENCLATURE OF SEXUAL ELEMENTS OF THE MALARIAL PARASITE.

Before sporulation the elements are spoken of as "gametes," and after fertilization they become the zygotes. "Gameti" forms are sexually-mature forms. Bastianelli and Bignami designate the flagella by the term "microgameti." In the case of the tertian parasite the bodies are divided into two forms, namely: "microgametocytes" or male, and "macrogametocytes" or female forms. The nucleus of the microgametocytes is centrally located, and the chromatin is abundant and in filaments, while in the macrogametocytes the chromatin is scarce and occurs in the form of granules. The flagellated organisms are sometimes spoken of as "spermatoids," while the larger non-flagellated bodies are denominated "ovoids." Fertilization of the elements is believed to occur in the system of the mosquito, while in man it is believed that they remain *sterile*.

On Aug. 27, 1899, Ross sent a telegram from Las Palmas, Africa, to the Liverpool School of Tropical Medicine, announcing that the complete life-cycle of the quartan parasite had been demonstrated on mosquitoes in the same manner as that of tertian and estivo-autumnal fevers. The genus *Anopheles* was used.

(To be Continued.)

SPASMUS NUTANS.*

BY I. A. ABT, M.D.

CHICAGO.

Spasmus nutans is a disease which was first described by Romberg[1] and Henoch[2], and which appears in the literature under a variety of names: head-nodding, rotatory and rhythmic spasms. Gyrospasm of the head is a term which Peterson[6] has applied to the rotatory variety of the disease. Two cases of spasmus nutans have come under my observation, which I desire to report.

Case 1.—B. R., aged 9 months, was sent to the Michael Reese Hospital, Feb. 15, 1898.

Family history: The father is living and well. The mother is a dwarf and has borne five children; two are dead; one is said to have died of pneumonia at the age of 11 months; the other, a male child, died at the age of 7 months, after an operation had been performed on its head for some disease the nature of which was not known to the parents.

Present disease: Five weeks before the child was admitted to the hospital, it fell from a high chair, cried immediately after having fallen, and continued to do so for about ten minutes. After this it resumed its play. On the third day after the injury it began to shake its head fore and back. The movements have continued almost incessantly since. These were sometimes interrupted when the child's attention was attracted, but the nodding very soon began again. The movement ceased during sleep. The movements of the arms and legs were free and co-ordinated, appetite good, bowels regular and sleep normal.

Physical examination: The patient was fairly well nourished, the skin pale and slightly icteric. There were no marks of trauma on the head, and the fontanelle was normal; the pupils were regular and reacted to light; there was no strabismus. After a prolonged observation it was noted that the child had a lateral nystagmus of both eyes. The face presented nothing abnormal. The examination of the pharynx and tongue was negative. The child had nodding movements of the head, which were almost continuous; at times, if it fixed on an object with both eyes, a slight rotatory movement of the head occurred soon followed by the usual nodding. The thorax showed, in its lateral portions, a slight depression. A rosary occurred on the ribs. The extremities showed a slight enlargement of the epiphyses, and plainly indicated the presence of rickets. The examination of the heart and lungs was negative, while the abdomen was protuberant; the abdominal organs presented nothing abnormal. The ophthalmoscopic examination revealed normal fundi.

The child remained in the hospital for six weeks, at the end of which time the movements had entirely disappeared. It was readmitted to the hospital ten days after its discharge, because it was suffering from acute gastro-intestinal catarrh; it recovered from this in a fortnight. During all this time the child did not show any return of the nodding spasms, but reported subsequently, at intervals for a period of six weeks, without any return of its trouble.

Case 2.—L. B., aged 9 months, was admitted to the Children's Ward of the Michael Reese Hospital, May 5, 1898.

Family history: The father is living, though he is voluntarily separated from his family. The mother is living and well. The patient is her only child.

Previous disease: The mother reported that the child had a purulent discharge from both ears three months ago. The ears were examined while the child was in the hospital, and no indication of an active suppurative process or any perforation of the membrana tympani could be found.

Present disease: Three months ago it was observed that the child made incessant rotatory movements of the head during its waking hours; also that it had nystagmus of both eyes. Arresting the attention sometimes caused a slight cessation of the spasms, though the movements occurred after a momentary pause with apparently new vigor, and proceeded as before. The nystagmus was horizontal in direction; it was continuous during the waking hours, save for momentary interruptions at short intervals, and occurred in both eyes. Bandaging the eyes or excluding the light seemed to stop the movement of the head for a short time. There was no strabismus; the ophthalmologic examination made by Dr. C. P. Pinckard showed both fundi normal. The child was unusually bright and active, and of excellent physical development, and remained at the hospital for forty-seven days.

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*Presented to the Section on Diseases of Children, at the Fiftieth Annual Meeting of the American Medical Association, held at Columbus, Ohio, June 6-9, 1899.

The physical examination, except the points already referred to, was negative.

Treatment: Bromid of soda was administered in 3-gr. doses three times daily, and the child nursed at the mother's breast, and placed under the best possible hygienic conditions. The child improved very much, though at time of its discharge it occasionally showed some rotatory movements of the head and slight nystagmus.

A disease which has been frequently confused with spasmus nutans is eclampsia nutans, or the saalam convulsions described by the older authors. West[3] says that children who are attacked with this disease bend the head and body slightly forward, a movement which is continued with great rapidity, sometimes twenty, fifty, or even a hundred times, and then ceases, but returns once or oftener every twenty-four hours. During the attack the child seems bewildered, but complete consciousness returns as soon as the movement ends. In addition to these attacks, there is a general failure of health and enfeeblement of the mental powers. The tendency of the disease is to pass into confirmed epilepsy. Soltmann[4] and Gerhardt[5], both of whom have written treatises on spasmus nutans, do not separate it from eclampsia nutans. Gerhardt distinguishes two varieties of the nodding disease, a mild and a severe form. The mild, he maintains, is a reflex spasm, and the severe form is due to some variety of meningeal irritation, though he adds that the precise pathologic anatomy is not known. The severe cases terminate in idiocy or epilepsy. The latter variety, it is obvious, is to be classified as cases of eclampsia nutans. In more recent times there has been a tendency to omit the term spasmus nutans from the nomenclature, and to describe the disease under a variety of other names. Thus Caille[12] describes "two cases of nystagmus associated with clonic movements of the head in rachitic babies." Peterson[6] reports five cases under the name of "gyrospasm of the head." Samuel Gee[7] describes the condition as "head-shaking in children," and Holt[8], under the name of "rotatory and nodding spasm of the head." W. B. Hadden[9] refers to the condition as "head-nodding or head-jerking." Dawson Williams[10], in a recent treatise on the "Diseases of Infancy and Childhood," speaks of "clonic spasm of the neck," which may be rotatory or lateral. Spasmus nutans, he erroneously remarks, is sometimes called eclampsia nutans. R. W. Raudnitz[11], in a very exhaustive monograph treating of this subject, retains the name spasmus nutans. This nomenclature has the advantage that it prevents the evercontinuous multiplication of terms to describe one and the same disease, and it also has a historic and clinical value in that it preserves for us a description of the earliest cases of eclampsia nutans with cases of spasmus nutans.

Head movements: The head may move at the rate of 80 or 100 times per minute, though the movements may be as rapid as 120 or 160 times per minute, particularly if the child be excited. The movements consist in oscillations from left to right or right to left. Peterson[6] reported five cases, all of the rotatory variety, and he described them under the name of gyrospasm. Of the 15 cases reported by Raudnitz[11], 5 showed nodding movements, 8 rotatory movements and 2 were of the mixed type, i. e., sometimes the rotatory and other times the nodding movements occurred. In 2 cases no movements of the head were noted. Frequently the first manifestation of the disease is a wryneck, and then this is followed by the head movements or the nystagmus. The onset of the disease in any case is gradual.

Caille[12] observed that the head movements cease when both eyes are bandaged. Raudnitz confirmed this observation in a number of his patients. He also observed that the wry-neck ceased when both eyes were bandaged. He found, in a certain proportion of his cases, that the movement ceased if one eye was bandaged.

The nystagmus: While there are cases of genuine spasmus nutans reported in the literature where nystagmus is said to have been absent, nevertheless recent studies teach that nystagmus is present at some time during the course of every case, though it may disappear before the involuntary head movements have ceased. The nystagmus may be present in one or both eyes. It occurs later than the other symptoms, and disappears, as a rule, before other spasmodic movements, though cases do occur where the nystagmus is the most prominent symptom. In regard to the direction of the oscillations of the eyeballs, we find that various combinations occur. Thus the movements may be horizontal in both eyes, or vertical in both, or the movement may be so arranged that vertical, horizontal and diagonal oscillations occur in the same eye at different times. The movement in one eye may be more marked than in the other, or the nystagmus may be absent in one. Peculiar temporary changes occur in the position of the eyes, adduction of one is frequent, abduction occurs less often. Spasmodic movements of the lids is of frequent occurrence, though excessive secretion of tears is seldom observed. Cases of strabismus have been reported by most observers. The fundus of the eye has been reported as normal.

Etiology: Much speculation has been indulged in as to the cause of this disease. The older authors disposed of the etiology by considering the condition to be of reflex origin; thus Henoch[2] attached great importance to dentition, but we know that the disease occurs commonly before the period of dentition, and also after the temporary teeth have appeared. Derangements of the alimentary canal have been considered the cause. Rickets is so commonly found associated with the disease that it has been rather generally regarded as bearing a causal relation to it. Raudnitz[11] found rickets present in 14 out of his 16 cases. Dickinson[13], Hadden[7] and Caille[12] offer corroborative statements.

Head injury not uncommonly precedes the disease, thus, in 3 of Hadden's cases and 2 of Peterson's, as well as in 1 of my own, the history of traumatism could be obtained. Holt[8] suggests that possibly the disease is a variety of cerebral concussion. B. Sachs[14] says that if the condition be developed in late years, it may be regarded as a habit, but if the movements begun in early infancy are associated with nystagmus, strabismus or idiocy, one need not hesitate to refer them to a cerebral lesion. The region of the cranial nerve nuclei, he says, would most probably be the seat of the trouble, and the lesion we must suppose to be irritative in character. Many facts in the clinical history of these cases would speak against this latter view. The fact that most of these children are vivacious and intelligent, and tend in a comparatively short time to make a spontaneous recovery would cause us to doubt the existence of a central lesion. And, again, nystagmus of central origin is accompanied by a train of other symptoms which have not been observed in the cases of spasmus nutans.

Caille[12] believed that the movements of the head were caused by the effort of visual fixation on the part of the child. Fixation is difficult on account of the nystagmus. To prove this he showed that if the eyes were closed by the application of a bandage, the head movements ceased. Raudnitz also believes that the head movements are due to the failure of the process of visual fixation. He confirms the experiments of Caille by bandaging one or both eyes, whereupon the head movements cease. But he goes a step farther than his predecessor, in that he attempts to explain the origin of the nystagmus. The nystagmus, he thinks, is caused by the residence of these children in dark and dingy dwellings. In two of his cases he was enabled to show that removal of the patients to light rooms caused the cessation of the entire process; he also suggests that the disease tends to relapse during the dark seasons of the year, and that not only are the dwellings dark, but also that the children spend the greater part of their time in their rooms and in bed, and that the facilities for artificial lighting are meager. To corroborate his findings he quotes a case recorded in the literature. A child of 9 months was amused by fastening playthings directly above the cradle; in consequence of this the child looked constantly up, and a vertical nystagmus resulted. The playthings were removed and the nystagmus ceased in about two weeks. Magnus[15] observed a child of 10 weeks who was kept in a dark room lighted by a gas lamp on which the child almost constantly fixed its vision. In a short time the child had nystagmus and blepharospasm. It was removed to a light room and prompt recovery took place. Spasmus nutans and nystagmus do not occur every time a child is kept in a dark room. The same is true of miners, of whom it has been shown that only 4 per cent. become afflicted with nystagmus. We conclude that some internal condition of the organism must be sought for in order that the nystagmus may be explained. Rickets being prevalent in a large proportion of cases, it is reasonable to believe that the disease acts by causing weakness of the eye muscles, and a general fatigue of the entire organism. Or there may be some defect in the visual function, or in the dynamics of the muscular arrangement of the eyes, which will permit a certain proportion of cases to become afflicted with nystagmus if the proper external conditions are present.

Prognosis: Spasmus nutans does not offer any danger to life, nor does it in itself visibly affect the general health; these children are usually bright and active; the disease does not exhaust the patient, and in the majority of cases no other nervous symptoms are present. Relapses are not uncommon. The duration of the disease seems to be three or four months on an average. One of Raudnitz's cases lasted twenty months, and the patient suffered a relapse later; the shortest duration in his series was four weeks. Henoch saw patients who were cured in one and two weeks.

Diagnosis: From what has been said concerning the symptomatology of the disease, it would seem that the diagnosis would present no difficulty, but the greatest confusion has prevailed concerning the diagnosis. As has already been stated, cases are described under the head of spasmus nutans, which are in reality cases of salaam spasm or eclampsia nutans. In these nystagmus does not commonly occur, and they terminate in irregular epileptic attacks and paralytic conditions. These children eventually become feeble-minded, and are to be considered as cases of epilepsy with some special cerebral localization.

Cases of congenital juvenile nystagmus which depend on some lesion of the nervous system or some defect or disease of the visual apparatus should be differentiated from the cases of spasmus nutans. Multiple sclerosis, hereditary ataxia, cerebellar tumors are diseases which may be accompanied by nystagmus, and would present little or no difficulty in diagnosis. Raudnitz has seen a case of tubercular meningitis diagnosed as a case of spasmus nutans, because of the nystagmus and of the convulsive movements of the head and extremities.

Treatment: Cases of uncomplicated spasmus nutans tend to make a spontaneous recovery. The condition of the general health should be ascertained, and tonics should be administered if indicated. If the child is rachitic, antirachitic treatment and diet should be instituted. Bromid of soda, either alone or combined with tincture of belladonna, undoubtedly exercises a favorable influence on the course of the disease. Mills[16] suggests the use of one minim of the fluid extract of conium. In view of the theory that the condition is allied to canine chorea, and in the light of the suggestion of H. C. Wood[11], that quinin has a controlling power over the choreic movements of the dog, Mills suggests that quinin be given in increasing doses to children suffering from this disease.

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ELECTRICITY IN DISEASES OF THE NOSE, THROAT AND EAR.*

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The application of electricity, which has been found so useful in medicine and surgery generally, has not been entirely neglected in the special department of ear, nose and throat diseases, and appliances more or less complete for its application may now be found in the office of every advanced laryngologist and otologist.

The use of electricity in diseases of the nose, throat and ear, not only in the treatment but also in the diagnosis and prognosis, has now become so extensive and varied that the limits of this communication will permit hardly more than a general survey over the field of electrotherapeutic progress. It is hoped, however, that this will not be without its points of interest.

As an illuminating agent, electricity still holds its own in this department, in spite of the Welsbach, acetylene and other lights that have been recommended. The yellowish light of the incandescent lamp does not give the natural coloring to the mucous membrane, as is the case with the Welsbach and other white lights. Our judgment of things in general, however, is always relative and we soon become accustomed to the abnormal coloring, and, in fact, do not realize it until we compare it with the appearance presented by the sunlight or the Welsbach burner. For the smaller lamp used in examining the accessory cavities, the incandescent lamp has not been replaced.

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*Read at the Annual Meeting of the American Electro-Therapeutic Association, Washington, D. C., Sept. 22, 1899.

The application of electric energy as a cauterizing agent is of the greatest value in rhinology and laryngology. For reducing hypertrophies and destroying tumors, the application of the electrocautery within the nose and throat is admirable. The instruments for applying the caustic effects may be carried, without harm, to the various parts of the nose and throat, and the application, completely under the control of the operator, may be commenced and ended at pleasure. When the chemical cauteries are used, in addition to the danger of applying them to parts for which they are not intended, it is difficult to limit the cauterizing effects, as the chemical combinations, which are started by the application of the chemical agent, continue for some time after the operation and can not always be stopped even by the application of a neutralizing agent. With the electrocautery this is not the case; the action is commenced when the current is admitted, and ceases when the circuit is broken.

The application of galvanism and faradism has not been developed in this department to the extent the importance of the process demands. In view, however, of the greater conservatism which is now manifested, this will probably come into more prominence in the near future. It is certain, however, that the subject will prove a fruitful field for further development.

I do not refer here to the application of galvanism and faradism in the treatment of paralytic and hypokinetic conditions of the muscles of the throat, as its value in this connection has been fully recognized; nor to its use in goiters, and Basedow's disease, in which electrotherapeusis is admitted to be of value. I refer more especially to the use in influencing vascular changes and correcting pathologic conditions in the nose and throat, in which electrotherapeutics is probably of great value, but in which it has been thus far but little used.

While the limits of this communication will not permit me to go into details in this connection, I can not but call attention to the value of galvanism in the treatment of so-called catarrhal affections. Not only is it founded on the most conservative principles, but it has given results which already give evidence of its efficacy and compare favorably with other procedures, this being high praise when we consider that the subject of scientific electrophysics and electrotherapeutics is almost a *terra incognita* to the majority of physicians.

This valuable method of treatment is applicable in what appears at first sight to be opposite conditions. Its stimulating effect in atrophic conditions, such as ozena, is so marked that when properly applied I consider it of more value than all other methods of treatment excepting cupric electrolysis, which, also founded on the application of electricity, adds the germicidal effects of the cupric salts to the stimulating effect of the application.

In congested conditions of the mucous membrane of the nose, which is probably present more frequently than all other pathologic conditions, a mild galvanic application stimulates the circulation by its tonic effects on the vasomotor nerves, and, unlike the effects of the electrocautery, is followed by a return to the normal condition without being dependent on the cicatricial tissue for restoring the normal patulency of the nostril. The principle of the application of galvanism and faradism in paralysis is so similar in this region, to that observed in other parts of the body, that it will be here necessary only to allude to its value in this connection.

Cataphoresis has been used in the treatment of goiter with fairly satisfactory results, although it still leaves much to be desired. It is useful in applying cocain to the ear for its local anesthetic effect. I have for some time also applied it in the treatment of sclerotic conditions of the middle ear, but my cases thus far have not been sufficient to justify my formulating any conclusion as to its therapeutic effects.

Electrolysis has been used in cases of fibroid tumors of the nose and throat, and has been considered by some to be superior to all other methods, as the great disposition to recurrence appears to be diminished in this method. Although but little used, electrolysis is an excellent substitute for the electrocautery in hypertrophies and other conditions for which the latter is used almost exclusively.

Several investigators have experimented in the application of galvanism to the auditory nerve for its diagnostic as well as for its therapeutic effect. The results have been by no means harmonious, although those who have had the greater experience in the application of electrotherapeutics believe it to be of value. The reaction of the acoustic nerve to electric excitation was first investigated in a scientific manner by Brenner, and afterward by Neftel, and more recently Gradenigo has followed up this line of research. This subject, however, is still in an embryonic condition, hence the incompleteness of electrotherapeutic methods in affections involving the auditory nerve or the internal ear. This subject presents a field which has been much neglected, but which will probably reward the intelligent research of men whose scientific training as well as medical knowledge has fitted them for this line of investigation.

Electricity affords a useful form of energy for operating various mechanical appliances used in the treatment of diseases of the nose, throat and ear. This refers especially to vibratory and pneumomassage, which have recently received considerable attention. In the treatment of diseases of the nose, vibratory massage is a useful substitute for the more heroic methods, and electricity has so much facilitated its application that it is now rarely used otherwise, especially on this side of the Atlantic. Pneumomassage is also a useful adjunct to the method of treating certain ear diseases and, while it will probably not fulfill the expectations of its most sanguine advocates, has given undoubted good results when used within its proper limitations. Here also electric energy has facilitated the method and made its application more exact.

Thus far, electricity in the department of the nose, throat and ear diseases has been used only for its simplest effects, such as the cautery and illumination, both of which may be used with little or no knowledge of the principles of electrophysics and electrotherapeutics. Even here, ignorance of the most elementary knowledge of the subject has placed many a physician in an embarrassing position. The methods which require a thorough understanding of the laws of electrophysics have been applied within narrow limits only, and they have even been condemned by physicians whose experience has given them absolutely no opportunity for judging of their value. It is to be hoped that some portion of the longer period of study which is now obligatory in all the advanced medical colleges, will be applied in teaching the principles of electrotherapeutics, so that the time will soon come when it will be given more attention, and so many physicians will be interested in the subject that it will receive the prominence which it deserves.

BASSINI'S OPERATION FOR RADICAL CURE OF HERNIA; SEVEN SUCCESSFUL CASES.*

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Ever since my association with the United States Navy, and especially my connection with its hospital practice, I have been impressed with the necessity of an operation which should be a radical cure for hernia, it being the opprobrium of both the army and navy medical service that so many enlisted men of both are discharged with this disability without any attempt at cure, due to the fact that the men decline operation—which they are permitted to do—because their attending surgeon could not promise them a cure, himself firmly believing that no operation could be performed which would ensure perfect ability to do duty. This has been the history of most cases in my operative experience of an earlier date, in which the operations of Wood and Wiitzer were the rule, which I early instituted in hospitals under my charge. But with the introduction of the operation of Bassini, a different result has been attained and it would now seem that we have a reliable operation, as free from danger as any that could be instituted, in the majority of cases really a radical cure, and presenting every probability of the enlisted men being returned to duty, in a sound condition, capable of performing any hard work involving strain, without danger of a recurrence of the hernia.

The reasons for performing this operation may be thus enumerated, and the advantages attained are: 1. For the physical betterment of the individual. 2. The saving of a life pension to the Government. 3. The retention in the service of valuable men, and men desirous of continuing in the navy and marine corps. 4. Under proper technic, the small percentage of recurrences—less than 1 per cent.—and trifling danger as regards life, in these otherwise fine physical specimens almost demand the operation as a duty. 5. The repeated drills in aseptic technic and its repeated accomplishment, inspire confidence in hesitating surgeons and will broaden their field of operative work generally. 6. The possibility of strangulation is made very remote.

OPERATIVE TECHNIC AND HISTORY OF CASES.

The usual preparations of dressing, patient, hands, instruments, etc., for aseptic work were taken. The wounds were kept as free from blood as possible by clamping vessels before they were cut. Some modification of Bassini's method was practiced. One or more sutures were introduced above the cord in the deep line. The cord and sac were separated, the latter opened, tied off high up, cut off and the stump put back into the abdomen. When no sac could be demonstrated, the component parts of the cords were identified and no tissue resembling a sac was seen. The conjoined tendon and Poupart's ligament were brought together with interrupted sutures of heavy chromicized catgut, one or two sutures placed above the cord as noted above.

The divided aponeurosis of the external oblique muscle was united over the cord with a continuous line of chromicized catgut sutures, and the skin edges adjusted with plain catgut. No irrigation was employed. The wounds were wiped out with warm normal salt solution. Catharsis was induced on the third day. The patients were kept in bed for three weeks.

During the first quarter of 1898, three cases were submitted to operation, with perfect results save in one case in which atrophy of the testicle occurred, due to acute epididymitis, and in a second, a congenital one, there was great difficulty in separating the sac from the cord, due to the inflammatory adhesions. A fourth case of incomplete indirect inguinal hernia easily reducible was operated on in the third quarter of the same year, and was completely successful, primary union of the incisions occurring on the fifth day. The remaining cases were operated on soon after the occurrence of the rupture in most instances, and were well fitted for the radical cure on that account. In some the hernias were little more than bubonoceles, and the intestine had not been extruded more than two or three times before operation. In some of these cases no sac could be demonstrated after careful searching.

CASE 1.—R. P. B., a landsman, aged 28 years, presented right oblique inguinal hernia which had been down but twice before operation, and said to have occurred as a result of lifting, three months before the operation. His general physique was excellent. The operation, April 19, 1899, was with ether, from which the patient reacted well.

No sac could be found, after a painstaking search. The post-operative condition was normal, the wound united by first intention, and the patient was under observation until June 3, when he was sent to duty, cured.

CASE 2.—A. A., an ordinary seaman, aged 49 years, presented left, incomplete, reducible inguinal hernia, said to have followed a strain induced by slipping on deck while carrying a heavy weight, about seven weeks before operation. His general condition was good. Operation was done on May 19, 1899, under ether, from which he reacted well. The sac present was removed. The post-condition was normal, and the wound united by first intention. The patient was under observation until August 5, when he was sent to duty, cured.

CASES 3 AND 4.—J. B. L., master at arms, 1st class, aged 35 years, presented double bubonocele. The hernias were said to have been first noticed after injuries received in the explosion of the *Maine*, fourteen months prior to operation. His general condition was excellent, and double operation was performed on May 19, 1899, under ether, from which the patient reacted well. The aponeurosis of the external oblique muscle on each side was extremely thin, and the transversalis fascia on each side was bulging forward. No sac could be demonstrated on either side. The post-operative condition was normal, the wounds united by first intention, and the patient was sent to duty, cured, on July 11.

CASE 5.—C. H. G., chief machinist, aged 35 years, presented left oblique inguinal hernia, reducible, said to have been first noticed after two days of "trying work on the feed pumps." His general condition was fair, and operation was performed on June 15, 1899, under ether, from which the patient reacted well. A dense sac was removed. The post-operative condition was normal. The wound united by first intention, and the patient is still in the hospital under observation. The result is perfect, and he is to be sent to duty shortly.

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*Read at the Annual Meeting of the Association of Military Surgeons of the U. S., Kansas City, Mo., Sept. 27-29, 1899.

This paper will also appear in the "Annual Report of the Surgeon General of the U. S. Navy."

Cases 6 and 7.—J. S., coxswain, aged 28 years, presented reducible oblique inguinal hernia on both sides. The right was said to have resulted from exertion on a boat davit, eighteen months before operation, and the left appeared one month before. Both have been continuously retained with trusses. His general condition was excellent, and double operation was performed on July 27, 1899. The patient reacted well from the ether. No sac was demonstrated on either side. The postoperative condition was normal, and the wounds united by first intention. He is still under observation, but the result is perfect.

The herniotomies that were recorded in 1898 were performed admirably, by Assistant-Surgeon James R. Whiting, U. S. N., a satisfactory conclusion resulting in each case; all the men having been returned to duty, and no relapse has as yet been reported in any case.

The herniotomies of this year were all performed by Passed Assistant-Surgeon Charles F. Stokes, U. S. N. —my executive surgeon—and I can not too earnestly commend his care and skill, and do honor to his admirable technic and successful result in every case.

VASOMOTOR SYSTEM, AND THE IMPORTANCE OF THE DRUGS WHICH ACT ON IT, IN OPTHALMOLOGY*.

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A study of the pulse and vascular tension is of the utmost importance to the ophthalmologist. Although clinical reports and practice show that while very slight local eye symptoms are noticed, yet how seldom is the pulse recorded, even previous to a cataract operation or during the crises of a glaucoma. It would be well if all oculists would always report the tension of the pulse with the same care, and use the same signs which are used in regard to the eye. The scale would thus run from + 3 to — 3.

Rolling the artery under the fingers with varying pressures, or carrying the skin along longitudinally over the vessel, will decide the tension as well as the inequalities of thickness and density.

Ewart, in a classical work on pulse sensations, has proved that the tension may be best noted by the amount of pressure that will cause the pulse impression to pass from the distal to the proximal side. Although tension is the one attribute of supreme importance in the pulse, there are at least four others that must be noted, frequency, size, the condition of the arterial wall, and the characteristic shape of the pulse curve; whether its access is gradual or sudden, its crest's duration long or short, its subsidence abrupt or slow; note being taken whenever it is dicrotic.

The great vasomotor system is controlled by both augmentor and inhibitory nerves to the heart; as well as the vasoconstrictor and vasodilator nerves to the vessels. The augmentor and vasoconstrictor nerves are largely associated in their course with the sympathetic system.

If it is essential to the oculist to be able to estimate the pulse tension, it is of more importance to be acquainted with the drugs that will control this tension. Inflammation causes a paralysis of the vasoconstrictors, and the area involved is swollen with sluggish and poison-laden blood which, pressing on the nerves, causes pain and further obstruction. The sensible thing is to bleed the patient into his own vessels so that the hyperemic area will be drained of the sluggish fluid. Vasodilators, such as aconite, are used in tonsillitis, and the result is better drainage and less pain in the diseased parts. There is not as much fever, ordinarily, in the inflammations of the eye as in the tonsil, yet the vasodilators, properly handled, will do a surprising amount of good.

There is need of such remedies as bromid of sodium, acting as a vasoconstrictor of the vessels of the eye and brain, and of aconite to dilate the general vascular system; also strychnin, the tonic and regulator for the nervous system, and which prevents any depression that is apt to follow the use of any vasodilator. Such remedies in addition to saline laxatives and the local use of eserin may obviate the necessity of an iridectomy in glaucoma.

Opium and potassium iodid are efficient vasodilators. Dr. George F. Butler says he uses five minims of the deodorized tincture of opium every four hours for months. The dose is so small, he says, that there is no danger of forming a habit. Potassium iodid, so often used in eye diseases with such good result, may be efficient, not that the patient is always syphilitic, but that the contracted vessels are dilated.

Hare gives a list of vascular depressants in the order of their efficiency; amyl nitrite, nitroglycerin, veratrum viride, antimony, aconite, alcohol in large doses and jaborandi.

Haig has shown how the xanthins and uric acid in the blood act as marked vasoconstrictors. This shows how sodium salicylate and mercury favor the dilatation of the vessels under such circumstances and prevent high tension.

Eyes operated on for cataract have the tension suddenly removed from the choroidal and retinal vessels. The wonder is that there are no more cases of disastrous hemorrhages after the operation.

Wide dilation of the trunk vessels, with contraction of the vessels of the brain by the bromids, is the best preventive, of which all such patients should have the benefit. It would be safer if all operations opening the eyeball had this preliminary treatment.

Bartholow states that nitroglycerin stands in the front rank of remedies for anemia, and that a much larger quantity of blood is obtained by the tissues, while the mere giving of iron is one of the most common of therapeutic fallacies of the day, because of the contracted vessels. Nitroglycerin is transient in its effects and ought to be given in broken doses of one-thousandth of a grain, often repeated. Sluggish conditions of the retina, like retinitis pigmentosa and optic nerve atrophy ought to have this treatment, and it promises the best results in such delayed conditions as slow corneal repair after cataract extraction. Strychnin will be added to this, because it prevents side-tracking of the waste material and venous blood. Its tendency is to balance-wheel the body mechanism in all its parts, following an inflammation or a degeneration. It is like replacing the telegraph lines after a storm. It increases connections. The rule again is broken doses often repeated and effects carefully watched.

Atropin dilates the vast cutaneous system, and is thus one of our most efficient remedies for internal bleeding from nasal or other internal organs. As it dries up glandular secretion, it is suitable in bleeding from mucous membrane or internal glands. As to pilocarpin, experiment proves that it acts by paralyzing the vasomotor system. The increased action of the heart and flushing of the skin is due to the dilation of the arterioles. DeWecker has shown how it brings about absorption and resolution in inflammatory eye diseases with effusion and exudation. DeSchweinitz has also shown its wide field of usefulness if used in broken doses.

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*Presented to the Section on Ophthalmology, at the Fiftieth Annual Meeting of the American Medical Association, held at Columbus, Ohio, June 6-9, 1899.

In albuminuric retinitis and allied conditions, the salvation of the retina, as well as the life of the patient, may depend on the reduction of tension by the general dilation of the vascular system.

INTRANASAL ANGIOMA: BLEEDING POLYPUS OF THE SEPTUM.*

BY W. E. CASSELBERRY, M.D.

Professor of Laryngology and Rhinology in Northwestern University
Medical School; Laryngologist to St. Luke's and
Wesley Hospitals, etc.
CHICAGO.

A typical *angioma simplex* is composed of newformed, very tortuous blood-vessels, held together by a small amount of connective tissue and situated usually in the skin, e. g., nevus. The normal vessels of the part where it is situated may enter more or less into its formation, becoming dilated and tortuous, and it has therefore become customary to include in the class of angiomata tumors composed entirely of dilated preexistent vessels, although the term telangiectasis or telangiectoma is by some preferred to this sort of angioma where dilatation is more prominent than actual new formation.

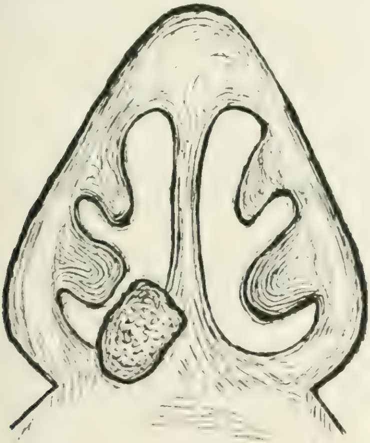

FIGURE 1.

A typical *angioma cavernosum* is composed chiefly of blood spaces lined with endothelium, separated by a stroma of connective tissue. The spaces contain venous blood, but seem to represent capillaries, being interposed between arteries and veins. The structure is similar to that of the corpus cavernosum. Such are often found in the liver.

The vascular tumors which grow on the septum narium do not conform exactly to either of these types. They contain both blood-vessels and blood spaces, thus far representing rather a combination of the two types, and they contain also a larger proportion of reticular connective tissue, with either round or spindle cells. In some this reticulum has a fibrillary character justifying the term angiofibroma. Among themselves, however, as occurring in this situation on the septum narium, they do present a tolerable uniformity of structure, the differences being variations in degree rather than of kind and, as their salient characteristic is extreme vascularity, they are best grouped under the term "intranasal angioma." The condition is exemplified in the following case:

Mrs. T., aged about 30, married, pregnant, has been annoyed for the past few months by frequent bleeding from the right nostril, and gradually increasing obstruction. Examination disclosed a soft, reddish, irregularly nodulated tumor the size of a small bean, attached by a rather broad pedicle to a small excrescence of the septum at the point of junction of the cartilaginous segment with the septal process of the superior maxilla, (Fig. 1) just within the nostril and close to the floor. It bled easily on contact with a probe. I removed it with a cautery snare and cauterized the base with chromic acid. Three weeks later one small vascular point, still unhealed and disposed to bleed, was again cauterized with chromic acid. There has been no recurrence for two years. The microscopic examination, made by Dr. R. H. Harvey, shows the tumor to be composed largely of blood-vessels and blood spaces. The blood-vessels vary in size and most of them contain more or less blood. Some are collapsed. The blood spaces are partly lined with epithelium. Between these vessels and spaces is connective tissue in which are numerous round and young connective tissue cells. On one edge of the tumor is a remnant of mucous membrane. The diagnosis is angioma. Microphotographs of sections under high and low power are appended (Figs. 2 and 3).

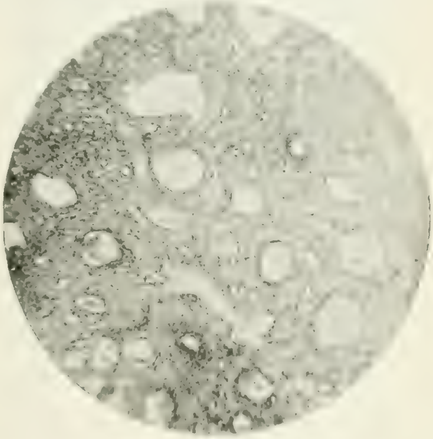

FIGURE 2.

I can not think that these tumors are as rare as has been represented, although they have attracted little notice until recently, when, following Victor Lange[1] in 1892, papers have appeared by Schadewaldt, Alexander, Sheier and Heyman, all in the *Archiv für Laryngologie und Rhinologie* (Band I, 1894) under the title of bleeding polypus of the septum. Their detailed pathologic descriptions tally so closely with each other and also with that of my own case as above given, that they must all be the same sort of tumor, notwithstanding one is spoken of as soft fibroma, and another showing some glandular tissue as lymphangioma telangiectaticum. Since then Pierce[2] has reported a case under the name of telangiectoma the microphotograph of which seems to be identical with mine except that spindle cells are more prominent in the stroma than round cells. Cobb[3] in 1893, reported a case under the name of cavernous angioma, described as growing from the septum with large vascular sinuses and round cells in the stroma. He cites several cases from the earlier literature, but some of them are confused with other neoplasms, e. g., sarcoma.

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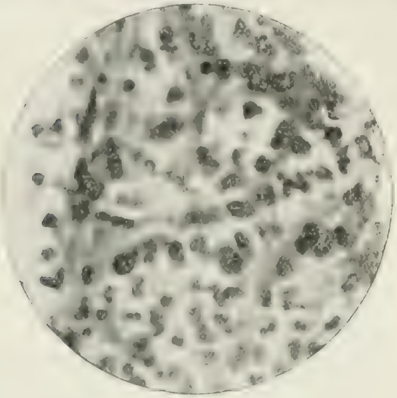
*Presented to the Section on Laryngology and Otology, at the Fiftieth Annual Meeting of the American Medical Association, held at Columbus, Ohio, June 6-9, 1899.

I estimate that thirty or more bona-fide cases are reported, excluding those in which there was a sarcomatous element or in which they were simply vascular polypi growing from other situations.

The exact site on the septum has varied, but all were toward the anterior part and several at the base. The size is from that of a pea to a hazel-nut; if much larger one should strongly suspect sarcoma. The surface is nodulated or furrowed, but may be smooth, the color a mottled blue or red, and the pedicle either narrow or broad. The salient symptoms are hemorrhage and obstruction. They show little tendency to recurrence if thoroughly removed. They are more frequent in females than males, in the proportion of 3 to 1. Sarcoma should be excluded by careful microscopic examination.



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Cavernous angioma is also described[5] as occurring on the anterior and median portions of the inferior turbinated body. In this situation one must avoid confusing mere hyperplasia of the normal cavernous structure with a neoplasm, although the latter does occur and the illustration and pathologic descriptions given by Schwager[4] show it to conform closely to angioma as it occurs on the septum.

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3. Cobb: Trans. Pan-American Med. Cong., 1893, vol. ii, p. 1540.
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WITH THE January number, the *Woman's Medical Journal*, Toledo, Ohio, enters on its tenth volume. It shows every evidence of prosperity in its new cover, improved paper, new type and general make-up. The editorial staff has been enlarged, and Dr. Eliza H. Root assumes active editorial management. We congratulate the *Journal* and its readers, and wish it continued prosperity.

A CASE OF CARCINOMA OF THE NASAL PASSAGES.*

BY J. L. GOODALE, M.D.

BOSTON.

Mr. J. A. S., a commercial traveler, 51 years of age, was referred to me by Dr. F. E. Cheney of Boston, June 4, 1898

Previous History.—For thirty-three years the patient had had nasal polypi removed at regular and frequent intervals from the left nasal passage, by various physicians, and within the past few years also occasionally from the right side. Otherwise the health had been good. There was no evidence of syphilis.

Present Illness.—Six months ago the polypi on the left side were said to have become firmer and their removal attended with more bleeding than formerly. The left eye simultaneously became painful and began to exhibit protrusion from the orbit. A progressive impairment of flesh and strength was observed.

Examination.—He was well developed and fairly well nourished. The right nasal passage contained a few small polypi; the left was nearly completely filled with small and large masses, all having the appearance, clinically, of ordinary polypi, with the exception of a pale red mass, the size of an almond, springing from the region of the infundibulum, of firm consistence and adherent in places both to the septum and the external nasal wall. After breaking down the adhesions, the greater part of this mass was removed with the cold snare. The hemorrhage was moderate and easily controlled.

Microscopic examination was made by Dr. J. H. Wright, pathologist to the Massachusetts General Hospital, and showed the specimen to consist "essentially of connective tissue inclosing numerous groups and masses of moderate-sized, vesicular, nucleated cells, closely packed together. The connective tissue is in places dense and fibrous, and other places it is loose and presents the appearances of the reticular tissue of nasal polyps. Here and there in the midst of the connective tissue small irregular islands of atypical bone tissue are present. Diagnosis: carcinoma."

Owing to the extent of the disease, a radical operation was not advised. During the next few months a large amount of carcinomatous tissue was removed intranasally. Recurrence was rapid, and the impairment of flesh and strength became continually more apparent. The exophthalmus became extreme, and the pain in the orbit required several grains of morphin daily. There was no evidence of the disease invading the structures of the eye.

The death of the patient was reported to me as occurring April 19, 1899. The history of malignancy thus extended over a period of fifteen months.

REPORT OF A CASE OF ECHINOCOCCUS CYST OF THE NOSE.*

BY W. K. ROGERS, M.D.

COLUMBUS, OHIO.

The subject of this report, Mrs. W. M. S., was referred to the writer by Dr. Hatch, of Newark, Ohio, April 29, 1895, for the removal of what seemed to be a rather large fibroid polypus nearly filling the vault of the pharynx. It was attached to the septum, on the left side, near its posterior extremity, and nasal breathing could not be accomplished. Growing from a point near the posterior extremity of the left middle turbinated body was another tumor about one-half an inch long and one-quarter of an inch thick, much softer, and differing in no way from an ordinary mucoid polypus in appearance. Both were removed; the former by means of forceps, through the mouth, and the latter with a cold wire snare through the nose. The stump of each was touched with a galvanocautery point, and under Dr. Hatch's care the surfaces healed satisfactorily.

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*Presented to the Section on Laryngology and Otology, at the Fiftieth Annual Meeting of the American Medical Association, held at Columbus, Ohio, June 6-9, 1899.

On account of the rather unusual firmness of the pharyngeal mass, it was subjected to microscopic examination, but found to consist of nothing unusual. The tumor from the turbinated body looked so commonplace that nothing was thought of it, and it escaped examination.

The patient was subsequently seen two or three times in as many months, without any sign of recurrence being noted.

On Dec. 9, 1897, two years and eight months after the operation, the patient again called, having for some time observed evidences of obstruction. She stated that two months prior to this visit a violent effort to get rid of the stoppage, by blowing the nose, had resulted in its disappearance, and the expulsion of a considerable amount of almost clear straw-colored fluid. The relief was only temporary, and examination showed what again looked like a mucous polyp, rather softer than usual, and evidently containing fluid. Its attachment, as nearly as could be made out, was the stump of the original growth in the nose—not the fibrous mass in the pharynx. During its removal with a cold wire snare—through the nose—it was ruptured, so that its size could not be accurately estimated. It was at least as big as a large almond, single, and irregular in shape. A microscopic examination showed that the walls contained numerous echinococcus hooklets. The stump was cauterized as before, and two years later there had been no recurrence.

It may be of interest to note that careful inquiry failed to elicit any evidence of intestinal parasites. The patient was under 34 years old, and in good general health.

I believe a similar case was recorded in Sajou's Annual some years ago, but I have been unable to find the account, and it is the only other case of which I have heard.

CONTRIBUTIONS OF THE MEDICAL PROFESSION TO GENERAL LITERATURE AND COLLATERAL SCIENCES.*

BY GEORGE R. HIGHSMITH, M.D.
CARROLLTON, MO.

This is an age of progress, in which the genius and untiring labor of the philosopher, the scientific thinker and the patient investigator have laid broad and deep the foundations for a higher and happier civilization than the world has hitherto known. There has been an intellectual advancement, a moral uplifting, an ethical awakening, and a quickening of perception, which have led to the proper recognition of the duties and responsibilities of an enlightened citizenship. A broader and truer imperialism has been inaugurated; intellectual expansion has become a fixed policy of the entire profession, and the dream of happiness, through fraternity, freedom, justice and humanity seems to be realized.

There never was a time in the history of the world when knowledge was so easily accessible, and so eagerly sought after by the entire profession. The plodding country practitioner, located at the cross-roads, is as near the "springs of Helicon," and drinks as deep as his city brother. There never was a time, in my opinion, when the individual influence of the physician was greater; there never was a time when the future of the medical profession was brighter with promise. The history of medicine is the history of progress in all departments of learning.

It was not until about the middle of the seventeenth century that the clerical element was divorced from medical circles. In fact, for some time after, in looking up the individual history of the physician, one is struck by the frequency with which the study of theology is referred to as a preliminary to the study of medicine. Many men who became eminent as medical practitioners were originally intended for the church.

About the time of Charles II of England, the medical profession first began to hold a place in general literature. About this time the so-called "wits" began to be the fashion. A man was nothing if not a wit, and if he had a reputation for wit he could be a drunkard, gambler and libertine combined, without losing his place in the court circles of Charles II. Every age has had its wits, but they were so numerous then as to distinguish the era by a special brilliancy, and the periods most abounding in them have been those most free from wars or other active political disturbances. The early period of the Augustan age, the Restoration and the commencement of the Hanoverian dynasty have all been enlivened by wits, who came to light like mushrooms after a storm of rain, as soon as the political horizon was clear. These men were the offspring of the particular times in which they figured; at earlier periods they would have been considered effeminate—at later, absurd. About this time clubs and coffee houses were inaugurated. Among the physicians who ranked as wits, and who obtained a reputation in literature were Walter Charleton, Sir Samuel Garth and John Arbuthnot. Walter Charleton, 1619-1707, was physician to Charles II, and president of the College of Physicians, London. He was the author of "A Brief Discourse on the Different Wits of Men," in which he attributes the varieties of talents among men to the difference in the form, size and qualities of their brains. He also was a writer on theology, zoölogy, physics and antiquities. He translated the "Morals of Epicurious."

Sir Samuel Garth, 1670-1718, was a man of great wealth and learning. He became a member of the College of Physicians, London, in 1691. He was the first physician of prominence to advocate the establishment of free dispensaries for the poor. By this he gained the animosity of the College of Physicians, in consequence of which he published "The Dispensary," a mock heroic poem in six cantos, which was an instant success, passing through three editions the first year. He published "Claremont," a moral epistle in verse. He was a very genial character; "Well Natured Garth," Pope called him. Pope also said that he was "as good a Christian as any man living, without knowing it." Dr. Garth was a member of the famous "Kit-kat" Club, to which he gained admission by reason of a eulogy on King William, introduced into his Harveian oration in 1697. It was Garth who extemporized most of the verses inscribed on the drinking cups of the "Kit-kat" Club, and which are preserved to this day. Dr. Garth was the principal physician of the Whigs, and physician in ordinary to the King; he followed the Duke of Marlborough through all the vicissitudes of his career; was knighted by George I. in 1714, with the Duke of Marlborough's sword, and delivered the oration at the funeral of the poet Dryden.

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*Address of the President delivered at the Forty-second Annual Meeting of the Missouri State Medical Association, held at Sedalia, May 17-19, 1899.

John Arbuthnot, 1667-1735, took the degree of M.D. at the University of Aberdeen, and immediately went to London for the practice of medicine. In 1704 Prince George of Denmark was taken suddenly ill; Dr. Arbuthnot, being near at the time, was called to attend him, and afterward continued to be his physician. In 1705, at the request of Queen Anne, he was made her physician-extraordinary, and four years later was made royal physician-in-ordinary. He was now in the very center of the literary society of the time, and his great talent, massive learning and brilliant wit enabled him to take a prominent place. He was on intimate terms with Pope, Gay, Swift and Parnell, and he quickly became one of the foremost literary men of the Tory party. In 1712 appeared the celebrated political allegory, called "The History of John Bull;" it is from this that the term "John Bull" as applied to the English nation was derived. At the time this work appeared it was generally attributed to Swift, but passages in Swift's own letters make it quite sure that Arbuthnot was the sole author. He belonged to the "Scriblerus Club;" the first book of the "Memoirs of Martinus Scriblerus," published in Pope's works, is undoubtedly the work of Arbuthnot; it is an admirable combination of wit and learning, and is considered one of the finest specimens of sarcastic humor in the English language. Arbuthnot continued the practice of medicine as long as he lived, although at the death of Queen Anne he lost his place as court physician. He attained great eminence in his profession and in 1727 delivered the Harveian oration.

Among physicians who contributed to general literature and science during this period, and who do not belong in the class of wits, were Sir Thomas Browne, Henry Vaughan and Sir Richard Blackmore.

Sir Thomas Browne, 1605-1682, was the most learned physician, and the most prominent literary man of his time. He took the degree of B. A. at Broadgate Hall, Oxford, in 1626, and the further degree, M. A., in 1629, then studied medicine and practiced in Oxfordshire. About 1633 he left England and traveled through Ireland, France and Italy, and on his way home received the degree of M. D. at the University of Leyden. In 1642 he published "Religio Medici," or "The Religion of a Physician." Its success was very great and the author at once became celebrated as a man of letters. In 1646 he published "Pseudodoxia Epidemica," or "Enquiries into Vulgar Errors." In 1658 appeared "Urn Burial" and the "Garden of Cyrus." In 1651 he was knighted by Charles II. His form of thought is peculiar and remarkable, and his style unique, rich with a lavish use of metaphor and allegory. His "Religio Medici" is considered his best work, his "Vulgar Errors" shows great research; but the whole strength of his genius, and the wonderful charm of his style are to be found in "Urn Burial," the concluding chapter of which, for richness of imagery and majestic pomp of diction can hardly be paralleled in the English language, unless it may be in the sublime passages of Milton's prose.

Henry Vaughan, 1621-1693, was born in Wales, but studied medicine in England and practiced for the most part in London. He published a volume of poetry before he began the study of medicine. He began to practice medicine at 28 and continued in it as long as he lived. He wrote "Mount of Olives," a mystic prose work; but is best known as the author of the poems, "The Retreat," "The World," and "Beyond the Veil."

Sir Richard Blackmore, 1650-1729, was educated at Westminster and Oxford, graduated in medicine at Padua, and settled for practice in London. In 1697 he was chosen one of King William's physicians, which office he held for some time. Blackmore had a passion for writing epics; no fewer than seven being published between 1695 and 1723; "Prince Arthur" in 10 books; "King Arthur" in 12; "Eliza" in 10; "Creation" 7; "Redemption," 6; "Nature of Man," 3; and "Alfred" in 12. Addison and Johnson praised him highly, Johnson saying that "his name would be transmitted to posterity as the first favorite of the English muse."

During the first half of the eighteenth century physicians began more and more to attach themselves to political parties, or court favor and patronage of men of rank. The Whig and Tory parties each had their physicians, as well as each club and coffee house. By the middle of the eighteenth century, most of the physicians and surgeons of the better class had either assumed offices and positions in which they were supported by the state, or were settled by their noble patrons in permanent residences. Some of them were supplied with large libraries, either by their patrons or by the government, and most of them enjoyed moderate prosperity.

Intellect had marched forward with gigantic strides, among writers wit had, in a measure, given place to satire. Dr. John Armstrong and Dr. Mark Akenside held the boards as contemporaries of Oliver Goldsmith, Tobias Smollett, Horace Walpole, Richard Brinsley Sheridan, David Garrick, Samuel Johnson, *et id omne genus.* Clubs and coffee houses were still a prominent feature of literary and scientific circles, but the character of the company had changed; there was a mingling of aristocracy with talent, the blending of ranks by force of intellect; the assembling not only of all the celebrities that Europe could boast, but all from the whole civilized world that could enhance private enjoyment; company was not selected for rank, but for peculiar merit or acquirements; pomp and wealth were made subsidiary to the true luxury of intellectual conversation. The famous literary club of which Johnson was the autocrat was at its zenith.

John Armstrong, 1705-1779, graduated at the University of Edinburgh and soon afterward settled in London. In 1746 he was appointed one of the physicians to the hospital behind the Buckingham House, and in 1760, physician to the army in Germany, which appointment he held until the peace of 1763. His first publication, "An Essay for Abridging the Study of Physic," was published in 1735. It was a satire on the ignorance of the apothecaries and medical men of his day. Two years later he published "The Economy of Love," the indecency of which very much damaged his professional practice. In 1774 appeared his "Art of Preserving Health," a didactic poem on which his reputation as a literary character rests. He also published about this time, a volume of "Miscellanies," which displays considerable humor and powers of observation.

Mark Akenside, 1721-1770, author of "Pleasures of Imagination," was the son of a butcher. In his nineteenth year, being intended for the church, he entered the Theological School of the University of Edinburgh, but like many young men of his time, he changed his mind and transferred from the theological to the medical department. In 1740 there was organized a medical society and debating club combined. Akenside became a member, and Dugald Stewart says that Robinson, the historian, used to attend in order to hear Akenside's speeches, so famed was he in oratory.

In 1743, the publisher Dodsley came to Pope for his opinion, with a bundle of manuscript for which the writer wanted £120. After reading the manuscript, which was "Pleasures of Imagination," "the oracle of Twickenham" advised the publisher to make no niggardly offer, as this was no "every-day writer." In his 23d year, like Byron, he awoke and found himself famous. He went to Leyden and pursued his medical studies with ardor, and in 1774 obtained the degree of M. D. His thesis describing the formation and growth of the human fetus was characterized by originality and acute observation. In 1773 the University of Cambridge bestowed on him the degree of Doctor of Medicine. In 1754 he was elected Fellow of the College of Physicians; in 1775 he delivered the Goulstonian lectures; in 1756, the Croonian lectures; in 1759 he was chosen chief of St. Thomas Hospital, and in 1760 he delivered the Harveian oration. In 1761 he changed his politics from Whig to Tory, which added "renegade" to his name. He was a man of great personal vanity, which often brought him into ridicule. Akenside furnished the original from which the doctor in Smollett's "Peregrine Pickle" was drawn. His fame as a poet is secure; some of his minor poems are characterized by a classic grace and charm of expression.

Passing to the latter half of the eighteenth century and the first half of the nineteenth, we find a long list of those who have enriched literature and science by their contributions. Among the illustrious names of this period we find Erasmus Darwin, Henry Dearborn, James Currie, John Wolcott, Thomas Brown, James Gates, Percival and Charles Lever.

Erasmus Darwin, 1731-1802, physician, scientist and poet, took the degree of M.D. at the University of Edinburgh, and settled as practicing physician in Litchfield, England, where he gained a large practice. While here, it is said, he did much to diminish drunkenness among the inhabitants; he is said to have been a good eater but drank nothing except water. In 1781 he removed to Derby, where he spent the remainder of his life. He wrote "The Temple of Nature," "The Shrine of Nature," and "The Botanic Garden," the second part of which, "The Loves of the Plants," furnished the occasion for Canning's clever caricature, "The Loves of the Triangles." He was also the author of a scientific work, "Zoonomia," which contains a system of pathology, and a treatise on generation, in which very nearly the same ideas are advanced as underlie the modern theory of evolution. Erasmus Darwin said: "Would it be too bold to imagine that in the great length of time since the earth began to exist; perhaps millions of ages before the commencement of the history of mankind; would it be too bold to imagine that all warm-blooded animals have arisen from the same living filament, which the great First Cause endued with animality, with the power of acquiring new parts, attended with new propensities, directed by irritations, sensations, volitions and associations, and thus possessing the faculty of continuing to improve by its own inherent activity, and of delivering down these improvements by generation to its posterity, worlds without end, . . . and that one and the same kind of living filament is and has been the cause of all organic life?" May not Charles Darwin be more indebted to his illustrious grandfather, who did his writing and thinking as he journeyed from one patient to another, than many of us suppose? May not his love of nature and his capacity for investigation and the facility with which he classifies facts and formulates theories, be partly at least due to the hereditary transmission of genius? How much may Huxley, Tyndall, Spencer, Haeckel, Helmholtz and other apostles of evolution be indebted to this modest practitioner of medicine? When we take into consideration the poverty of the English language at that time, especially in scientific terms, how much difference in the meaning exists between the above quotation from Erasmus Darwin and Tyndall's expression: "One single atom of protoplasm contains the power and potency of all things?" The poetical reputation of Darwin was as bright as the plants and flowers which formed the subject of his verse. Cowper praised his song for its rich embellishments, and said it was "as strong as it was learned and sweet."

Henry Dearborn, 1751-1829, was a practicing physician in Portsmouth, N. H., at the beginning of the American Revolution. Immediately after the battle of Lexington he raised a company of sixty men and joined the American forces at Cambridge. He continued in the army until the close of the war, and was mustered out with the rank of general. He then returned to his practice, but was soon made marshal of the district of Maine. The remainder of his life was spent in office; he was Secretary of War from 1801 to 1809; he served two terms in Congress, and was minister to Portugal from 1822 to 1824. His literary work consists of official reports in the several capacities in which he served, and are said to be models in a literary sense.

James Currie, 1756-1805, was born in Dumfriesshire, Scotland. Being destined for business, he was sent at an early age to the colony of Virginia in America. In consequence of having written a series of letters to an American journal, over the signature of "An Old Man," in defense of the "mother country," he found it would be more comfortable for him to return to Scotland, which he did in 1776. He at once began the study of medicine, and in 1780 took the degree of M.D. at Glasgow. He settled at Liverpool for practice, and in 1783 was elected physician to the infirmary. Among Currie's literary works may be mentioned a Tory pamphlet signed "Jasper Wilson," which ran through several editions, and "Medical Reports on Effect of Water, Cold and Warm," etc. But he is best known as the editor of an edition of Burns, with an introductory criticism, and an essay on the "Character and Condition of the Scottish Peasantry."

John Wolcott, 1758-1819, with the pseudonym "Peter Pindar," received the degree of M.D. at the University of Aberdeen in 1767. In 1769 he accompanied Sir William Trelawny, who had been appointed governor of Jamaica, to the West Indies. On the death of his patron, in 1772, he returned to England and settled as a physician at Truro. In 1781 he gave up the practice of medicine, removed to London, and turned his whole attention to literature. His special *forte* was satire, and George III was his favorite subject for ridicule. He wrote "Lousiad," "Peeps at St. James," and the "Royal Visit to Exeter," in the last of which he depicts the king's wonder as to how the apples got in the dumplings. He ridiculed "Boswell's Life of Johnson" in an "Epistle to Boswell," and in "Bozzy and Piozzi." In 1795 he disposed of all his works to the book-sellers, for an annuity of £250 a year. His satires are said to have had such an effect on public opinion that he was offered a pension by the ministers of the government if he would refrain from further ridicule of the king. His humor was broad and deep, and he was endowed with wonderful facility of expression.

Thomas Brown, 1778-1820, was a Scotch psychologist, physician and poet. He began the practice of medicine in 1806. In 1809 he obtained a professorship in Edinburgh, in the University, and he lectured on mental and moral philosophy. He is said to have been a very fascinating lecturer. His mind was quick and active, and there was not one of his lectures which did not contain some new doctrine, or some new and striking application of the old. He died at the age of 42. What a mind of such subtility and fertility might have accomplished had the thinker been spared a little longer, it is hard to say. His best poem is "Paradise of Coquettes." His poetry shows delicacy of touch, fineness of feeling and sweetness of diction.

James Gates Percival, 1795-1856, was a native of Kensington, Conn., graduated at Yale in 1815, at the head of his class, taught school for a while, then studied medicine and located in Charleston, S. C. In 1824 he was appointed assistant-surgeon in the United States Army, and was made professor of chemistry at the U. S. Military Academy. In 1822 he published "Prometheus," and "Clio;" in 1826 two volumes of poetry, and in 1843 his "Dreams of a Day." In 1854 he was appointed geologist of Wisconsin, in which office he died two years later.

Charles Lever, 1806-1872, obtained a degree at Trinity College, Dublin; later he studied medicine and received the degree of M.D. at Goettingen. He then visited the United States, where, it is said, he sojourned among the Indians, adopting their dress and mode of living. He practiced medicine at Kilrush, County Galway, and other places in Ireland. He then went to Brussels with a letter to the secretary of the English legation; although not formally appointed, he acted as physician to the legation for some time. He early began to write and publish short stories, according to his statement, not with any hope of becoming celebrated as a literary man, but with the view of securing attention and gaining friends to further his success as a physician. These short stories were afterward utilized for many of the principal incidents in his successful novels, especially "Harry Lorequer," "Charles O'Malley," "Con Cregan" and "The Knight of Guynne." In 1842 he retired from the practice of medicine and devoted the remainder of his life to literature. Lever always claimed that all his characters were drawn from life, in many instances taken from his most intimate associates. In 1858 he received a government appointment and continued in office as long as he lived.

To be Continued.

Clinical Report.

REPORT OF RECOVERY FROM TRAUMATIC TETANUS.

BY L. B. VAN CAMP, M.D.
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OMAHA, NEB.

As the percentage of recoveries from tetanus is exceedingly small, a report of the treatment and successful recovery of a patient, afflicted with a most severe siege of the disease, may be of interest.

On Sept. 9, 1899, a German farmer boy, aged 15 years, was brought to the Douglas County Hospital, exhibiting most severe symptoms of lockjaw. His history, as given by him, was as follows: Three weeks previously, while working on a farm, he had received a cut with a corn-knife, between the first and second toes of the right foot. He complained of nothing for ten days after the injury. At noon on the eleventh day, while at the dinner table, he found that he could not completely close his lower jaw. His condition grew worse and, on the fifteenth day after the injury, he was seized by a severe chill followed by a violent contraction of the muscles of the back, causing him to fall on his face, and rendering him unable to rise.

He was sent to this hospital, where he came under my observation. He was then having a paroxysm every five minutes and even oftener on the slightest provocation, as for example, a footfall or the entrance of anyone into the room. His abdomen felt like a board, his whole body was rigid, there was, in a word, orthotonos. He had also the risus sardonicus, his temperature was about 101, his pulse 96, and he was very constipated. I ordered him thoroughly bathed in warm water, and placed in a dark room, where he could be kept quiet. As the slightest noise caused him to have a paroxysm, he was kept under the influence of morphin sulphate, as well on this account as because he complained of severe pain in the back at each paroxysm. Hyoscin hydrobromate and potassium bromid were also used, but with an unsatisfactory result. His constipation was overcome by calomel followed by a saline, or, when these remedies failed, by an enema. The principal treatment consisted, however, of the injection of tetanus antitoxin. On the first day at the hospital, which was the third day of paroxysms, I injected 10 c.c. of the antitoxin hypodermically between the scapulæ. The following day there was very little improvement, so 10 c.c. more was injected into the lumbar region. On the third day there was some improvement—the paroxysms were not as frequent or as severe. Opisthotonos, which was well marked from the beginning, still prevailed. Morphin hypodermically was still resorted to for allaying the pain and controlling the paroxysms.

On the fourth day after the first injection, there was considerable improvement; the patient could open his mouth a little for the first time since he had been in the hospital. The paroxysms were growing less frequent and less severe. The antitoxin was again administered in the lumbar region. On the fifth day there was a decided improvement—the mouth could be opened half way, the paroxysms were less painful, and occurred not more than two or three times in an hour. Another 10 c.c. of the antitoxin was administered—making in all 50 c.c. On the sixth day the symptoms had so far ceased that another injection was deemed unnecessary. The patient was now able to take nourishment, which was of a liquid form at all times, without the use of a rubber tube, which had been used previously, when his mouth was within an eighth of an inch of being entirely closed. On the tenth day after the first injection, he was able to sit up in bed; and on the fifteenth day after the antitoxin was first given he was discharged from the sick ward.

Closure of Abdomen.—Montgomery, in the *Medical Age* for Dec. 25, 1899, advocates suture of the separate layers in abdominal operations, to guard against ventral hernia occurring. He first introduces a continuous catgut suture of the peritoneum, then passes interrupted silkworm gut sutures through the overlying tissue, these also passing through the projecting edges of the peritoneum between the suture introduced. A continuous catgut suture is used to coaptate the edges of the aponeurosis, and then the skin sutures are tied, but not tightly enough to produce great tension. The cut ends of the latter are left three or four inches long and, while they are held up, a wet bichlorid dressing is applied over the wound and around the sutures. Left this length, they act as drainage, where a little oozing occurs; they also facilitate removal.

Therapeutics.

Rational Treatment of Delirium Tremens.

The treatment of delirium tremens, as practiced by many physicians, is far from satisfactory, and he who will look up various authorities for light on the subject will be puzzled and bewildered by many conflicting and contradictory statements. As in all diseases of which the treatment is more or less empiric, we have here enthusiastic advocates for various methods, each of which is considered to excel the other.

One physician will assert that he can readily cure the disease by his special d. t. mixture, which in nearly every case is a combination of powerful sedatives. He says: "Put the patient to sleep and the disease is cured." Others, remembering cases that have died of sudden heart failure, consider this "sleep-at-any-price" treatment extremely dangerous, and believe that stimulants should be employed at the very beginning. Many physicians consider the sudden withdrawal of alcohol as the cause of the attack and advocate the administration of alcohol in gradually diminishing doses; while others allege that sudden and complete withdrawal of alcohol is the first essential in the treatment, substituting large doses of strychnin or digitalis. Other practitioners, believing that the disease is a toxemia, advise elimination through the skin, bowels and kidneys and recommend feeding only after thorough elimination. Again, other clinicians affirm that the best treatment is to produce emesis by means of tartar emetic or apomorphia, followed by a cold bath. And there are those who discard all the above methods as useless and assert that delirium tremens is a self-limited disease, and that the patient either recovers, in spite of the treatment, or dies from exhaustion or starvation, and that proper restraint and careful feeding are the only important measures worth considering.

It appears to us that the rational treatment of delirium tremens should be both etiologic and symptomatic.

ETIOLOGIC TREATMENT.

The two apparently conflicting views as to the causation of delirium tremens are:

1. That it is a psychosis, i. e., a functional disturbance of the mind, the mental equilibrium being weakened by the excessive use of alcohol, any one of the numerous exciting factors serving to precipitate an attack, such as injuries, mental and physical shock, intoxications, sudden withdrawal of alcohol, etc.

2. That it is an intoxication, the symptoms depending on the presence in the system of irritating poisons. These poisons may be of various kinds; they may be retentive products due to renal insufficiency, intestine toxins, or the intoxication of an infectious disease. Certain it is that toxemias, as those of erysipelas, pneumonia or suppuration, produce in the drunkard a delirium identical with delirium tremens.

While not attempting to decide in favor of either theory, it appears that a combination of the two would explain the great majority of the cases. It is quite probable that we have to deal with an unstable nervous system suffering under the effects of an intoxication. The practical application is this: Recognizing the psychic factor, an unstable nervous system, as a prominent element in the disease, we would guard the patient from shock, injury, or excitement by placing him in charge of one or two good, strong, trained attendants who are able to soothe and divert his mind or physically able to restrain him without the use of violence. Believing intoxication to be the exciting factor, all cases should receive energetic eliminative treatment, by means of active catharsis, hot baths, and, in the robust, free diaphoresis. All drugs which tend to check secretions, e. g., opium, are contraindicated, and from practical experience we can say that cases do poorly under the opium treatment. Poisonous drugs should be administered with great moderation and caution. Especially would we refrain from using alcohol. The idea that the sudden withdrawal of alcohol is the cause of the delirium appears to be a fallacy: 1, because of the history in many cases of constant and excessive drinking up to the onset of the most severe symptoms; 2, because prison, asylum, military, and hospital experience shows innumerable cases of chronic alcoholism in which the alcohol has been suddenly cut off without producing delirium tremens; 3, because patients treated with alcohol during an attack of delirium tremens certainly do no better and usually worse than those treated without it.

SYMPTOMATIC TREATMENT.

In delirium tremens, more than any other disease, it is necessary to remember that we "treat the patient and not the disease." There is in these cases loathing of food and drink, and at the same time expenditure of energy, factors which tend to cause the fatal result.

Feeding is of the greatest importance, not only to prevent exhaustion and cardiac failure in the later stages of the disease, but also because the patient is usually in a half-starved condition, having as a rule taken little food for a considerable time before the onset of acute symptoms.

The patient will usually take the following mixture: Tinct. capsici, m. xv, in a cupful of hot milk every 3 or 4 hours. This will "settle his stomach," acting as a local as well as general stimulant, and is all the nourishment necessary in most cases. If the patient refuses all food on account of his delusions, a nasal tube should be passed and fluid food introduced into the stomach at intervals of not more than three hours. If vomiting occurs, a mixture of equal parts of matzoon and seltzer is sometimes retained. Persistent vomiting is to be combated by ice, effervescing draughts, lime-water, and careful feeding in small quantities; at the same time giving nutrient enemata.

To control the delirium and terror of the patient, his excitement, restlessness and sleeplessness, the cautious administration of hypnotics appears certainly indicated. The following is beneficial:

℞. Chloralis . . . . ʒiv
Potassii brom. . . . . ʒiv
Tinct. hyoscyami . . . . ʒiv
Aquae chloroformi, q. s., ad . . . . ℥iv

M. Sig. Dessertspoonful every 2 hours until quiet or until 3 doses are given, then every four hours, as required.

In the prodromal stage, when the symptoms are slight but characteristic, the attack has apparently been aborted in numerous instances by the above treatment. If, after a fair trial, probably 6 or 8 doses of this mixture, the patient has not obtained sleep, and the absorptive power of the stomach seems impaired, or if the delirium is violent, hypodermatic administration of hyoscin hydrobromate in doses of 1/100 gr. every hour for three doses may be employed. This rarely fails to quiet the patient and produce sleep. Should it fail, however, and the delirium be excessive, rapidly exhausting the patient's strength, ether anesthesia is often efficacious.

The proper restraint is very important. The best method is to place the patient in a cool, quiet, dark, well-padded room with a mattress on the floor and two strong nurses in constant attendance. Where this is impossible, mechanical restraint becomes necessary. Sheets tied across the bed are not efficient. The use of leather straps to wrists and ankles is far from being satisfactory, for the patient will often abrade his skin or even break bones and exhaust his strength in his attempts to free himself. In some cases this strapping appears to convert a mild attack into a severe and even fatal one. A wire cage, just large enough to cover the patient's body as he lies in bed, but too small to allow him any range of motion, is used at the Alexian Brothers' Hospital, in this city, and, it is claimed, with excellent success.

Throughout the treatment the heart must be carefully watched, and on sign of impending exhaustion, strychnin sulphate, 1/30 gr., hypodermically every four, or even two hours, should be given.

Tincture digitalis in large doses is especially efficient in cases where the heart is weak and there is profuse perspiration.

In sudden collapse, the administration of a hypodermic barrelful of aromatic spirits of ammonia, camphorated oil, or both, will be found useful.

If there be a rise of temperature the cold bath will not only reduce the temperature, but also, frequently allay the delirium. Should there, however, be any sign of heart failure, the bath should be preceded by stimulation.

Apomorphin, hypodermically, in sufficiently large doses to produce vomiting, has again been recently recommended in medical journals, as a specific, but the writer has tried it in several cases without any appreciable result.

The disease is self-limited; and, unless death or complica-

[illegible]

The Treatment of Amenorrhea

[illegible]

Silver Nitrate Injections in Pulmonary Fistulas

[illegible]

Current Medical Literature.

Titles marked with an asterisk (*) are noted below.

Medical News (N. Y.), January 20.

1.—*Operative Treatment of Myopia of High Degree by Removal of Crystalline Lens. Charles Stedman Bull.
2.—*Gonorrhea; Its Dangers to Society. Albert Neisser.
3.—*Visit to the Newest Psychopathic Hospital. Frederick Peterson.
4.—*Diuretics in Renal Dropsy; Their Indications and Uses. E. R. Axtell.

New York Medical Journal, January 20.

5.—*Detection of Calculi in Liver and Gall-Bladder. Carl Beck.
6.—*Chronic Abscess of Frontal, Ethmoidal, and Sphenoidal Sinuses, followed by Meningitis and Death. J. H. Bryan.
7.—*Second Report on Therapeutics of Heroin. Morris Manges.
8.—*Cholelithiasis. E. C. Davidson.
9.—*Suppurative Ethmoiditis and Its Treatment. Frank S. Milbury.
10.—*Diarrhea. Charles O. Molz.
11.—*Influence of School Life on Vision. Peter A. Callan.
12.— Enucleation of the Eye. David Webster.

Boston Medical and Surgical Journal, January 18.

13.—*A Rhode Island Philosopher (Elisha Bartlett). William Osler.
14.— Value of X-Ray Examinations in the Less Frequent Diseases of the Chest, Illustrated by Their Use in Those Cases Where Aneurysm is Present or Suspected. Francis H. Williams.
15.—*Remarks on Gunshot Wounds of Reduced Caliber Rifles in Santiago Campaign. Louis A. LaGarde.
16.—*Otitis Media in All Grave Diseases of Infancy. E. H. Pomeroy.

Cincinnati Lancet-Clinic, January 20.

17.—*Vaginal Section. Chauncey D. Palmer.
18.—*My Experience with Ectopic Gestation. Thos. W. Wright.

Medical Record (N. Y.), January 20.

19.—*Comparative Statistics in Treatment of Appendicitis. Edwin Marion Cox.
20.—*Inversion of Uncut Appendix. J. F. Baldwin.
21.—*Consideration of Failure of Antitoxin in Operative Cases of Diphtheritic Croup. J. Edward Herman.
22.—*A Common Case and Its Practical Suggestions. Josephine M. Wetmore.
23.—*Gynecology and Gyecologists in Europe. Abram Brothers.

Philadelphia Medical Journal, January 20.

24.—*Case of Tuberculosis of Kidney Without Marked General Symptoms. J. M. DaCosta.
25.— Lantern Demonstration of Origin, Development and Degeneration of Blood-vessels of Ovary. John G. Clark.
26.—*Absorption of Iron from Gastrointestinal Tract, and Dietetics of Anemia. John C. Hemmeter.
27.—*Outline of Principles of Malpractice as Related to Medicine and Surgery. Wm. C. Woodward.
28.—*Athetosis and Kindred Affections. Frank Fischer.
29.— A Pneumatic Sigmoidoscope. William V. Laws.
30.— Creolin-Poisoning. E. W. Pressley.

Medical Review (St. Louis, Mo.), January 20.

31.—*Surgical and Pathologic Features of Tuberculosis of the Esophagus, with Reports of Two Autopsies. Willard Bartlett.

Northwestern Lancet (St. Paul, Minn.), January 1.

32.— Clinical Lecture. A. MacLaren.
33.— Rubber Gloves in Surgery. G. G. Eitel.
34.— Antitoxin. O. W. Archibald.
35.— Inflammation of Middle Ear and Sequelæ. Thos. McDavitt.
36.— Arteriosclerosis. W. F. Smith.

Medical Fortnightly (St. Louis, Mo.), January 1.

37.— The Hymen. Byron Robinson.
38.— Peculiar Case of Poisoning by Potassium Iodid. E. A. Crain.
39.— Nosophen; Its Use in Neglected Cases of Chancroidal Adenitis. T. A. Hopkins.

Maryland Medical Journal (Baltimore), January.

40.— Recent Advances in the Study of Tuberculosis. Wm. Royal Stokes.
41.—*Home Treatment of Consumption. William Osler.
42.—*Night Air of New England in Treatment of Consumption. C. S. Millet.

Medical Dial (Minneapolis, Minn.), January.

43.— Diagnosis of Diseases of Rectum and Anus. C. M. Ferro.
44.—*Advertising in the Medical Profession. Charles T. McClintock.
45.— Congenital Rectal Occlusion the Result of Maternal Impressions. C. E. Worthington.

Cleveland Medical Gazette, December, 1899.

46.— Some Thoughts on Pelvic Disease in Women, Resulting from Injuries during Parturition. Edward S. Stevens.
47.— Pus in the Pelvis. Herman E. Hayd.

Kansas City Medical Index-Lancet, January.

48.—*Inflammation. Jabez N. Jackson.
49.— Laryngeal Stenosis. Clay S. Merriman.
50.— Prevention of Consumption. G. L. Richards.
51.—*Use and Abuse of Hydrochloric Acid and Pepsin in Diseases of the Stomach. F. W. Froehling.
52.— Report of Case of Puerperal Infection, Complication and its Treatment. F. S. Clinton.
53.— Neurasthenia. John Punton.

International Journal of Surgery (N. Y.), January.

54.—*Flat Foot and Hallux Valgus. F. A. Goodwin.
55.— Regional Minor Surgery. George G. Van Schaick.
56.— Treatment of Fractures. W. L. Estes.
57.— Technique of Surgical Gynecology. Augustin H. Goelet.
58.— Introductory to Mechanical Diagnosis and Treatment of Urethral Diseases. Ferd C. Valentine.
59.—*Surgical Treatment of Diphtheritic and Membranous Croup. S. L. Kilmer.
60.— Two Cases of Fracture of Olecranon in Young Persons, Difficult of Diagnosis. Calvin F. Barber.
61.— Ovarian Cyst: Ovariotomy. Cancer of the Cervix: Vaginal Hysterectomy. Uterine Fibroid: Abdominal Hysterectomy. Matthew D. Mann.
62.— Compound Fracture of the Inferior Maxillary Bone. G. V. Bush.
63.— Extemporaneous Splinting: A New Method. E. A. Tracy.
64.— Subcutaneous Nailing or Wire Suturing of Ununited Fractures. W. L. Hughlett.

Pacific Medical Journal (San Francisco), January.

65.— Some Observations on Continence as a Factor in Health and Disease. P. C. Remondino.
66.— Large Fifty-Pound Ovarian Cyst with Ascites; Operation; Recovery. E. H. Smith.
67.— Principles of Diet in Gastric Diseases. A. W. Perry.

Medicine (Chicago), January.

68.—*Secondary or Membranous Cataract. Henry D. Noyes.
69.—*Serious Heart Disease Without Rheumatism: A Further Report. A. L. Benedict.
70.—*Nursing in Lying-in Period. Gustave Kolischer.
71.—*Spondylitis Deformans, Spondylarthritis or Osteoarthritis of the Spine. O. M. Steffenson.
72.—*Some Considerations in Sugar-Testing, with Description of a Method for Detection and Estimation of Sugar in Urine. Arthur R. Elliott.
73.—*Study of Aural Vertigo. Lewis S. Somers.

Seaboard Medical and Surgical Journal (Norfolk, Va.), January.

74.— Sexual Functions of Male and Female. J. Emmett Sebrell.
75.—*Perfect Antidote for the Poison of Snake and Spider Bites. S. T. A. Kent.
76.—*Local Anesthesia in Major Surgery. Kirkland Ruffin.
77.— Eulexin in Treatment of Diabetes Mellitus. Lucien Lofton.
78.— Progressive Procedures in Bone Surgery. James N. Ellis.

Carolina Medical Journal (Charlotte), January.

79.—Is Honesty the Best Policy in the Practice of Medicine? F. Julian Carroll.
80.—*Multiple Synchronous Amputations. R. L. Gibbon.
81.—*Diet in Lithemia. A. B. Conklin.
82.— Appendicitis; Necrosis of Tibia; Epilepsy. Wm. L. Rodman.
83.—*An Unusual Case. K. G. Averett.

Yale Medical Journal (New Haven, Conn.), January.

84.—*Case of Dynamic Ileus. Leonard W. Bacon.
85.— Two Cases of Resection of Stomach for Carcinoma. B. Farquhar Curtis.
86.—*Remarks on Recent Methods of Treatment for Aortic Aneurysm. William F. Verdi.
87.—*Some Observations on More Common Forms of Sexual Impotence. Ernest D. Chipman.

Physician and Surgeon (Detroit and Ann Arbor, Mich.), December, 1899.

88.— Conservatism in Medicine and Surgery. Frederick W. Robbins.
89.—*When and How Shall We Operate for Uterine Fibroids. W. P. Manton.
90.—*Sympathetic Ophthalmia. M. R. Beaudoin-Bennett.
91.—*Tuberculosis of Peritoneum. Hal C. Wyman.
92.—*Contagiousness of Pulmonary Consumption. Ernest L. Shurly.
93.—*Survey of Modern Therapy. Frederick McD. Harkin.
94.— Case of Hip-Joint Amputation by Wyeth's Bloodless Method. R. B. Baird.

Atlanta Journal-Record of Medicine (Ga.), January.

95.—*Physiologic Therapeutics of Reasoning Madness. C. A. F. Lindorme.
96.—*Some Notes on the Philippines. Frank S. Bourns.
97.—*Diet in Lithemia. A. B. Conklin.
98.—*Painless Application of Arsenical Paste. William Perrin Nicholson.

Railway Surgeon (Chicago), January 9.

99.—*Conservatism in Surgery. Ben Thompson.
100.— Empyema. D. C. Brockman.
101.—*Eczema Complicating Wounds. J. Schneck.
102.— Four Cases Illustrating Various Serious Types of Fracture and Traumatic Amputation. Thomas H. Manley.

Journal of Medicine and Science (Portland, Me.), January.

103.—*General Remarks on Prolapsus of Rectum in Children. Charles Greene Cumston.
104.— Brief on the Two Most Important Surgical Diseases of Children. Herbert F. Twitchell.
105.— Relation of Physicians to the Drug Habit. Harry M. Nickerson.
106.— As Told to the Doctor. Arthur F. Sumner.

Chicago Medical Recorder, December, 1899.

107.— Vesicorectal Anastomosis. Jacob Frank.
108.— Urethroplasty in the Female. L. L. McArthur.
109.—*Vaccination. A. M. Handshaw.
110.— Three Cases of Perineal Resection of Rectum for Carcinoma. A. E. Halstead.
111.— Tubular Stricture of Rectum. J. R. Pennington.
112.— Report of Case of Dermoid Cyst of Ovary Complicating Labor. H. F. Lewis.
113.— Case of Laryngectomy, with Exhibition of Patient. Jacob Frank.

AMERICAN.

1. **High Myopia.**—From a review of the more important literature of the past few years, Ball concludes that the most recent and conservative authorities all advocate the operation of removal of the lens in high myopia in selected cases and under wise restrictions. Therefore, in all it is important to study the case and definitely determine the condition of the myopic eye, and also to take into consideration the age and occupation of the patient and the demands made on his vision. The intraocular tension should also be carefully examined, as it is apt to be above normal, and a minus tension would arouse suspicion of serious disease of the fundus. The possible dangers from the operation are, in order of their importance and frequency, intraocular hemorrhage, detachment of the retina, secondary glaucomatous symptoms, and infection of the corneal wound of the iris. The third danger is not serious, as the tension is relieved by extraction of the swollen lens and the danger of infection is also reduced to a minimum by modern methods. A possible complication is anterior synechia at the point of entrance of the needle, but this should not occur if atropin is properly employed. Another possible complication is incarceration of the iris in the corneal wound or prolapse through the wound. The contraindications are: 1. Extensive degenerative changes in the retina and choroid. 2. Existing detachment of the retina. 3. Membranous opacities in the vitreous, indicating disease of the choroid and vessels. 4. Previous loss of one eye from any cause. 5. Loss of transparency of the cornea from previous inflammation. 6. Any form of contagious conjunctivitis, especially trachoma. 7. Advanced age of the patient. 8. A myopia of less than D 12. The indications are: 1. If the central vision of the myopic patient with the best possible correction by glasses, is not sufficient for the needs and social position of the patient, the operation is indicated, first on one eye and then on the other, if no contraindications exist. 2. If there are unmistakable evidences of a rapid increase in the amount of near-sightedness, true progressive myopia, and if the myopia is D 12 or more, the operation may be done under the previously mentioned restrictions. He believes there is no reasonable doubt that removal causes decided improvement of vision, and the wearing of moderate convex glasses after the operation is much less annoying than the wearing of strong concave ones before. He describes the technique in detail.

2. **Gonorrhea.**—Neisser concludes his paper on the dangers of gonorrhea to society, alluding to the arthritis, the morbidity which it produces, especially in women, the loss of time as shown by military statistics, the cost of hospital treatment, and especially the blindness which is a result of this disease, and the sterility. He thinks that by using all the means supplied us we can lessen, to a very large extent, the ravages of the disorder and make its most serious consequences milder. The first step is to let the public know and appreciate the danger.

3. **Psychopathic Hospital.**—The psychopathic hospital of Giessen is described by Peterson, and he dwells on the needs of such an addition to our teaching institutions, and as furnishing the acutely insane the advantages that sufferers from other diseases have in the way of early diagnosis and immediate and skilful treatment.

4. **Diuretics in Renal Dropsy.**—Axtell discusses the pathology of the action of diuretics in renal dropsy, calling attention to their dangers and uses. He enumerates the various stimulating diuretics and gives their effects.

5. See abstract in The Journal of Nov. 18, 1899, p. 1293.

6. **Abscesses of Frontal Ethmoidal and Sphenoidal Sinuses.**—The case reported by Bryan presents some features of interest. One is the rapid appearance of the meningitis, which could not have occurred through the frontal sinus, but was caused by infection through either the ethmoidal veins or the lymph channels. The extensive destruction in the posterior ethmoidal cells and sphenoidal sinuses was notable, and he believes that had the sphenoidal disease been discovered in time, the patient's life might have been saved. It is next to impossible to diagnose abscesses in this region when the symptoms are obscure. The only positive evidence is the choking of the optic disc, when associated with a postnasal secretion and occipital headache.

7. **Heroin.**—In the conclusion of Manges' paper he discusses Medea's investigations and gives a tabulated statement of 341 cases in which this drug was used in various disorders, as learned by him through correspondence; he adds seventy-five cases in his own service at the Mt. Sinai Hospital. He does not attempt any special analysis, but briefly notes the results in the different affections. The percentage of failure of the drug in the wide range of disorders was 21, which he thinks is a very small showing. When the relief of cough is the only object, he finds a very high percentage of good results, 84 in his own cases and 89 in those reported by Stubbert. Bad effects only amount to 11 or 12 per cent. In acute bronchitis, heroin acts well, relieving cough and improving general conditions. In chronic bronchitis, the results are not so constant, though favorable as a rule. In bronchiectasis, the results are similar to those observed in chronic bronchitis. In pleurisy, the number of cases (5) was small. In acute pneumonia, the results were gratifying, the cough was usually controlled and comfort increased. In pulmonary phthisis, acute and chronic, heroin finds its largest field and is distinctly superior to codein in most cases and to morphin in many. It does more than simply allay cough, it stimulates respiration, relieves dyspnea, promotes sleep, frequently lessens and prevents night sweats, and at times even reduces temperature. In pulmonary emphysema and bronchial asthma, it is distinctly superior to any other drug thus far used. In influenza, it is valuable in allaying respiratory symptoms. Whooping-cough has been favorably influenced; the paroxysms were shortened in twenty-five out of thirty-three cases. In a case of distressing cough from abscess of the liver rupturing into the lung, it gave wonderful results in relieving the patient as long as life lasted. In cardiac and renal asthma he has had good effects, though it is inferior to morphin. In diabetes mellitus the results have not been satisfactory. In two cases the value of the drug in breaking up the morphin habit was shown by most gratifying results, and the author believes it worthy of a more extended trial for this purpose. For relieving pain, it is inferior to morphin. As regards after-effects, he has found disagreeable symptoms in only a very small percentage of cases, and with large doses, 1/6 gr., and they are decidedly less than after morphin and codein. The principal disorders have been constipation, nausea, vomiting, dizziness, etc., none of them serious, but his reports are not full or uniform in this regard, so he can not give exact statistics. He does not think the controversy as to the toxicity of heroin entitled to much notice, as the effects reported on dogs are so manifestly exaggerated and based on so few facts. It is well to remember, however, that heroin is a derivative of morphin and should be used with the discrimination and judgment required in the employment of all sedative drugs. Habituation has been noticed in 6 or 8 per cent., without the bad effects accompanying the morphin habit, none of the patients having suffered from it. On the other hand, a large number of reports refer to the fact that the same dose may be used for a long time without any habituation.

8. **Cholelithiasis.**—Davidson's paper is a general discussion of the subject and points out the medical and operative treatment. One case is reported.

9. See abstract in The Journal of Nov. 11, 1899, p. 1230.

10. **Diarrhea.**—This article is a brief discussion of diarrhea in children. The author points out that in the majority of cases the following indications are to be met: 1. A thorough cleansing of the intestinal tract, which he has always obtained by either small doses of calomel frequently repeated, by castor-oil, or by enteroclysis, if the cause was determined to be in the lower bowel. 2. Rest, by abstaining from food for at least twenty-four hours, or allowing only the easily digestible and non-irritable substances, such as albumin-water, peptonized milk, etc. Opium is a harmful drug in a majority of these cases. 3. Correction of improper food, which in children is found to be the most frequent cause of diarrheal conditions.

11. **School Life and Vision.**—Callan thinks that the children in school have at present too much to do, and that there is an injury to their sight thus being produced. He has examined 500 colored children, selecting them because he knew that these influences had not acted on their parents, and therefore there would be no tendency to myopia, and he found in the more advanced, 3 per cent. of near-sightedness.

13. **Elisha Bartlett.**—Osler's article, which is not completed in this issue, is an interesting account of the career of Dr. Elisha Bartlett, a native of Rhode Island, and probably the most distinguished physician of the state, but one who has not thus far left any deep impression on its local history or institutions.

15. **Modern Military Wounds.**—LaGarde compares the results of experiments with the modern military rifles and the practical experience in the Spanish-American War. The results of experimental work in the Frankfort arsenal are taken up in detail, and the field observations stated in direct connection with them: 1. The experimental evidence showed that shock impressed on a member increases with the velocity, whether a bone is traversed or not, always greater with leaden projectiles. The diminution of shock has been one of the objections to this modern bullet. It has been stated that a wound would not suffice to throw a man *hors de combat.* Whether this is true of savages or horses in a cavalry charge or not, it was not true of soldiers in the Spanish-American War, who, on receiving a wound, with but few exceptions, went to the rear. 2. Explosive effects at very short range are about the same for the two projectiles, but continue for a longer distance with the smaller bullet. But one case approaching explosive effects was observed in Cuba, and this is probably due to the fact that when these occurred the cases were fatal and could not be studied by the surgeon on the battlefield. 3. The slight wounds of the soft parts caused by these modern bullets and their favorable course in healing was borne out by the Santiago campaign. 4. No cases of alarming hemorrhage were observed. 5. It was found that the Mauser bullets produced less comminution of the shafts of the long bones in both experiments and in the campaign. 6. Beyond the zone of explosive effects, the hard projectiles almost invariably perforate or gutter the joint ends of the bones, and the lesions of the articulations are never so grave. This tallies exactly with experience in Cuba. LaGarde does not recall a formal excision for the mechanical effects of the Mauser bullets, though there were many cases of gunshot injury. There were at least twenty cases of injury to the knee-joint alone, which were immobilized and sent North, and, so far as heard from, have done well. The results are in striking contrast with those of the large leaden bullets. 7. The projectiles of hard exterior lodge less frequently in the tissues than the old leaden bullets. The experience in Santiago showed a surprisingly large number of lodged bullets, much greater among the Americans than among the Spanish. LaGarde accounts for this by the fact that the Spanish bullet wounds in the Americans were mostly at long range. 8. The old leaden bullets more often leave fragments of lead in the wounds. This needs no contradiction. 9. The new projectiles are less liable to carry foreign substances into the wound, which is also proved by experience. 10. The frontage of the jacketed bullet being less and the fact that it does not lodge often contribute to increase the percentage of recoveries in gunshot wounds of the lungs, which was found especially true. As a rule the wounds of the lungs were apparently so trivial that it was difficult to restrain the men in a recumbent position. 11. Owing to the diminished frontage, the new bullets will cause less disfigurement in facial wounds. This was found especially true in three officers, two of whom were not particularly good looking before the accident, but were improved by it. On cosmetic grounds the new bullet has some recommendations. 12. The projectiles of hard exterior are more humane than the old. Resection and amputation will not be so often required hereafter. In point of economy, it has a great advantage. All this is in accordance with Cuban experience. There were but three primary amputations, and not one of them was done for injury by the small bullets, but all for shell wounds. From these results LaGarde believes that we should consider the work of the experimental investigation as agreeing with and foretelling the conditions found in war.

16. **Otitis Media in Infancy.**—Pomeroy reviews Ponfick's statistics of otitis media in children, and insists on the importance of examinations of children's ears in nearly all disorders. Five cases are reported. In regard to the technique of this examination, the utmost endeavor should be made to get the best possible light—artificial—with the head mirror and an assorted nest of specula, and the ear of the infant, being different from that of the adult in the shape of the external auditory canal, should be drawn downward and outward instead of backward and upward, and if the external canal be obstructed by dirt, cerumen, or anything else, it should be carefully washed and the effort at examination resumed. Nothing but long-continued practice will suffice to give one a definite idea of the appearance of the tympanic membrane either in health or in disease, but the practice should be persisted in, for there is nothing about it to prevent any practitioner with eyes becoming as expert in this examination as the most cultured aurist. The fact should be reiterated again and again, that in very many cases there is no abnormal appearance to the exterior of the tympanic membrane, and yet the middle ear may contain pus and be the source of a toxemia threatening the life of the patient. It is important also to remember that an incision made carefully in the lower posterior quadrant of the tympanic membrane is wholly free from danger, and will frequently reveal a case of grave disease and at the same time be the means of almost instant relief. Thorough cleansing of the ear and douching it with sublimate solution should be done before the puncturing, and ether or chloroform anesthesia induced for a thorough examination.

17.—See abstract in THE JOURNAL of January 20, p. 166.

18. **Ectopic Gestation.**—Wright reports three cases of extrauterine pregnancy operated on, the patients all making good recoveries. He says that it makes very little difference how thoroughly we may be "read up" on the subject, there is considerable doubt about taking active measures in these cases. The authorities leave out just enough of the important symptoms to make us doubt the diagnosis. Again, one of the very prominent symptoms is not mentioned, as far as he has observed, namely, the odor of decomposition that accompanies the vaginal discharge and suggests miscarriage with retained placenta. Still again, authorities speak of the clot of blood making itself prominent, as though it were present from the first, whereas it is 48 to 72 hours before any distinct mass can be defined.

19. **Comparative Statistics of Appendicitis.**—Cox criticises the medical statistics of appendicitis, especially noticing those of Sahli, and reports several cases illustrating the value of operation and the untrustworthiness of medical statistics. He thinks that the medical figures report only cases that recover from attacks, without regard to their recurrence, and at the expense of surgical statistics in that they exclude cases that have gone so far under medical treatment as to be hopeless with surgery. Medical treatment, he thinks, with our present knowledge of the disease, is useless, except as an adjunct, one attack of appendicitis making another almost certain. He also thinks that operation in the quiescent period is a safe measure, especially because we can leave the abdominal wall in good condition after it is done. This is a very important consideration.

20. **Inversion of Uncut Appendix.**—Noticing recent articles in reference to the inversion of the appendix as advised by Edebohls and Dawbarn, Baldwin adopted the suggestion and has practiced it now in considerably more than 100 cases. He finds that his technique is quite different from that of Edebohls, and describes his method at length: The appendix is freed from adhesions if present, and brought up into view in the usual way. The tip is held by the assistant with one hand, while with the thumb and forefinger of the other the colon is supported just below the origin of the appendix. With a ligature carrier, a catgut ligature is then introduced at the base of the appendix, so as to include the meso-appendix, care being taken to embrace the small artery that runs along close to the appendix. The meso-appendix is then ligated, the ends of the ligature being left long. With scissors, the meso-appendix is severed just beyond the ligature, and the tissues constituting it are then seized, either with fingers or forceps, and stripped off from the appendix from the base to the tip. This is usually accomplished with a single effort, but occasionally they will have to be removed in pieces. Not infrequently, and quite usually, when operating on an acutely inflamed appendix, great thickening of the peritoneal and muscular coats will be found present. These coats will be so infiltrated that inversion is impossible. In such a case a longitudinal incision can be easily made with either knife or scissors, cutting through these two coats down to the mucous membrane. This having been done, the thickened coats are very easily peeled off, leaving merely

the mucous membrane intact, which is so thin and soft as to offer slight obstacle to inversion. Not infrequently, however, the distal extremity of this mucous membrane tube is obliterated as a result of previous inflammatory attacks. In such an event the obliterated end must be snipped off with scissors before proceeding to the next step. Care should be taken, however, not to open the lumen of the tube. The appendix having thus been prepared for inversion, the tip is seized between the thumb and forefinger of one hand and inverted by pressing on it with the blunt end of a patent-eyed needle. The maneuver is accomplished by a manipulation somewhat similar to that employed in putting an angle worm on a hook. The tip having been thus inverted for about the length of the needle, an inch or more, the needle is removed and an ordinary long probe substituted. With this the inversion is completed in an instant If, as the probe is being introduced into the colon, carrying with it the appendix, it meets with a fold offering obstruction, it should be withdrawn and the rest of the inversion completed with the fingers. This is accomplished without any trouble. Inversion now being complete, one end of the ligature previously used is threaded into the needle with a single stitch taken across the opening into the bowel, which marks the point of disappearance of the appendix. If it seems desirable, two stitches can be taken. The catgut is drawn through until the stump of the meso-appendix is brought up against the opening, and then by tying the two ends, the operation is completed. Only in a very few cases were conditions found which rendered inversion impossible or inadvisable. These were mostly cases of gangrene or of a tight constriction near the base. In only one has he had the chance of investigating the post-operative appearance of the appendix, which showed it much softened and rapidly breaking down, while healing seemed to be complete at the site of operation. He believes that it usually sloughs off promptly, or possibly undergoes a species of digestion.

21. **Failure of Antitoxin.**—Herman's article, like a previous one, noticed in The Journal, is an attack on serum treatment, especially diphtheria antitoxin. He tries to show also by statistics, that intubation is not more effective than tracheotomy, and that they are both more fatal in antitoxin-treated cases. He rails against dogmatism in medicine, but is decidedly positive in his own statements.

22. **Overworked Children.**—Wetmore considers children at school, whose physical development is not properly attended to. Her article is a plea for proper direction of the education of the young at the critical age, as a better preparation for the later vicissitudes of life.

23. **Gynecology and Gynecologists in Europe.**—Brothers' article is an account of his observations with French, German and English gynecologists and his professional experiences abroad.

24. **Tuberculosis of the Kidney.**—The case which forms the subject of DaCosta's clinical lecture is one in which the symptom of pain alone existed. It shows how a serious disorder may exist and hardly reveal itself. It also shows the importance of careful systematic examination of the urine. He does not think that the prognosis is a favorable one.

26. **Absorption of Iron.**—Hemmeter shows that iron is absorbed in various preparations, and that it is not necessary to use organic compounds. In his opinion, the object to be accomplished is not to get as much iron as possible into the system, but just the right quantity, and for this purpose the Blaud's pill and chlorid of iron are as effective as any other preparations.

27.—See abstract in The Journal of Nov. 18, 1899, p. 1295.

28. **Athetosis.**—Fischer reports a case of athetosis occurring in a boy of 12, after rheumatism, and its successful treatment by arsenic. This suggests to him the relation of this condition to chorea, and he discusses its pathology. He concludes that it is a reflex cortical disorder primarily due to sensory disturbances.

31. **Tuberculosis of the Esophagus.**—The case reported by Bartlett is one of chronic lymphatic tuberculosis, with miliary tuberculosis of the liver, tuberculosis of the spleen, tuberculous pneumonia and peritonitis, and secondary ulceration into the esophagus, the result of a tuberculous destructive process in the peribronchial lymphatic node. He thinks that the esophagoscope should be employed in every case of pronounced, general lymphatic tuberculosis. As all portions of the esophagus are shown, by the reports that we have, to be amenable to surgical treatment, he suggests that tuberculous disease might also be treated this way.

41.—See abstract in The Journal of Nov. 25, 1899, p. 1360.

42. Ibid.

44. See The Journal of January 27, ¶ 35, p. 223.

48. **Inflammation.**—First noticing the non-infectious inflammations, Jackson proceeds to describe those due to infection, and gives the indications for each form. Incision, free drainage, curettement and excision, antiseptic irrigations or packing are the surgical resources in staphylococcic inflammations. In streptococcic inflammations, free multiple incisions and natural drainage offer the most advantage, but the use of hot water, causing what he calls forced drainage, is also essential, as bringing the germs to us which we were heretofore unable to reach.

51. **Hydrochloric Acid in Stomach Disease.**—Froehling first notes the unsystematic and reckless prescription of acids and pepsin, etc., that has been practiced, and gives his theory of the rationale of the action of hydrochloric acid, which he considers as a stimulant to the secretion and motor functions of the stomach, while also having some direct effect on the digestion. We do not supply the full amount required for digestion, but the small amount which we do give acts in the above ways. He begins, as a general rule, with a dose of 15 drops, and finds out by means of the stomach-tube how this dose acts, repeating the examination several times if necessary. As all these patients require stomach washings, these examinations are easy. As a rule he finds it necessary to give from 10 to 20 drops at an hour's interval after each meal, until 30 to 60 drops are taken in cases of deficient normal acidity. Pepsin, he thinks, is not a useful drug.

54. **Flat Foot and Hallux Valgus.**—Goodwin pleads for more careful examination of patients, especially in orthopedic surgery, and discusses the mechanism of and technique of the operations for flat foot. He thinks that the use of a proper shoe will be an important element in the prevention of the condition, and as regards well-developed cases, Whitman's method comes into play. If we can restore the normal condition by replacing the dislocated bones without a cutting operation, it is good, but it requires anesthesia. The technique is described, as are also the orthopedic appliances required.

59. **Surgical Treatment of Diphtheria.**—First speaking of the disadvantages of intubation from possible plugging of the tube, Kilmer mentions the advantages of tracheotomy in operating through healthy tissues, and the easy means of clearing the tube. He mentions a method which he has employed in emergencies. He has a trocar made to fit the ordinary tracheotomy canula after removing the tube, and with this he punctures through the skin and underlying tissue, the puncture being distended and kept from bleeding by the pressure of the canula. After penetrating the trachea between the rings, the trocar is removed, the canula pushed in its position, the inner tube inserted and the operation completed in the usual way. With this method, he has been able to perform tracheotomy in less time than it takes to describe it, without the loss of a drop of blood.

68. **Secondary Cataract.**—The subject of secondary or membranous cataract and its treatment are discussed by Noyes, who describes the condition, the indications for operation and the technique. He illustrates a new knife-needle which he employs, and is prepared to say that the operation through the sclera with this instrument is practically devoid of serious risks and can be commended for general adoption. He took it up with some timidity, until experience convinced him of its value. He concludes by saying that one may sometimes refrain from secondary operation when the patient's circumstances are such that the highest vision is not required, or he is satisfied with what vision remains, or is too timid to willingly undergo operation.

69. **Heart Disease Without Rheumatism.**—Benedict reports several cases of endocardial disease of unknown origin, and remarks on its possibility. He thinks that almost any germ or inflammatory irritant which may cause inflammation of the joint under certain circumstances, may invade the endocardium and produce valvular defects.

70. **Nursing in Lying-in Period.**—Kolischer calls attention to certain points in the nursing of the puerperium. If ergot does not act well when given by the mouth, he says it should be administered by the rectum in aqueous solution with a small quantity of glycerin. Micturition is usually watched too anxiously by the attending physician, and the catheter should not be used too early. Warm poultices and gentle pressure to stimulate the organ should be first used. Frequently an erroneous diagnosis of cystitis is made, where there is simply desquamative catarrh, which is usually recovered from without local treatment, and this is only necessary when the trouble is severe and pain excessive. The pelvic articulations rarely receive sufficient attention. If there is pain in the symphysis or in the sacroiliac articulations, or permanently in the thighs, some distortion of the articulations should be looked for, and a firm bandage applied to the pelvis, which gives comfort, immobilizes the joint, and prevents the accumulation of exudates and fibrinous deposits. Fissures of the areola of the nipples may be troublesome, and local applications be ineffective. The simplest and best method is actual cauterization, which is best done with galvanism, but when this is not possible a 4 per cent. chromic acid solution may be applied with a small brush. By this means a dry eschar is produced. In the diet of the puerperium, the intestinal tract should not be overloaded. Eggs are often used, but with habitual constipation and flatulence these often cause fermentation. In some cases bowel movements are hard to produce, and the faradic current should be used to stimulate the organ. A roller electrode is most convenient; the current should be moderate. In differentiating between atonic and hysteric bowel complications, the abdomen should be examined for hard nodules, which disappear and reappear. These indicate the neurotic nature of the trouble.

71. **Spondylitis Deformans.**—This paper is a brief account of this condition, with the report of a case. The author considers it incurable, and believes that remedies that build up the system should be used.

72. **Sugar in the Urine.**—Elliott redescribes a test for the detection of sugar in the urine, first published by him in the *New York Medical Journal* in 1894. He considers it to have special advantages in its stability, sensitiveness and accuracy.

73. **Aural Vertigo.**—This paper is a general treatment of the subject of aural vertigo, which the author believes to be connected with functional or organic changes in the semicircular canal, though it may have various causes.

75.—This paper has appeared elsewhere, and was abstracted in THE JOURNAL of January 13, ¶ 58, p. 99.

76. **Local Anesthesia.**—Ruflin recommends the use of distension of the tissues with sterile normal salt solution to obtund the sensibility, completing the anesthesia with cocain to the skin. He has operated by this method in a number of cases, one of resection of a rib, one of incarcerated femoral hernia, one of amputation of the arm where general anesthesia was contraindicated, and one of abdominal section. He thinks it is a method worthy of more extended use in many cases where general anesthesia is unadvisable.

80. **Multiple Synchronous Amputations.**—Gibbons refers to a case previously published, in which he performed and superintended synchronous amputations of both arms and legs, two operators working at once. The patient died seven days after the operation. He discusses the advisability and advantages of multiple amputations performed synchronously or in succession, and thinks synchronous operations justifiable when hemorrhage can not be controlled by ordinary means. It is, however, best not to be in too much of a hurry to resort to them. He finds, in Ashhurst's surgery, ten cases of multiple amputation, two of which were synchronous, and adds one more from the literature, all successful. He regrets that he could not have added his case and made an even dozen.

81. This paper has previously appeared elsewhere as an original, see THE JOURNAL of January 27, title 104, p. 221; also title 97, below.

83. **Maggots in Vagina.**—The case reported is one of maggots filling the vagina, in a woman aged 65, occurring after a diarrhea in which she was helpless and neglected. She was relieved by warm carbolic acid solution.

84. **Dynamic Ileus.**—After noticing the literature of the subject, Bacon describes a case of ileus, occurring in a saloon-keeper; one-third of the small intestines was in a state of contraction, including eighteen inches in extreme contraction to the size of a lead pencil. The relief was by celiotomy and manipulation of the intestines. A second attack occurred from injudicious indulgence in sauerkraut, and was relieved by bromid of potash and chloral.

86. **Aortic Aneurysm.**—The methods especially mentioned are the use of wire and gelatin. A case is reported of the latter, in which some slight apparent relief was obtained, and autopsy showed adherent organized coagula covering the walls of the sacculated aneurysm.

87. **Sexual Impotence.**—The chief subject mentioned by Chipman is psychic impotence, relieved by the use of Winternitz' psychrophor, which is described. From his limited experience, the author holds that in the majority of cases the condition is one of hyperemia and hyperesthesia of the prostatic urethra and that in a large percentage the prognosis is unqualifiedly good.

89. **Operation in Uterine Fibroids.**—Manton would operate in all cases of symptom-producing fibroids. Other treatment, he thinks, is temporizing and futile, unless conditions, positive contraindicating are present. When myomectomy is impracticable, total ablation is the operation demanded. The questions of technic are discussed, and the author protests against indifference and delay in this matter.

90. **Sympathetic Ophthalmia.**—Four cases of this disorder are reported, and the author enumerates the conditions under which he would perform enucleation.

91. **Tuberculosis of Peritoneum.**—The special point in this paper is the importance of hygiene, pure air and sunlight as adjuvants to the surgical treatment of peritoneal tuberculosis.

92.—See abstract in THE JOURNAL of Dec. 23, 1899, p. 1617.

93.—**Modern Therapeutics.**—The variations of practice of physicians in the treatment of diseases are noted, and the author sums up the therapeutic measures in which he thinks we can all unqualifiedly agree, as: 1. Hygienic measures of all kinds. 2. The so-called specifics: quinin in malaria, iodids and mercury in syphilis, thyroids in cretinism and myxedema, and antitoxin in diphtheria. To these he would add apomorphin in emotional and paroxysmal hysteria. 3. In a general way we agree on the value of sodium salicylate in rheumatism, iron in anemia, arsenic in some skin diseases or chorea, digitalis and strychnin in certain heart weakness, bromids in epilepsy, viburnum as a uterine sedative, and a few others.

95. **Therapeutics of Reasoning Madness.**—The idea of this paper is that the nervous system is restricted to the "scoring of the data of sense action" and that the red corpuscles of blood have a special psychologic function. The reader can estimate this for himself.

96. **Notes on the Philippines.**—According to the author of this article, the Philippines are fairly healthy for the tropics, and free from some of the most dreaded diseases. Intestinal troubles can be avoided by moderate care in hygiene. Malaria is general but more serious in certain regions. Smallpox has been epidemic, and leprosy is found in many of the islands and requires the attention of the authorities. Beriberi is at present epidemic. Tuberculosis, rheumatism and typhoid occur in about the same proportion as here. Venereal diseases are common; an especially virulent form of chancroid is more frequently met with than syphilis. Skin diseases are common, particularly the so-called dhobie itch, which attacked probably half the army, but is easily controlled, if taken early, by formalin. He thinks that when the condition of the country becomes more settled, Americans can live in comfort and enjoy good health, and some of the temperate highlands will prove valuable sanitariums.

97.—See ¶ 84, above.

98. **Painless Application of Arsenical Paste.**—Nicholson reports a case of removal of probably malignant tumor and the application of orthoform before applying the arsenical paste to the cut surface. The application was painless and recovery apparently perfect.

99. **Conservatism in Surgery.**—Thompson's article is rather extreme in its plea for conservatism in surgery.

101. **Eczema Complicating Wounds.**—Schneck sees, in the predisposition possessed by some individuals to eczema, a rever-

seen in the self-multiplying tendency of some of the lower organisms from which we are presumably derived in the course of evolution. He asks: May we not expect that the manifestations of the same process in carcinoma may be the result of normal [illegible] processes.

104. **Prolapsus of Rectum in Children.** Three cases are reported and the pathology and treatment discussed. Cumston would operate in acute types of prolapsus recti which are irreducible with symptoms of obstruction, in all cases of chronic irreducible prolapse, to avoid future trouble and impairment of the health, and in reducible cases which can not be relieved by milder therapeutic measures.

105. See abstract in The Journal of Nov. 11, 1899, p. 1230.

FOREIGN.

British Medical Journal, January 13.

Concussion of Retina. Sydney Stephenson.—The case reported is one of the condition described by Berlin, in which there is a cloudiness of a portion of the retina not involving the blood-vessels, reaching its height in twenty-four to thirty-six hours, and disappearing in two or three days. It is accompanied with some affection of sight, episcleral congestion, and a difficulty in getting the pupil to dilate from atropin. Berlin's theory was that rupture of the choroid was followed by bleeding and edema of the retina, but Denig has lately maintained that it is due to impingement of the vitreous on the retina, tearing the internal limiting membrane and following the vitreous into the nerve-fiber layer. The alternate elevations and depressions thus brought about in this layer are, in his view, the cause of the ophthalmoscopic appearances. Stephenson's patient was a boy who had been struck with a ball, and there was reduced tension, and at first contraction and later widening pupil.

Carcinoma of Ascending Colon and Its Treatment. W. McAdam Eccles.—Two cases are reported of carcinoma of the ascending colon. In one, death followed six hours after the operation; in the other, the operation was a double one and recovery followed. The author thinks that operation before the signs and symptoms of acute obstruction is comparatively safe. His method of dealing with the mass extraperitoneally is also of interest. In these cases, after exploratory incision and determination of the site of the growth, there should be a free opening, as it is better to risk a ventral hernia than to have an unremoved cancer. If the growth is movable and the intestine not too fixed, he believes that it is best to bring the intestine and tumor out on the surface of the abdominal wall and perform the excision at a later stage. If acute obstruction exists, this is certainly advisable and a temporary artificial anus should be made on the proximal side. When the growth has become so fixed that it can not be brought outside, it may be best to make an anastomosis between the ileum and the transverse colon near the hepatic flexure, and leave the excision till a later operation, when the passage of the intestinal contents has been fully re-established. Such cases, however, are not likely to be successful, as the adhesions imply advanced growth and infection of the lymphatic glands.

Lancet, January 13.

Malaria and Mosquitoes. G. Bastinelli and A. Bignami.—The authors discuss the facts as to the natural history of the malarial parasite and its habitation in man, and conclude that all three species adopt the same species of mosquito as their host, and preserve their distinguishing characters. A single infected mosquito is capable of inoculating malaria into several persons, and of producing a mixed infection. They have endeavored to study the relation between the time of infection and the local appearance of mosquitoes. They find that in winter only relapses of the different forms of malaria are observed, and as the season advances estivo-autumnal fever becomes more and more rare, until in the spring it is very difficult to find a patient with crescents. On the other hand, relapses of tertian and quartan continue through the spring until the beginning of the new season's malaria. It is possible that a primary infection of common tertian may occur in the spring, but the malarial season proper does not commence until the beginning of July and does not terminate until the end of autumn. By studying the laborers working in the malarial region near Rome, the authors find that they become infected with the estivo-autumnal fever at the end of July or the beginning of August, while the infected mosquitoes only begin to appear late in June. It seems, therefore that the malaria endemic was due to infected mosquitoes that have become so from the relapsing patients, though it is difficult to see just how they obtain crescent parasites from relapses, apparently of the tertian fever. It is possible, however, that in some cases, crescents escaped notice. There are still, therefore, some questions to be solved. The practical conclusion, however, which they deduce, is that the treatment of the malarial patient ought to be carried on energetically early in the season, to prevent infection of and dissemination by mosquitoes.

Volkmann's Ischemic Paralysis; Treatment by Tendon-Lengthening. Herbert W. Page.—The subject of Page's article is the ischemic paralysis described by Volkmann, and due to pressure on the muscular field rather than to nerve lesions. In his case he practiced lengthening of the tendon, and found that it produced decided benefit. He thinks it is the first case on record where this method has been employed for this special form of paralysis.

Hypothermia. E. B. Hulbert.—The author reports a case of a patient who died with symptoms of somnolence and coma, but without any gross lesions discoverable on post-mortem. The peculiar fact, however, was his temperature, which was observable for eighty-eight days, and in only eighteen did it register above 98.4 F. On the other hand, on several occasions it went down to below 90. At one time the minimum in one-half hour's exposure in the rectum was only 81.6, while the surface temperature of the chest wall was 75.5 F. He reviews the literature of the subject.

Diet in Typhoid Fever. R. W. Marsden.—The author gives the results obtained in 200 unselected cases of typhoid fever, with variations of the diet from that usually recommended and employed. He did not give a full diet. All patients receive milk only at first, and in mild cases without contraindications, on successive days, bread and milk with custard, fish with mashed potatoes, chicken, bread and butter and finally minced meat, remaining at this stage until convalescence was fully established, while in a severe case peptonized milk, with or without meat juice, etc., might have to be continued well into the period of convalescence. Slight rises of temperature or occasional irregularities of the bowels have not *per se* caused withdrawal of food. The patient's wishes, in the author's opinion, constitute a most important help, and he would add that his actions are an almost infallible guide. In no case was solid food forced on the patient. Taking up the different symptoms, he finds that diarrhea was absent throughout, in 61 cases. In 29, though it was present when fish was given, there was no interference with steady improvement, and in 107 in whom it was present at some time in the attack, though not when fish was given, there was not the slightest evidence of recrudescence. Considering the variability of the symptoms, he does not think we have evidence that careful dieting with solids acts in any way as an irritant to the intestinal mucous membrane. The percentage of hemorrhages—3 per cent. was rather low, and in no case was it fatal. There were no cases of perforation. In 180 of the 200 cases there was no evidence of any alteration in temperature from the food. Relapse occurred in 18; in 9 it was "spurious;" in 27 it was "true." This percentage—13.5—is by no means excessive, and he does not see the connection of relapses with the food established by these observations. He thinks that from a review of these 200 cases it must be concluded that a careful system of dieting, such as he has mentioned, has no injurious consequences, and when one considers the benefits obtained—viz.: more rapid recovery, diminished risk of surreptitious feeding with possibly harmful substances, lessened tendency to bolt food when allowed without proper mastication, and, finally, lessened tendency to asthenic complications, as post-typhoid anemia, gangrene, etc.—one must admit that there is no justification for resisting a craving appetite in the manner at present in vogue.

Annales de Dermatologie (Paris), November, 1899.

Centrifugal, Figured, Atrophying Hyperkeratosis. E. Respighi.—Under this title Respighi describes an observation of what Mibelli calls porokeratosis, and asserts that the latter name is incorrect, as the lesion does not necessarily commence at a pore of any kind, and does not necessarily have a groove. "The essential lesion is an imperfectly cornified, small, ring-shaped band which develops centrifugally, with an interpapillary canal slowly developing by centrifugal progression. The central area within the ring becomes more or less atrophied, with various depressions corked with the horny substance."

Bulletin de la Societe des Hopitaux (Paris), Dec. 28, 1899.

Radioscopic Differential Diagnosis of Broncho and Croupous Pneumonia. G. Variot. The distinct unilateral shadow of croupous pneumonia is unmistakable, but radioscopy of bronchopneumonia is equally effective in the differentiation, although the indications it furnishes are much more delicate. They consist in a slight decrease in the transparency of the lungs, with the decrease most marked on the side in which the lesions are most advanced and most confluent. The edges of the shadow of the heart are also indistinct.

Journal de Medecine de Paris, January 14.

Mechanical Treatment of Sciatica. P. Fretin.—"There is no other method of treatment which gives, so constantly, such favorable results as this when the patient has a certain amount of resignation and the physician a certain amount of skill and practice in mechanotherapy, patience, and confidence in the final success. The treatment is applied every day or every second day after improvement appears, for ten days to several months. The technic includes frictions, massage and vibrations of the nerve trunk; massage and kneading of the entire muscular apparatus of the member; passive extension of the sciatic nerve, and gymnastic movements of the lower extremities and of the trunk. The vibrations can be made with an apparatus. The entire member is first lightly frictioned with the vaselined hand, which soothes the pain, and then more energetic measures are applied, although it may be well to limit the first treatments to massage. Afterward each of the muscles that are painful to move is exercised in turn, with flexion, abduction, rotation, all with much patience, moderation and tact."

Presse Medicale (Paris), January 6.

Therapeutic Problem of Regeneration of Organs. P. Carnot. "Between the complete restitution of a resected segment of an organ, and cellular proliferation restoring functional balance, there are innumerable intermediate stages of what we call the regeneration of an organ. The lower the animal, the more complete the actual restitution. A resected claw may grow out again in a crab, while a resected kidney in man is only functionally compensated by the remaining kidney. The therapeutic problem of regeneration of organs is first to determine the more or less specific causes of cell multiplication. This problem, in spite of its importance, has never been formulated nor systematically studied before. But numerous observations of cell multiplication are on record and, with the writer's experimental research, have established that these causes may be either mechanical, toxic, infectious or physiologic." He mentions, among other instances of proliferation due to a mechanical cause, corns and an observation of Albarran's of an intense epithelial proliferation around some eggs of the Bilharzia in the bladder. The influence of toxic chemical agents on cellular proliferation is twofold: they stimulate, and then, in stronger doses arrest it. The substances which have the widest range in this respect, which stimulate with the smallest and require the largest dose to arrest cellular activity, are naturally best adapted to therapeutic application. Among these the compounds of iodin occupy the most prominent place of all substances tested. A fragment of liver grafted into the peritoneum of a dog with a weak solution of cantharidin in acetone instilled at the spot, persisted in a most remarkable manner while the control grafts were all rapidly absorbed. The influence of infectious agents and their toxins on cell multiplication has long been noted: the rapid growth frequently observed after convalescence from typhoid and other fevers and the experimental epithelial proliferation after injection of weak doses of toxins into the circulation, besides hyperleucocytosis and cellular hyperproduction in the marrow and ganglia. Proliferation in this case has a more specific character. This or that toxin or microbe has a stimulating influence on certain cells and not on others—smallpox, vaccin and verrucous infections affect the cells of the epidermis, other toxins excite and then paralyze the nervous system, others the lungs, others the intestines. It might therefore be possible to stimulate the general proliferating power of the cells or, more specifically, the cells of the nervous system or of the alimentary canal, liver, pancreas, etc. The writer adds that he has in fact realized most interesting results in this line, particularly with typhoid infection and therapeutic sera, but further experiences are necessary before he can announce them. The fourth group of causes that determine the multiplication of cells is the *physiologic.* We know that after fecundation and during the entire life of the embryo the cells are stimulated to extraordinary proliferation. Experiments to determine the cause of this abnormally frequent proliferation were made with spermatozoa injected at different points, and also with the bodies of embryos in rapid development, to learn if there might not be some chemical substance in them which stimulates cell proliferation. The results are difficult to interpret, and further study is required, but the fact of a stimulation of cell proliferation is undeniable, and the impression was produced that this stimulation was specific and affected similar elements. In experiments with the yolk of egg introduced into the liver, the neo-vessels developed by the end of the second day, but the cicatrization, although rapid, was almost exclusively connective tissue. Danilewski recently called attention to the stimulating effect, on the general growth, of lecithin, which is so abundant in the body of the embryo. "This line of study should be followed further, as it promises to yield practical results." The more or less specific substance contained in the embryo is also found in the adult, as is evidenced by the success of organ therapeutics. Extract of the liver, for instance, is a physiologic stimulant to the liver cells, and it need not surprise us if it should also stimulate their proliferation. In a personal observation related, a woman with syphilitic cirrhosis of the liver and serious hepatic insufficiency was completely cured of the latter with liver extract, while apparently a new lobe developed. Others have seen the suprarenals increase in size under treatment with suprarenal extract, and the thyroid with thyroid treatment. It seems, therefore, to be established that the extract of an organ contains some substance or substances which stimulate the proliferation of the organ, and thus in organ therapeutics we already have a means of "therapeutic regeneration." Metschnikoff's latest research is based on this same principle of a "physiologic stimulant;" the utilization of the stimulating phase of histolytic sera. (The Journal of January 20, p. 189.) But it is a question whether there is a sufficiently wide margin between the dose that stimulates and the dose that destroys, to admit of their therapeutic application; also, whether this proliferating stimulation is much superior to that of the other stimulants mentioned above. An interesting point brought out in the course of the writer's research was that, as the function makes the organ, the functional secretions of a gland may stimulate its cellular proliferation. One kidney and a half of the other were resected in a dog; the remaining half proliferated rapidly until it attained normal size and function was re-established, when proliferation ceased. "There seems to be a very remarkable automatic regularization between the number of anatomic elements of an organ and the intensity of its functional activity in such cases. This law might be developed and utilized in therapeutics." The influence of nutrition on the proliferative activity is evident, but it is not alone sufficient to induce it. Local hypernutrition alone will never stimulate a cell to proliferate. The writer is now experimenting to see whether it is possible to determine and control the substance or product in neoplasms which stimulates them to such rapid growth. He concludes, from his research in general, that proliferation of the cells seems to be a reaction common to a large number of stimulating agents. Most of the reactions are too transient for therapeutic application, but there are some, more durable and more specific, which affect a certain kind of cells, and these we should study to bring under our control. This will be the more easily accomplished according as the regenerating and degenerative phases are more widely separated.

Archiv f. Exp. Pathologie (Leipsic), xliii, 3 and 4.

Effects of Antipyretic Drugs. L. Krehl.—The research of the writer and his pupils, who follow with two other articles on the subject, establishes that the action of the antipyretic substances is in all probability extremely complicated, excitation and paralysis blending in the strangest fashion in the most diverse cells. Quinin and the antipyrin group induce phenomena of paralysis in animals whose heat regulating apparatus is altered in consequence of some disease, and this paralysis leads to a diminution of the spontaneous heat. These facts should be applied to man, with due reserve, but the paralyzing properties of the antipyretics should be borne in mind at the bedside and induce caution in administering them.

Effects of Suprarenal Extract on Heart and Vessels. R. Gottlieb.—Experiments with the isolated heart of cats and other mammals showed that suprarenal extract had a direct stimulating effect on the frequency of the pulse and raised the blood-pressure, while the heart-beat was much strengthened. The extract, therefore, not only affects the vessel-walls but also the motor apparatus of the heart itself.

Centralblatt f. Chirurgie (Leipsic), January 6 and 13.

Amputation of Penis. H. Lucas.—The stricture at the orifice of the urethra which occurs so often after amputation of the penis, can be entirely prevented by saving and isolating 3 to 4 cm. of the urethra, drawing it out and turning it down all around over the stump of the rest of the penis, which subsides out of sight after the edges of the tunica and the corpora cavernosa have been sutured together all round. The turned-over urethra forms a circular roll projecting .5 cm. above the skin, to which it is sutured all around and to which it soon grows. In an observation related at length the subject urinates in a large stream and never soils his clothing. The operation dates from over a year, and there is no trace of a stricture. Another observation is added for comparison, showing the discomforts of the stricture, eczema and erysipelas that have followed the old methods of amputation. In case of carcinoma the glandular metastases are sought and removed at a second operation.

New Method of Treatment and Drainage in Generalized Peritonitis. F. Bode.—This preliminary communication describes the particularly favorable results obtained at the city hospital at Frankfurt a. M., by taking out the entire contents of the peritoneal cavity after a median incision, pelvis elevated, without regard to slight fibrinous adhesions, but under constant sprinkling of warm physiologic salt solution, poured from a china pitcher holding one or two liters. The intestines are wrapped in compresses moistened with the salt solution, and the warm solution is poured over them from time to time to prevent their chilling. Strange to say, instead of this procedure inducing collapse, on the contrary, the weak, rapid pulse becomes fuller, probably from diminished intraperitoneal pressure and removal of toxic substances. The perforation causing the trouble is easily found and sutured. The empty peritoneal cavity is thoroughly washed out with thirty to forty liters of the salt solution, with especial attention to the liver and spleen regions and the small pelvis. The fluid accumulating in the depressions is very gently mopped up with compresses, and when the cavity and the serosa of the intestinal loops have thus been cleansed of their suppurating secretions, the loops are replaced under continuous sprinkling with the salt solution. This is easily accomplished: the red and meteoric loops frequently contract with peristaltic movements under the influence of the salt solution. A loop about the center is then lifted: the mesentery stretched taut, and a slit made in it at a point free from vessels near the radix mesenterii. A long drainage-tube is passed through the slit, forming an arch as the loop is replaced, the ends of equal lengths passing through the peritoneal cavity and emerging through two new incisions to the left and right, just above the colon. The tube has a number of openings along the center. Besides this main tube, another is inserted in each side incision; a fourth in the lowest point of the median incision and a fifth in the liver, stomach or spleen region. The abdomen is then closed; the air left in the peritoneal cavity is expelled by pouring in more salt solution as the suture is progressing, leaving a considerable quantity of salt solution in the abdomen. The permeability of the main drainage-tube is also assured by sending a little salt solution through it, under slight pressure. The patient is put to bed with the head and shoulders raised, to send the fluid down near the drain-tubes, and the abdomen is rinsed out two or three times a day with 1000 to 1500 c.c. of the saline. "By this combination of rinsing and drainage it was possible to evacuate quite considerable quantities of pus from the abdominal cavity in seventy-two hours, without material discomfort to the patient. We frequently observed that the rinsing was followed immediately by increased peristaltic movements and passage of flatus, much to the relief of the patient, and amounting in some cases to slight diarrhea under the influence of the salt. There is nothing to prevent permanent irrigation through the main tube. Serious symptoms usually disappear by the third or fourth day, when the rinsing tube is removed and the drain-tube replaced, at first with smaller drains and then with loose tampons, and the openings finally closed. Generally speaking, the course of peritonitis treated according to this method was remarkably smooth and mild, convalescence extremely short, and the patient usually completely recovered by the end of three weeks. Similar irrigations, practiced on the cadaver with colored solutions, showed that the fluid penetrated to the remotest portions of the abdominal cavity, even under very adverse circumstances."

Deutsche Medicinische Wochenschrift (Leipsic), January 11.

Testing Tetanus Antitoxin: Its Application in Practice. E. Behring.—Reliable statistics to determine the efficacy of this antitoxin can only be obtained when the treatment is commenced not later than thirty hours after the recognition of the first symptoms of tetanus, and with a dose of not less than 100 A. E. (antitoxin-einheiten or units). Behring thinks that if the mortality is reduced to even 15 per cent., we should hail the antitoxin treatment as a great progress. In order to accomplish this it should be on hand in every hospital and every drug store, and it is now put up in 100-unit vials. "The main point is its early use, not increasing the dose." Behring has succeeded in producing an imperishable tetanus toxin by adding malachite green, natrium phosphate and toluol—and offers it to scientists at a low price in exactly the amount that is neutralized by 1/1000 antitoxin units, and, mixed and injected into a mouse, leaves the animal healthy. He hopes that this or something of the kind will be accepted for international control of the tetanus antitoxin, similar to the tests with diphtheria antitoxin. With this test Tizzoni's tetanus antitoxin is shown to be very weak. The Steglitz Institute for Testing Sera states that 700 c.c. or ¾ of a liter of the foreign antitoxin would have to be injected to obtain 500 Behring units, such as are contained in 50 to 100 c.c. of the Behring antitoxin. He disapproves of intravenous injections, and still more of intracerebral, but warmly indorses Tizzoni's method of subcutaneous ones as near the point of infection as possible. "There is scarcely any limit in respect to the amount that can be injected in a horse, but in man a single injection should never be over 20 c.c." In the most concentrated form—10 units to 1 c.c. of antitoxin—this would be only 200 units, and this he now considers the maximum amount, instead of 500 as he formerly announced. For prophylactic administration he considers 10 to 20 units fully sufficient.

Assimilation of Food by Newly-Born. H. Cramer.—To determine the exact quantity of food most desirable for infants up to the tenth day after birth, Cramer instituted numerous series of observations, which have established that there is a certain quantity, which produces the largest increase in weight, and this optimum is the method of feeding which, with the smallest possible amount of food ingested, produces the largest increase in the weight. Strange to say, this optimum is almost exactly the same for breast milk and for cow's milk, as is seen in the table:

	Day.								
	1.	2.	3.	4.	5.	6.	7.	8.	9.
Krueger's method	12 to 15	96	192	234	363	441	501	518	621
Schlesinger's method	0	80	160	240	320	360	400	490	
Breast milk	0	20	70	120	190	260	270	290	300
Cow's milk, 1:2	15	30	45	100	170	220	260	290	350

The infants fed by the first method only gained 5 to 10 grams a day, while in the two last series the physiologic development was attained, that is the loss of 230 grams after birth was made up by the tenth day, and surpassed. The proportion of the amount of food that appears in the increased weight with this optimum is 17.1 per cent. in breast-fed, and 18.9 per cent. in bottle-fed infants. In those fed by Krueger's method it was only 1 per cent. The importance of limiting the amount of food during the first ten days is urgently emphasized by these facts; which have never been systematically studied before, and neglect of them has undoubtedly led to many mistakes in the study of absorption and analysis of excreta in infants. The physiologic development of the infant with such a small amount of artificial food certainly indicates that the assimilation of the food, and especially the splitting of the nitrogenous substances, occurs as perfectly with cow's milk as with breast milk. Establishing the physiologic minimal amount will afford a reliable test for the actual value of artificial foods. Another point studied by the writer was the amount of force exerted by the infant in sucking. He found it much greater than generally assumed. Breasts, mechanically aspirated and the amount of resistance measured with the manometer, showed that a negative force of 58 to 140 cm. of water was required to obtain the milk in some cases, and this explains why infants go to sleep after nursing the breast, from fatigue. A nursing-bottle does not require more than 3 to 8 cm. negative force, and the milk is obtained in a small fraction of the time. This extreme difference between the labor of natural and artificial feeding may have an appreciable influence on the metabolism.

Muenchener Medicinische Wochenschrift, January 2 and 9.

Influence of Fluorescent Substances on Infusoria. H. v. Tappeiner.—The Paramecium caudatum is destroyed in a one per million solution of phenylacridin in a few hours. Acridin is also poisonous in a lesser degree. Tests with the hanging drop showed that equal parts of a 1 per 1000 solution of acridin killed it immediately; 1 per 5000 in thirty, and 1 per 10,000 in sixty minutes. But the astonishing fact was discovered that a 1 per 20,000 solution, exposed to the sunlight, killed the infusoria in six minutes; exposed to diffused light, in about an hour, while in the dark the infusoria were still alive after 100 hours. The sunlight alone has no destructive influence on the infusoria, and neither has the acridin solution alone. Tests with other substances showed that only the fluorescent have this singular property of killing in combination with sunlight, which develops the fluorescence, while they are harmless to the paramecium transferred to the dark. They are also harmless even in the light, if fluorescence is prevented. Further experiments established that the paramecium is not destroyed by the effect of the fluorescent light, but by the process which excites the fluorescence. O. Raab, who made the tests, believes that fluorescence is a transformation of the energy of the rays of light into chemical energy, similar to chlorophyl—"another highly fluorescent body"—only with the difference that this transformation is destructive to the paramecium, while in plants it is a vivifying process. The influence is probably not limited to the paramecium, and should be studied in the skin, cornea, blood and lymph serum, which are also slightly fluorescent. Fluorescence should also be studied in another direction, as possibly the ingestion of fluorescence-producing substances, combined with phototherapy, might produce unexpected results. Raab calls attention to the "hitherto mysterious affection that sometimes appears in light-colored sheep and swine after eating buckwheat on sunny days, possibly due to the formation of fluorescent substances out of the feed." "Therapeutics may yet benefit by fluorescence, as photography has empirically learned the value of eosin and other fluorescent substances for sensitizers."

Strange Influenza Eruption. Rieger.—Two persons besides Professor Rieger himself, all residing on the same floor, after insidious manifestations of influenza, with a peculiar itching of the scalp and face, for some months, passed through a similar experience: a chill, high fever and a marked swelling of the entire scalp, the veins prominent and every appearance of a subcutaneous effusion, especially at the worst itching points which had been scratched thin and protruded beyond the rest, each at a sweat gland. This swelling lasted twenty four hours, when the forehead became affected in the same way, "the scalp returning completely to normal after its water-bag appearance." After the forehead, the roof of the nose and the nose and cheeks were affected in turn, each region swollen separately for twenty hours and then returning to normal, with no scaling nor erysipelatous inflammation. In ten days the symptoms, including the fever, all passed away, leaving extreme depression and weakness, as usual after influenza. The swelling seemed to be restricted to the points directly over the bones.

Convulsions in Children. J. Lange.—This address, read at the Congress of Physicians and Naturalists, goes over the same ground as the articles and discussions reported in the last volume of The Journal, but Lange warns against too small doses of the bromids: "We can tranquilly prescribe a teaspoonful every two hours, of a 5 per cent. solution of bromid, and with children over a years old a 'child's spoonful,' until the seizures are arrested." He also warmly recommends phosphorus for so-called idiopathic convulsions. In forty-eight or seventy-two hours, the most rebellious and inveterate convulsions are arrested, and if the phosphorus is kept up for a few weeks, they do not recur. This applies not only to rhachitic children but to those in whom the convulsions are induced by autointoxication or other causes. He is convinced that phosphorus has a direct antispasmodic action, and mentioned an experiment with a three-weeks-old dog, to whom he administered 0.002 phosphorus internally for six days, while the control pup of the same litter did not receive any phosphorus. Each dog was then injected with 1 mg. of strychnin. The phosphorized dog was only slightly affected and recovered completely in twenty minutes, while the other had most intense tetanic convulsions vomiting, etc., and was only kept alive with ether.

Hemorrhages from Endometrium in Sclerosis of Uterine Arteries. M. Simmonds. The writer, who is prosector at Hamburg, states that he finds apoplexia uteri in every third or fourth elderly woman who comes to dissection, but that this condition is probably a pre-agonal process in vessels affected with arteriosclerosis. Curetting does not reveal arteriosclerotic processes in the endometrium but if other causes are excluded, in case of obstinate uterine hemorrhages, arteriosclerosis should be borne in mind and the organ removed as a last resort.

Application of Photographic Developers to Histology. Salge and Stoeltger.—The preparations were laid in a 0.5 per cent. solution of silver nitrate for three minutes and then, after rinsing in distilled water, transferred to a 5 per cent. solution of sodium iodid or bromid for one minute; then rinsed and developed with "amidol developer," the same strength as used in photography. The result was a "magnificent staining of the nuclei" with an elective stain for rhachitic bones, and remarkable differentiation of the osteoid substance of decalcified objects. This method of staining is a distinct advance, a special advantage being the superiority for photographic reproductions. If the stain is not strong enough, the process can be repeated as often as necessary. The photographic method of "strengthening" with uranium also proved another progress. Preparations thus treated acquired a handsome reddish-yellow tone, and proved particularly fine for microscopic study and colored projections. Lithio-carmin seems to be the best contrast stain for the merely silvered preparations, and methylene blue or water-blue iii, B, for the uranized.

Centralblatt f. Gynaekologie (Bonn), 1899, 5.

Treatment of Serious Interference with Birth Consecutive to Vaginofixation of Uterus. W. Ruehl.—The fetus in such conditions is pressed toward the promontory, the fundus is low, the cervix high, and as the small pelvis is bridged by the anterior uterovaginal wall, there is no room for the passage of the child. The writer has incised, in three such cases, the anterior lip of the cervix and the anterior uterovaginal wall, making an opening large enough to admit the hand, through which the fetus was easily extracted, with no injury to the mother, one living child. The uterus is then drawn out to the vulva and sutured at once. The chief advantage of this operation over Cesarean section is that it is extraperitoneal. Another advantage is the absence of danger from hemorrhage from laceration of the vagina from efforts to raise the uterus. In eight such cases in literature, treated with Cesarean section, 50 per cent. of the mothers died. "Correct vaginofixation, in which not the fundus but a lower part of the uterus is fastened to the vagina, will not interfere with later births."

Sore Nipples.

℞. Olei olivæ . . . [illegible]
Lanolin
Petrolati āā . . . [illegible]
Acidi borici . . . [illegible]

M. Sig. Smear the nipples gently and cover with antiseptic gauze.

Societies.

Weber County Academy of Medicine.—The annual election of officers of the Academy, which was recently held, resulted as follows: president, George W. Baker; vice-president, John D. [illegible]; secretary, John S. Gordon; treasurer, S. L. Brick; librarian, G. W. Perkins.

Mercer County Medical Society.—The following are the newly elected officers of this Society, chosen at the recent meeting at Greenville, Pa.: president, J. C. Bachop, Sheakleyville; vice-president, J. C. Weidman, Mercer; secretary, J. F. Shutt, Greenville; treasurer, F. G. Byles, Fredonia.

Dauphin County Medical Society.—This Society met in Harrisburg, Pa., January 17, and elected the following officers for the ensuing term: president, Marion Ulrich, Millersburg; vice-presidents, George B. Kunkel and W. F. Wright, Harrisburg; secretary, P. A. Hartman, Harrisburg; treasurer, E. H. Coover, Harrisburg.

King County Medical Society.—At the annual election held in Seattle, Wash., January 15, this Society elected the following officers: president, R. W. Schoenle; vice-president, J. H. Lyons; secretary, Chas. B. Ford; treasurer, Samuel J. Holmes. The business meeting was followed by the annual banquet at the Ranier Club.

Seaboard Medical Association.—The Seaboard Medical Association of Virginia and North Carolina met at Newport News, Va., early last month. Officers for the current year were elected as follows: president, Henry W. Lewis, Jackson, N.C.; first vice-president, Fletcher Drummond, Jarksley, Va.; second vice-president, M. Bolton, Rich Square, N. C.; treasurer, C. O'H. Laughinghouse, Greenville, N.C.; secretary, John R. Bagby, Newport News, Va.

St. Joseph Medical Society.—This Society held its annual election of officers, at its regular January meeting. The following were chosen: president, Jacob Geiger; vice-president, G. L. Sherman; treasurer, W. T. Elam; secretary, John M. Bell. A resolution deprecating the Gallinger antivivisection bill, now before Congress, was introduced and passed. W. T. Elam read a paper on "Internal Urethrotomy." He divides all anterior strictures (organic) with a probe-pointed scalpel, then keeps the track patulous by frequent sounding. He has never had any uncontrollable hemorrhage.

New York County Medical Association.—At the last meeting of this Association, a resolution was introduced by Dr. John T. Nagle, calling attention to the present status of acting assistant-surgeons of the United States Army, as compared with those of the navy, and asking that the delegates from the Association to the state association and also to the AMERICAN MEDICAL ASSOCIATION be requested to bring to the notice of these associations the good points of Senate Bill No. 1782, introduced into the United States Senate last month by Thomas C. Platt. The matter was referred to a committee for advisement. The bill is printed in our "Miscellany" columns, this week.

Chicago Academy of Medicine.

Jan. 12, 1900.

CASE OF SYPHILIS.

DR. J. FRANK BALDWIN showed a case of syphilis in a male, German, unmarried, and 37 years of age. When seen on Nov. 4, 1899, there were four ulcers in the vertex, each 2 cm. or more in diameter. Over the right supraorbital ridge was an ulcer about 1.5 cm. in diameter. These ulcers were covered with a crust from 5 to 10 mm. in thickness. The entire nose was gone, as far back as the bony septum, the remaining portion being a crust barely 1 cm. in thickness. The left side of the soft palate was entirely destroyed and the right badly ulcerated. On the right arm was an ulcer about 1.5 by 2 cm. in dimensions. The right forearm, from above the elbow-joint to the wrist, on its extensor surface, presented an almost continuous ulcer. The left presented the same condition, excepting that the elbow-joint was not involved. Both thighs, on their external surfaces from the upper third to the knee, presented numerous ulcers. On the inner surfaces were several ulcers. The tibial surface of both legs from the knee-joint to the ankle was an almost continuous mass of ulceration. The calf of the left leg was covered with an ulcer which extended from the junction of its upper and middle thirds to near the ankle, and transversely to an extent nearly one-third of the circumference of the limb. The right great toe had on its extremity an ulcer which had progressed nearly to the bone. The second toe of the same foot was covered with an ulcer extending from the base to the tip. The discharge from these was exceedingly profuse and fetid. In addition to the areas of active ulceration, there were the remains of over eighty lesions on the man's trunk, none of them less than 1 cm. in diameter, and ranging in size from that up to half the size of one's hand. For the most part, these lesions had healed. All the eruptions had taken place within the previous fourteen weeks. The patient declined from 178 pounds to 90 within that time. He gave a history of chancres seven years previously, which had been cauterized, and after a few weeks' treatment he had been discharged as cured.

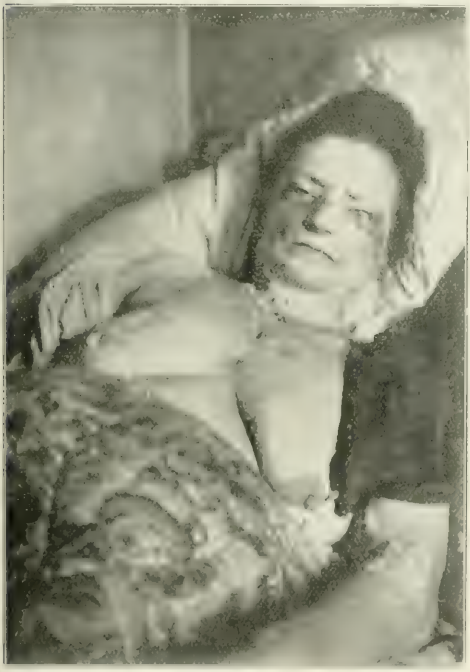
He was placed on the following treatment: Wet bichlorid of mercury dressings were applied to all ulcerated surfaces, excepting on the cranium, and ordered kept constantly wet, being renewed once in twenty-four hours. After the first week the wet dressing was applied to the head, a few days being required to remove the crusts and to stop suppuration. Internally he was given the pure juice, flavored with salt and pepper, from five pounds of beef, daily, and this amount was increased during the first week to that from eight pounds of beef. He was also given 40 gr. of iodid of potassium, t. i. d., the dose being increased to 15 gr. t. i. d., during the first week. Following the removal of the crusts and cessation of the suppurative process, the ulcers were dressed with Unna's emplastrum hydrargyrum mull. On the eighth day he sat up in bed to eat, on the tenth he walked with crutches, and on the fourteenth he walked to his meals unassisted. He now weighs 187 pounds.

MYCOSIS FUNGOIDES.

DR. BALDWIN also presented a Polish woman, 40 years of age, married, on whom, 11½ years ago, a pimple appeared on the left cheek, and gradually extended and spread over the nose, both cheeks and surrounded the eye, producing pronounced cicatricial ectropion and leaving white scar tissue in place of the normal skin. The process was painful and itched. From the face the lesion spread to the right side of the neck, where it remained quite stationary for about seven years. During the past three years the activity of the process has been revived, and it now completely encircles the neck, extending in front of the right ear on to the cheek for about 5 cm. in front of the inferior maxillary angle, and down the sternum as far as the ensiform.

Within the past year a separate lesion has appeared on the right breast, which now measures about 6 by 15 cm. A new lesion has appeared in the past three months, on the face, beginning as a pimple on the right cheek near the base of the nose and about 2 cm. below the right eye. From here it has extended to the bridge of the nose, in a mesial direction, and as far laterally as the corner of the mouth, and reaching from this point to the lower border of the right eye. The seat of this one is entirely on the location of the original eruption eleven years ago. A lesion has appeared within the past nine weeks, on the abdomen near McBurney's point, which now measures about 6 cm. in diameter. About seven weeks ago another appeared on the anterior surface of the right thigh, which now measures about 4 by 8 cm. in extent, and within the last three weeks two more lesions have appeared on the left inguinal region which now measure about 3 cm. in diameter. The later eruptions have the appearance of a fungoid excrescence, and are raised above the surrounding tissues from 2 to 5 mm. Looked at from above, they have the appearance of a cauliflower mass that has been tightly compressed together. For the most part the surfaces of the excrescences are quite flat and even; those on the abdomen are less so, and are sunken and irregular in the center. The older eruptions have a less elevation than the more recent, but all are distinctly elevated. The color of the later eruptions is a light red with a tinge of purple. The one on the face is more of a brown. They are firm to the touch. The ones on the thigh and the neck are very sensitive and painful; the one on the neck itches; the others are not painful. About the margin of the eruptions on the abdomen is an area about 1 cm. in width and dark and angry-looking. About the one on the thigh this is less marked; and about the older ones still less so.

The original eruption on the face, eleven years ago, began as a black pimple, from which a history of but little discharge was obtainable. The eruptions on the breast, the thigh, and the abdomen began, in the patient's own words, as "small swellings having a covering like tissue paper," which broke with discharge of fluid. From time to time crusts have appeared which have dried up and fallen off. At present the application of an oily preparation seems to prevent their formation. There is little oozing. At times there is some fetor. The inguinal glands are not enlarged. The epitrochlear glands are not palpable. During the past two weeks there has developed anesthesia to touch and pain and some paresthesia in the ulnar region of the right hand, extending from the wrist to the tip of the ring and little fingers. There has developed, within the same time, tenderness with rheumatoid pains over the entire left tibia.



The patient has borne fifteen children, nine of whom are dead and the others living. There is no history of any sore throat, nor falling of the hair, nor any necrotic ulceration. The lesions have always appeared distinctly raised above the surrounding tissues. The husband came to this country 1½ years before the wife, but reveals no history of sore throat, falling of the hair, nor eruption of any kind. The patient was well-nourished, there being considerable excess of abdominal adipose tissue. She sleeps poorly on account of pain and for the past six weeks has had little appetite.

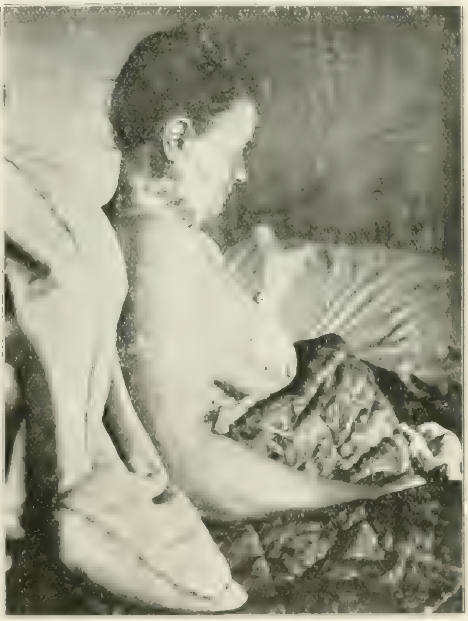
Dr. Baldwin is inclined to believe that the case is one of epithelioma. The microscopic findings are these: Histologically, an epithelioma; atypical epithelial cell proliferation into the deeper tissues. Sections were stained for tubercle bacilli, but none found, though stained by thionin, methylene blue and the Klebs and triple stained for protozoa, deeply staining bodies with hyaline rings in epithelial cell masses were probably protozoa. A few organisms were found with double contour

DR. WILLIAM L. BAUM said the treatment of the first case presented had been very successful, and illustrated the necessity of treating these energetically. The diagnosis had been made some time before by the attending physician, and the patient had, at the time he saw the case with Dr. Baldwin, several healed spots.

The second case was interesting and instructive on account of its apparent rarity. The history, its long duration, the successive itching, followed by the gradual spread of the disease toward the periphery, and its fungoid-like character, bespoke for it the condition known as mycosis fungoides. As the essayist was giving a description of the case, Dr. Baum thought it doubtful as to whether lupus was present, but after the histologic examination, the appearance of the tumors, and the clinical history, he was led to believe otherwise.

[Here he passed around photographs from Kaposi, illustrating characteristic cases of mycosis fungoides, which differed materially in some respects from some of the published cases in this country.]

Mycosis fungoides can be divided into stages. In some cases eczema is the primary condition, followed later by the fungoid hypertrophies so characteristically shown in the patient exhibited.



As regards the blastomyces found in Dr. Baldwin's case, it was questionable in his opinion whether these were not entirely accidental infections. At the present time it has not been satisfactorily demonstrated that blastomycetic dermatitis is a distinct clinical entity, just as the case under consideration was not, strictly speaking, an epithelioma in its beginning, but became secondarily so and belonged to the atypical forms.

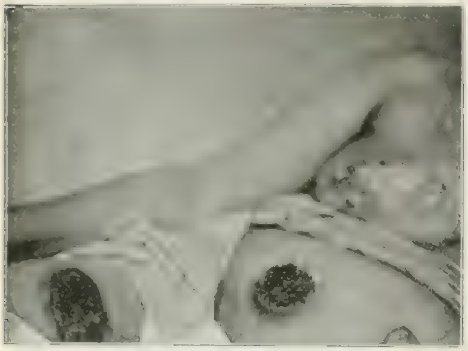
DR. EUGENE TALBOT asked in what percentage of syphilitic cases the bones of the face and jaws are affected.

DR. BAUM replied that in only a small percentage are there demonstrable lesions of the bones of the face, particularly in untreated and in those cases in which only mild measures of treatment had been carried out. Some of the bone lesions, i. e., necrosis of the maxilla, are caused by hydrargyrum stomatitis.

DR. DAVID LIEBERTHAL agreed with Dr. Baum in the diagnosis of mycosis fungoides in the second patient. He thought epithelioma could be excluded on account of the appearance of the lesions. In the center of the more recent eruption there was almost no visible infiltration, while the margins presented dense and prominent infiltration rings, a condition not usually observed in epithelioma. As to the case being one of atypical epithelioma, it is comparatively easy to account for this supposition, as the microscopic findings in cases of mycosis fungoides are misleading in many respects.

In reference to the presence of blastomyces in this patient, he is of the same opinion as he expressed after the first case of so-called blastomycetic dermatitis in Chicago was presented to the Chicago Medical Society by Drs. Hyde, Bevan, and Hektoen: That there is no such thing as blastomycetic dermatitis *per se*, but that blastomyces is found secondarily to previous lesions.

Dr. Harold N. Moyer said the experience of the essayist thoroughly corresponds with his own in regard to the administration of large doses of the iodids. In nervous syphilis it is necessary to use large doses of iodid of potassium; it is bad practice to begin with small doses and work to larger ones. He has yet to see his first case of severe iodism from the administration of large initial doses of the iodids. In a case of cerebral tumor, in which he gave the patient a saturated solution, the dosage was so rapidly increased that the patient reached 750 grains in seven days from the beginning of treatment. Large doses have less effect both on the mucous membrane and the skin. He said that an explanation of the peculiarity of the iodids has been offered by a French writer—V. Cyon—who states that small doses of the iodin salts combine with certain products of the thyroid gland, forming iodothyrin, and this circulating in the blood produces constitutional symptoms. On the other hand, if large doses of the iodids are administered, they act as diuretics and are promptly eliminated by the kidneys in the form of soluble salts.



Dr. Baldwin, in closing the discussion, said that the secret of giving large doses of iodid of potassium was to give plenty of water. In reply to the question of Dr. Talbot, he said he had seen eight cases of syphilis in which there was destruction of the nasal bones from this disease.

NON-SYPHILITIC RESULTS OF SYPHILIS.

Dr. J. J. Quirk read a paper with this title, and said that some sixteen years ago, in a discussion of the relation of neuroses to syphilis, the claim was made by E. Fournier that syphilis does not produce true paretic dementia, but a symptom-complex mimicking that disorder, though distinct in type and therapeusis. This view was combated by Kiernan, who, at the end of an analysis of the evidence *pro* and *con*, pointed out that paretic dementia produced by syphilis does not necessarily differ pathognomonically in onset, in clinical progress and resistance to therapeusis from the non-syphilitic type.

Some ten years later Bannister advanced evidence to show that paretic dementia was a toxin disease. Hutchison of London had advanced the view that certain irregular types of teeth were diagnostic of inherited syphilis. Eugene S. Talbot, after analyzing numerous reported and many observed cases, pointed out that the so-called Hutchinson teeth often arise from congenital conditions other than those of syphilis. Some eight years ago in the paper read before the Chicago Academy of Medicine, G. F. Lydston pointed out that syphilis exerts an influence on the repair of surgical lesions.

Within five years after the discussion referred to above, Fournier abandoned the stand he had taken, and enunciated a now-generally-accepted view which is an application of the principle advocated by Kiernan. Hutchinson, after a more extended study, found that one-third of the cases of Hutchinson's teeth occur, as Talbot had pointed out, in non-syphilitic subjects. Since that time, while not generally recognized by the profession, or even by some syphilographers, non-luetic results of syphilis, or syphilitic dystrophies, have attained great importance, and frequently appear in the literature.

In essence, the non-syphilitic phenomena of syphilis are best illustrated in the influence of syphilis during the intrauterine periods, at the periods of stress, and the periods of involution—male and female, climacteric, senility, etc. Dr. Quirk dealt only with the periods of intrauterine life, and of evolution—dentition, puberty, etc. There are, he said, as Fournier remarks, two hereditary expressions of syphilis which are essentially expressions of direct or indirect etiologic influence respectively. The first of these is the transmission of syphilis as syphilis from the ancestor to the descendant. The second is the transmission, from the ancestor to the descendant, of sundry pathologic characteristics, having nothing syphilitic in type per se, but consisting in the reactions—to the syphilitic defect of constitutional imperfection and an element of embryonic development shown in the arrest of development—to the shock of syphilitic infection of the parental constitution. The first of these congenital conditions constitutes syphilitic heredity properly so-called. The second has been designated by various terms which evince its complex expression: parasyphiloses, dystrophies, toxinoses, etc. In dealing with these last types two factors have to be taken into consideration; embryologic states and the influence on these exercised by the paternal and maternal organism as influenced by syphilitic infection. Perhaps the most demonstrable and most familiar instance of syphilitic shock to embryonic development is the arrest of the fetus at the senile or simian period of embryologic development, i. e., at about 4½ months of intrauterine life. The old age appearance of a congenital case of syphilis is not an expression of syphilis per se, but an arrest of development of the fetus at the so-called senile period. Every one of the degeneracy stigmata may, however, be produced by syphilis of the ancestor.

Dr. William L. Baum said that the arrest of nutrition in the syphilitic mother, as having a bearing on the child, is of exceptional interest to the general practitioner, as well as to those who are interested in special lines of work. There may be pre-existing syphilis in the parent, but this should not always be held responsible for arrests of development as observed in the child. There are many patients with arrest of development, supposedly specific in nature, who present notched teeth, etc., which are found in the non-specific and in chronic exanthemata like ichthyosis and psoriasis. He has examined children in a family in which there was no specific history given, although all the children had notched teeth. The same thing holds true of some of the nervous lesions which are attributed to syphilis. A paresis might be due to a nutritional change having syphilis as its exciting cause, still there are factors other than syphilis which may be responsible for similar changes in nutrition.

Dr. L. B. Baldwin said he knew of a family of five, all of whom had the typical Hutchinson teeth, and yet there is no history of syphilis in the family. All of them have had psoriasis. One member consulted a New York specialist at one time; he examined the teeth and said the condition was due to syphilis; consequently, in treating the psoriatic eruption he did not get good results, because he did not treat the patient for psoriasis.

Dr. James G. Kiernan said that some seventeen years ago, in an article which appeared in the *Alienist and Neurologist*, he took the position against Fournier, that paretic dementia might occur from a syphilitic etiology without responding either to the ordinary clinical phenomena of syphilis or to therapeutic tests. Fournier at that time took the ground that there was a true paretic dementia which arose idiopathically, and that there was a syphilitic paretic dementia which responded to therapeutic tests. Since then Fournier has abandoned that idea, and now takes the position that paretic dementia and locomotor ataxia are both parasyphiloses.

Dr. Quirk said but little about one of the phenomena which is ordinarily charged to congenital syphilis, namely, the old-man appearance of the child. The child presents a senile appearance resembling certain of the anthropoid apes, and an arrest of development at the period of 4½ months or more would produce the senile type in the child.

Souques, about two years ago, reported and illustrated a number of cases in which this senile condition occurred—independent of syphilis—during childhood and persisted after maturity. The explanation, in Dr. Kiernan's opinion, is that the syphilitic influence, like any other, so checks the development of the child in certain parts that it is born with a senile appearance.

DR. EUGENE S. TALBOT said that Jonathan Hutchinson never intended that his name should be used, as it has been for the last fifteen years, in regard to the peculiar form of teeth named after him. He distinctly stated that only about 10 per cent. of the cases of syphilis present notched teeth. In the opinion of Dr. Talbot, any constitutional disease, or any condition of the mother in which there is starvation or worry, causing malnutrition, will produce this arrest of development of the fetus *in utero* at about the time of the third to the fourth month. The teeth begin to develop at the sixth week of fetal life. Dr. Talbot referred to their evolution from the shark up to man and spoke of their shapes. The arrest of development is simply a return to the atavistic condition. The structures of the face, jaws, alveolar processes and teeth are transitory, and therefore more liable to become affected than any other structure of the body. It is for this reason that he asked Dr. Baum and the essayist in what proportion of the cases coming under their observation they had noticed a change in the tissues of the face and jaws. It is expected that these structures are the first to be involved on account of the transitory condition of the jaws, the teeth and the face.

College of Physicians of Philadelphia.

Section on Otology and Laryngology, Dec. 20, 1899.

CASE OF NEVUS OF THE TYMPANUM.

DR. E. B. GLEASON exhibited a man, 45 years of age, who presented a small, dark-colored growth in the posterior portion of the tympanum. There was no history of injury. The patient came to him on account of increasing deafness and occasional bleeding from his ear. At the first examination, a small incision was made in the growth, in order to determine its character, whether cystic or the bulb of the jugular vein; but these were excluded. There was only slight leakage, instead of a free hemorrhage, which would have resulted if it had been the vein. The next week a free incision was made deeply into the growth, and its interior touched with crystals of carbolic acid. As a result there was leakage for a day or two and the growth became somewhat smaller. The patient said he had undergone a long course of massage treatment of the ear for deafness about three years ago, but had not been benefited.

QUERY—What effect, if any, did the pneumomassage have on the development of the growth?

DR. GLEASON—Since making the incision the patient has declared that his hearing is improved. The tumor apparently had its origin from the posterior wall of the tympanum, and it was attached there rather than to the drum-head, which was projected in front. Examined with the Siegle speculum, the growth was found to move with the membrane, and did not undergo any change in color. The patient had not suffered with any exanthematous disease. The bleeding from the ear was not profuse nor constant. It would bleed for a night or two, then it would stop, and perhaps recur in a week. It began bleeding three or four years ago, about the time he first noticed the deafness. It had not bled, however, before the massage treatment was instituted.

DR. CHAS. H. BURNETT said that vascular tumors of the tympanic membrane are of rare occurrence. Buck, in his third volume on Otology, describes a case with such a small vascular tumor, occurring in a woman, 52 years of age. It was a small cyst in the lower portion of the membrana tympani. In 1879, Buchner described a hematoma in the ear of a pregnant woman. In the present case, from an imperfect examination, he thought that the whole drum membrane looked blue, as if it were all involved in the growth.

DR. B. ALEX. RANDALL said that the appearance of the drumhead was more pinkish than blue, to him. The tumor might be of cystic character, but he was not inclined to look on it as a hematoma. These tumors usually are attended by a great amount of bleeding, sometimes requiring tamponing of the canal to check it: The reporter is to be congratulated that he did not have a severe hemorrhage after his incision. Chromic acid is preferable to carbolic in such cases. He would first clean the canal and then apply cocain to the growth before using the chromic acid, which otherwise would be too painful.

TUMORS IN THE LARYNX.

DR. JOSEPH GIBB exhibited a man of 46 years, who two years ago began to be hoarse. After a fit of coughing he expelled a gristly substance from the throat, and this was followed by a slight amount of bleeding. Subsequently he had symptoms of stenosis with a strident cough, and occasionally stridor in breathing. He was first seen by the doctor four weeks previously. At the first examination he found a tumor occupying the left side of the larynx, above the vocal cord, of a pinkish color. There had been no hemorrhage since the first attack, except when a small piece of the growth was removed for examination. The specimen was obtained by an instrument with a Krause handle and a Sherck tube, with the aid of which he succeeded in cutting off two or three small pieces. The microscopic examination showed that it was an endothelial or inflammatory growth, but the pathologist could find no evidence of malignancy.

DR. GEORGE H. STOUT had seen a similar case recently, a woman, who was very hoarse and who was found to have warty-looking growths in the larynx, and also at times had difficulty in breathing. She was in a hospital and had been reported to him as a tuberculous patient; it was said that tubercle bacilli had been found in her sputum, but after treatment for a few weeks the sputum was again examined. No bacilli were found. She came one morning with her voice much clearer, and she stated she had coughed up a piece of flesh like that described in the preceding case. After a course of antisyphilitics, a mild mixed treatment, her condition rapidly improved.

DR. P. S. DONELLAN recalled a similar case. From the prompt response to the therapeutic test he believed it to be of a syphilitic character, and he recommended this test in the patient exhibited.

DR. A. WATSON said that he did not feel like expressing an opinion on the diagnosis without further opportunity for examination. He thought that it had some of the appearance of a malignant growth. Too much weight should not be given to the negative pathologic report. In a case he had seen a few weeks ago, his first conclusion was that it was an inflammatory new growth, the first sections having this character. Later, he took a piece from the base of the growth and it was found to be epithelioma. In the case presented above, the fact that the pathologist gave a negative report might only be evidence that he had a piece from the surface to examine, whereas a piece taken from the base might show a different result. An antisyphilitic treatment might clear up the diagnosis.

DR. D. BRADEN KYLE confirmed the remark of the preceding speaker as to the difference in the appearance of sections taken from different parts of a tumor. A carcinomatous growth often has a papillomatous structure on its surface. This is partially true of growths in the mucous membrane, and in the female mammary gland. In some sections of a growth, made recently, the first, taken from near the surface, showed it to be a warty growth, but deeper sections showed typical carcinoma. In this case under consideration, while it may be warty on the surface, yet it really may be malignant. From his examination of this patient on a previous occasion, he considered it probable, however, that it was a syphilitic growth, and he advised antisyphilitic treatment. Specific inflammatory growths have peculiar characters, and he thought that they were present here.

DR. GIBB said that it was of great importance to establish a diagnosis in this patient as soon as possible, because, if malignant, the only chance of a successful result depends on its early removal, before glandular involvement occurs. During the time he had been under observation, only four weeks, the time had been taken up in getting the sections for the pathologic examination. He said that he would adopt the suggestion and put the case on antisyphilitic treatment, but he had not much hopes of success, as he was more inclined to consider it one of carcinoma.

PAPILLOMA OF THE LARYNX.

Dr. Joseph Gibb also read the notes of a case of this affection, in a girl, in whom stridor and dyspnea existed, but a portion of the growth had been removed, affording some relief, though there still remained considerable stenosis, as the result of adhesions of the anterior portion of the cord.

Dr. Watson said that in regard to the method to be adopted, he thought the galvanocautery should be used, after separating the sides of the cords. Not having seen the case, however, he would not discuss the treatment. As to the cause of papilloma in a child of 13 years, the growths may have been congenital. In some cases they may have an acute beginning in a laryngitis, with local ulceration and the formation of nodes on the vocal cords, or if congenital they may develop more rapidly after such acute inflammation.

Dr. E. L. Vansant said that in a case of stenosis of the larynx the choice of operation would depend very much on how thick the cords were and how closely they were bound together. Perhaps divulsion by the use of forceps would be the safest procedure to relieve the stenosis. Or, the forceps as modified by Dr. Gibb might be plunged through the glottis into the larynx, removing all tissue coming between the blades of the forceps as they are withdrawn. The base should then be touched with some cautery. If it were found that the cords were firmly adherent to the papillary growths, on their under surface, it would probably be wiser to operate by scraping.

Dr. B. A. Randall suggested the possible advantage of separating the cords by the knife, and using the cautery on one side only, as there is much less tendency for a burned surface to unite with one simply cut.

Dr. Vansant said he had observed, after dissecting syphilitic adhesions of the pharynx, that touching the cut surfaces with trichloracetic acid promoted cicatrization more than any other agent that he knew of.

Dr. E. B. Gleason recalled a case of imperforate posterior nares that he had treated by trephining, which was followed by marked tendency to reclosure. This was afterward treated by the galvanocautery, at Dr. Watson's suggestion, and a permanent opening secured.

SPECIMENS OF LARYNX AND TRACHEA.

Dr. Wm. P. Warmouth, by invitation, exhibited wet specimens of the larynx and trachea of three children, showing ulceration and stenosis of the larynx, following intubation for diphtheria, in the Municipal Hospital. In one case the tube had been worn for fourteen days, it was taken out, but dyspnea was so great that it had to be reintroduced; this occurred at every attempt at removal: the tube was reintroduced fourteen times in all. Tracheotomy was then done, but the patient died three days later. The specimens showed extensive ulceration and cicatricial formation.

Two other cases were reported, in one of whom after intubation followed by tracheotomy complete occlusion had occurred; in a second case not tracheotomized, there was extreme stenosis.

Dr. Frank Woodbury said that without knowing the thickness of the cicatricial adhesion, and judging only from the appearance of the specimens, possibly the performance of external laryngotomy and dissection of the vocal cords might be advisable.

Dr. Joseph Gibb had had no experience with such lesions following intubation; his patients had either gotten well, or died, without this complication. In regard to the cases reported, he thought that the operation of splitting the larynx and trying to remove what cicatricial tissue can be removed might be advisable. Other scar-tissue would form, but it would be less than that removed.

Dr. E. B. Gleason said that he had examined the case of complete stenosis after it was tracheotomized, and he could not get a tube for a 1-year-old child through. He did not think the operation suggested would be of any use, since the cicatricial tissue would form again, as it involved at least one-half an inch of the larynx and trachea.

Dr. Stout said the case of stenosis might be dilated with the acorn tipped dilators.

Dr. Warmouth said that in one case there was absolute occlusion; even a knitting needle could not get through.

Dr. Watson said that if this were a simple adhesion between the vocal cords or bands, throughout their length, it could be dissected up by external opening of the larynx, and treated by subsequent dilatation, just as any other closed canal. He had seen cases in which, by persistent dilatation, by successive introduction of larger intubation tubes, the opening was restored.

Dr. E. L. Vansant thought that if the smallest kind of an opening could be found, it would be far safer to trust to dilatation than to laryngotomy.

Dr. B. A. Randall confirmed the last remark, and referred to a case in an adult where dilatation had succeeded. He suggested a study of this case from the tracheotomy opening, in order to determine the extent of the cicatricial tissue, as it might be found to be tracheal rather than laryngeal. Possibly a grooved needle might be introduced from below and the knife passed along it, followed by dilatation, which would be less severe than the external method.

Dr. Frank Woodbury read a paper on "The Treatment of a Common Cold." It will appear, with the discussion, in The Journal.

Cleveland Medical Society.

Quarterly Special Meeting, Dec. 22, 1899.

FRACTURES OF THE SKULL.

Dr. Nicholas Senn, Chicago, read the paper of the evening, on this subject. Visceral intracranial lesions, he said, are of more consequence in determining the necessity for a method of operative procedure in cases of fracture of the skull than are the extent and character of the fracture. The greatest source of danger in these injuries is a complicating wound communicating with the skull contents through the cranial defect, thereby producing grave danger of infection. The examination of the wound for the purpose of determining the exact location and extent of the fracture, and the search for visceral injuries, must be conducted with extreme care to guard against wound infection. Every accidental wound must be regarded as infected, but superficial infection amenable to antisepsis may be made deep and inaccessible by careless diagnostic exploration. No digital nor instrumental examination of the wound should be made until the necessary thorough aseptic preparations have been completed. In compound fractures the entire skull should be shaved and disinfected, and the wound flushed with hydrogen peroxid and a 2.5 per cent. carbolic acid. In basal fractures the ear and nasopharynx should be disinfected so far as possible. Absolute rest in bed is essential in treating skull fractures.

Regarding the practice of some surgeons in trephining all fractures of the vault of the skull, Dr. Senn said that the surgeon who converts a closed fracture of the skull into an open one, without adequate cause, assumes a great responsibility. The present technic of asepsis does not furnish absolute protection against infection. Conservatism is to be recommended in the treatment of these fractures, especially in children. Trephining should be done in case of: 1, subcutaneous fractures in adults with marked depression; 2, subcutaneous fractures attended by focal symptoms; 3, all compound fractures including punctured and gunshot fractures, and 4, fractures complicated by rupture of the middle meningeal artery. The trephine should never be used in the elevation of a depressed fracture, the chisel and mallet being much superior tools. Comminuted compound fractures demand free exposure to determine their extent and to discover foreign bodies, and every bone fragment must be taken out and kept in warm 2.5 per cent. carbolic acid while the wound is disinfected, and replaced in proper position in the skull defect preparatory to closure. If the wound remains aseptic, all the fragments will retain vitality and take an active part in restoring the continuity of the skull. In case of rupture of the middle meningeal artery, and if the bleeding point can not be reached from the seat of fracture, the artery must be exposed and ligated in the temporal fossa.

DR. GEORGE W. CRILE asked Dr. Senn what had been his experience with regard to the occurrence of epilepsy following fracture of the skull, and what results he had secured in such cases from further operation, especially in those of the so-called Jacksonian type?

DR. HUNTER ROBB asked him in what proportion of cases it is possible to carry out any precautions to prevent infection of the scalp or brain, when there is a compound fracture? Frequently it is the rule to expect a septic condition.

DR. C. J. ALDRICH asked him what bad results he had noticed from leaving open the space made by trephining, and whether there is not more danger of irritation resulting from restoring the fragments than from leaving the wound open?

DR. F. E. BUNTS asked whether he had noticed a sign prognostic of death in cases of fracture, which he had learned from experience to consider pathognomonic? It is, in fatal cases—particularly of fracture at the base of the skull—the fact that the patient begins early to manipulate the pubes.

DR. D. P. ALLEN said that he did not feel as conservative as Dr. Senn about going down on the skull, but thought it proper to do so in order to ascertain positively whether there is a fracture, for the reason that he had seen spicules of bone projecting from the internal table and causing death from brain pressure in cases in which the external injury was slight. In reference to asepsis in fracture at the base, he had reported at the last meeting of the American Surgical Association a large number of these cases that ended in recovery, in which no attempt had been made toward asepsis. It is impossible to say how the internal ear and nasopharynx can be rendered aseptic, and it is a question whether damage may not be done in these cases by attempts in this direction. It had been his experience that the dura matter has considerable power of reforming bone, and that openings of small size are thoroughly closed, but that in openings as large as 2½ inches it is useful to replace some fragments. He warmly endorsed Dr. Senn's insisting on keeping these patients absolutely quiet after operation, and had seen some who got up in a short time go on to death without it being possible to discover, at the post-mortem, any sign of injury.

DR. C. B. PARKER's experience with Jacksonian epilepsy had been similar to that of the essayist, in that there is some temporary benefit from operation, but very few recoveries. He emphasized the necessity of thorough asepsis of the field of operation in these injuries, and thought that the replacement of bone fragments was frequently of some benefit.

DR. N. S. EVERHARD, Wadsworth, asked how it was possible to render punctured wounds of the brain aseptic.

DR. SENN, in closing, said that he had never had much confidence in cortical excision for Jacksonian epilepsy, and while he had performed the operation a number of times with temporary benefit, he had never seen lasting results. Traumatic epilepsy, in his experience, was more freequently the result of intracranial lsions than of change in the contour of the skull. He confessed that the means of effecting absolute asepsis in cases of compound fracture of the skull are very imperfect, yet the attempt should be made in the right direction. He insisted that in every case of fracture of the skull the wound must be considered as infected and the entire scalp shaved and rigidly disinfected. Primary disinfection should be made step by step. He places great value on the replacement of fragments in the opening in the skull, as he has seen as many cases of traumatic epilepsy developing after extensive skull defect as after depressed fracture. He believes the dura to be a very sensitive structure, and that it is the duty of the surgeon to place the parts operated on as nearly as he can in the same mutual relation they previously occupied. Some years ago he made extensive experiments on animals as to the reproduction of bone, and invariably found that extensive skull defects were not repaired, and that the osteogenetic function of the dura mater is extremely limited. He thought this fact was conservative, as otherwise the surgeon would be often compelled to deal with exuberant provisional callus and frequent cerebral complications. He had never seen the symptom mentioned by Dr. Bunts, but thought the observation a very valuable one.

Eighth Annual Meeting, Jan. 12, 1900.

The following officers were elected for 1900: president, H. S. Upson; vice-presidents, J. E. McGee and [illegible]; recording secretary, W. O. Osborn; treasurer, J. M. Ingersoll.

MANAGEMENT OF INCOMPLETE ABORTION.

DR. J. H. BELT read a paper on this topic. Dilatory measures in the treatment of incomplete abortion, especially in those cases coming on after the twelfth week of pregnancy, have many sins to answer for. In every case and as soon as possible the uterus ought to be emptied, using the finger for a dilator as well as a curette. The method is a practical one notwithstanding the discouraging comments that have been made as to the possibility of thereby reaching the uppermost portion of the uterine cavity, and if faithfully performed, after-infection need not be feared. It is more tedious and difficult but safer for the general practitioner than instrumental curettage. The dangers of the latter may be seen in connection with the recorded experience of nearly all leading gynecologists in this class of cases, especially when softening of the uterine walls is present to an abnormal degree.

DR. HUNTER ROBB endorsed the statement of the writer that the general practitioner can better handle such cases by removing the contents of the uterus with the finger rather than with the curette, which is a dangerous instrument in inexperienced hands.

DR. H. W. QUIRK pointed out that it is very difficult in some cases to thoroughly clean out the uterine cavity with the finger, and said that he had found the lithotomy forceps very efficient and entirely harmless.

DR. W. H. HUMISTON noted that in experienced hands the dull curette is the best instrument to use, but insisted that thorough preliminary disinfection should be practiced before its use. In the subsequent hemorrhage he uses a stream of hot water from a double-nozzled syringe and then packs the uterine cavity with gauze. In certain cases it is very easy to puncture the uterine wall with any instrument.

DR. M. ROSENWASSER said that he always used an anesthetic when emptying the uterine cavity of retained secundines. He considers the digital method of removal the most thorough, and in cases of puncture of the uterine wall the danger of fatal hemorrhage is not so great as has been suggested.

DR. L. B. TUCKERMAN recently saw several cases of septic infection following abortion performed by irregular practitioners, who had used an ordinary cervical dilator with no antiseptic precautions.

DR. L. G. TOWSLEE always uses an antiseptic in curetting after abortion, and has seen a very severe case of shock in one instance when an anesthetic was not used.

DR. W. H. HUMISTON added that, while it might be possible to puncture the uterine wall with a small sound without causing much damage, yet puncture with a large-sized curette will almost always cause considerable hemorrhage.

DR. J. H. BELT, in closing the discussion, mentioned that the difficulty in thoroughly cleaning the uterine cavity with the finger can be overcome by the use of considerable long-continued force with the other hand pushing the uterus down into the pelvic cavity. In the use of this method he has not met with a case of hemorrhage during removal of the uterine contents, and thinks that when it occurs it is most likely due to the use of the curette. As the use of an anesthetic necessitates the delay necessary to secure an assistant, he usually works without it. The latter part of the operation is usually much easier than the first, as it is the dilation which causes the greatest amount of pain.

ADHERENT PERICARDIUM.

DR. H. W. ROGERS read a paper on "Adherent Pericardium with Report of a Case." The symptoms and physical signs in a large proportion of cases are obscure, yet the condition is not so rare as many suppose. Symptoms and physical signs are often deceptive. Many times those most common to this condition are associated with the more common forms of cardiac disease. A breakdown of the right heart, not traceable to some valvular defect in the left side or lung disease, and which does not improve with rest in bed for a few days with proper diet and medicinal treatment, is very suggestive of that lesion.

DR. C. F. HOOVER spoke of the systolic retraction which Broadbent describes as occurring in the posterior axillary line about the ninth, tenth and eleventh ribs. This retraction is not due to [illegible] [illegible], but is produced by the tension of the diaphragm, which is communicated to the ends of the affected ribs. He has seen one case of aortic insufficiency in which this retraction could be seen to move an entire rib. He pointed out that it is a difficult matter to diagnose systolic retraction at the apex, and has seen cases in which strong diastolic impact led to the conclusion that systolic retraction was present.

Dr. H. W. Rogers, in closing the discussion,, said that in cases in which you can not find any special cause for marked disease of the heart, such as valvular, kidney or pulmonary disease, and in the absence of physical signs, it is fair to suspect some pericardial trouble, and to give an unfavorable prognosis.

New York Academy of Medicine.

Surgical Section, Jan. 8, 1900.

RECURRENT SPINDLE-CELLED SARCOMA WITH GLANDULAR INVOLVEMENT.

Dr. W. B. Coley presented a man, aged 40 years, successfully treated with the mixed toxins of erysipelas and of the bacillus prodigiosus for this condition. The tumor was first noticed in the fall of 1896, and two operations were done at the Bridgeport Hospital, one in March and the other in May, 1897. The patient came to him in August of that year, the tumor presenting every appearance of malignancy, and further operation was out of the question. The growth extended from the left auditory meatus forward nearly to the angle of the mouth, and upward from the angle of the jaw almost to the orbit. It presented an area of ulceration about two inches in diameter. The submaxillary glands were plainly involved. Daily injections of the mixed toxins were given, and, as the man's condition was good, the dose was rapidly pushed up to the point of producing a reaction marked by a severe chill and a rise of temperature up to 104 or 105 F. Slight improvement was noticeable at the end of the week, and when the treatment was discontinued, at the end of ten weeks, the neoplasm had apparently disappeared. During the two years and a half that have elapsed since that time, this man has remained in good health and free from any recurrence. A microscopic examination showed the tumor to be a spindle-celled sarcoma.

CARCINOMA OF BOWEL.

Dr. Coley also exhibited a physician on whom he had successfully operated for this condition. The early history of the patient, that is, for one year previous to April, 1899, strongly pointed to recurrent appendicitis, and on that supposition he was operated on at the Toronto General Hospital. However, instead of finding an appendicitis, the operator discovered a carcinoma of the cecum and of a portion of small intestine which was adherent to it. In May of the same year Dr. Coley operated, removing the cecum and about seven inches of the small intestine. The divided ends of the latter were united by a Murphy button, and a lateral anastomosis made by means of a large oblong Murphy button. The patient has improved greatly since that, and there is as yet no evidence of any recurrence.

Dr. J. A. Wyeth was inclined to think that sarcoma is sometimes cured as a result of the acute inflammatory process excited rather than by the direct influence of the mixed toxins. As a case in point, reference was made to a case of sarcoma of the abdominal wall, that he had cured by injections of arsenious acid. This occurred fifteen years ago, and the cure has been permanent. The fact that sarcoma might be cured by an acute inflammatory process does not prevent him from believing that Dr. Coley's method is as scientific as it has been successful.

TREATMENT OF AORTIC ANEURYSMS.

Dr. J. M. T. Finney, Baltimore, Md., read a paper on this subject, and stated that the French method of injecting gelatin had been tried in nine cases at the Johns Hopkins Hospital, and while none of the patients had been cured, the method seemed to possess a certain amount of merit. The great drawback to it was the pain caused by the injections. They had had more success with the method of "wiring." The needle should be sufficiently large to allow of the easy passage of the wire and, except for a distance of 1 cm. from its tip, should be covered with a coating of the best black French lacquer. As this coating will not stand boiling, the needle should be sterilized by exposure to a temperature of 160 F., in a compartment for one hour. A series of experiments, undertaken with a view to determining the best wire to use, and the most suitable strength of the electric current, resulted in the selection of a current of 20 milliamperes and of a wire made of 75 parts of copper to 1000 of silver, and drawn down from No. 8 to No. 27. As to results, in 35 per cent. of the reported cases there was evident improvement and prolongation of life, and both clinical and post-mortem evidences attest the efficacy of the treatment.

Dr. Wyeth, from a careful study of the literature of aneurysms, felt constrained to express his preference for a thorough trial of the rest and iodid treatment before resorting to either deligation or wiring.

Dr. P. Bolton stated that the gelatin injections were used in four patients, at the Hudson Street Hospital, during the last year, but none was cured, and all suffered much pain, while some also had chills and fever.

Philadelphia Obstetrical Society.

Jan. 4, 1900.

ANENCEPHALIC MONSTER.

Dr. H. C. Largeman, by invitation, presented this specimen. The mother was 21 years old, a primipara, and had been married ten months. She and her husband were healthy, and the family history showed no deformity in either branch. When the patient was first seen she had been in labor for about two hours. The abdomen was small. The fetal heart sounds were absent. On digital examination a face presentation was diagnosed. Two hours later the fetus was expelled. A large amount of amniotic fluid surrounded the fetus, which was an anencephalic monster with great defect in the development of the cranium and brain, the head and forehead almost absent and the eyes bulging out on either side. There was double harelip, and broad shoulders and chest. The child was a female. When about two months pregnant the mother was greatly frightened at a rattlesnake which had been stepped on by her brother, and which she thought had bitten him.

DYSTOCIA FROM AN ANENCEPHALUS.

Dr. George M. Boyd reported a case of dystocia due to an anencephalic child. The mother was a Russian, 28 years of age, a primipara, and polyhydramnios was present. She was delivered at term, the labor being a protracted one, podalic and cephalic version being necessary. The diagnosis was not definitely determined until she was put under anesthesia. As soon as it was established, the blunt hook of a traction forceps was introduced under the armpit and the child, weighing eight pounds, delivered. The speaker called attention to the importance of the necessity of anesthesia in these cases, as it aids greatly in making a careful digital examination, which is of prime importance.

OMPHALOCELE.

Dr. W. Reynolds Wilson reported a case of omphalocele with specimens and photographs. The mother was a primipara, 40 years of age, and hydramnios was present. When seen, the labor had progressed for about two hours and the pains were moderate. The child weighed 6¾ pounds, and was well developed except for the abnormality in the region of the umbilicus, at which point a hernia was present. From the lower surface and near the junction with the abdominal wall the umbilical cord made its attachment. He considers these cases no doubt due to faulty development.

Dr. E. E. Montgomery, in discussing these papers, mentioned having seen a malformation similar to that presented by Dr. Wilson, which had been born in the Philadelphia Hospital. In this instance, however, it was found that a twin pregnancy had occurred, and that there was firm union at the umbilicus. Death had occurred. The mother was a primipara, and the children both males.

Philadelphia Pediatric Society.

Jan. 9, 1900.

CONGENITAL HEART DISEASE.

Dr. S. M. Hamill presented a girl of 11 years, with this trouble. The history showed that labor had been normal at her birth, while two sisters are living and in good health. She has been healthy until four years ago, when she began to lose flesh, and lately she had recurrent attacks of tonsillitis.

When seen on Dec. 14, 1899, she complained of headache, cold hands, and dyspnea on slight exertion. There was no clubbing of the fingers and she has never been cyanosed. In the precordial region there was bulging with apex-beat in the fifth interspace and the mid-clavicular line. The beat was forcible, and a thrill was detected on palpation. Auscultation revealed a systolic murmur, heard loudest in the second left interspace, and not transmitted to the vessels of the neck. While the adventitious sound might have been due to pressure of an enlarged bronchial gland, postnatal endocarditis, or congenital heart disease, most of the signs pointed to congenital heart disease. The essential lesion appeared to be pulmonary stenosis, or patulous ductus arteriosus.

DR. F. R. PACKARD agreed in the diagnosis of pulmonary stenosis but could not agree that it was congenital. He was aware that a number of such cases had been reported, yet some of them might be open to doubt.

MILIARIAL ERUPTION IN SCARLET FEVER.

DR. J. P. CROZER GRIFFITH read a paper on the occurrence of this, and reported several cases. Many text-books give this question only casual attention, while some writers have spoken of a sudaminal rash occurring in this disease. Some believe that vesicles or sudamina are to be found only in severe cases of scarlet fever, but he considers miliaria not an uncommon accompaniment, although he does not agree that the patients with miliaria desquamate to a greater extent than those without it. Four cases of scarlet fever were reported; in all this condition was present, and yet the disease was not especially severe, and the desquamation progressed in the usual way.

DR. ARTHUR VAN HARLINGEN believes a distinction should be made between miliaria and sudamina—the former an inflammation of the sweat glands. The latter, simply an occlusion of the openings, he thinks might be due to hot clothing.

DR. JAY F. SCHAMBERG expressed the opinion that the amount of desquamation depends on the degree of vesicular eruption.

Philadelphia Academy of Surgery.

Jan. 8, 1900.

SARCOMA OF THE INTESTINE.

DR. RICHARD H. HARTE exhibited a sarcoma of a child's intestine. The child was about 5 years of age, and was admitted to the Episcopal Hospital in October, 1899. The parents stated that the growth had only been present about a month, but this was undoubtedly wrong. The history, however, indicated a very rapid growth. The etiology of these cases is obscure. In this case there was a history of traumatism. On admission the abdomen was tympanitic and pressure in the region of the right iliac fossa detected an indistinct mass. The heart and lungs were normal, the spleen slightly enlarged. In many respects the case resembled one of tubercular peritonitis. Under anesthesia the abdominal muscles relaxed greatly and the masses could be more easily outlined. An exploratory incision evacuated a small amount of bloody serum. After removal of a part of the mass for microscopic examination, the wound was closed and a drainage-tube inserted. In reviewing the literature the speaker found that but very few cases of sarcoma of the intestine have been reported. Of thirteen, the majority occurred in persons over 40, and, as a rule, terminated fatally, within two months. In this instance the growth doubtless began in the submucous and afterward involved the lymph tissue.

DR. W. W. KEEN stated that he had once seen a similar tumor, but the growth involved the stomach instead of the intestine.

RESECTION OF WRIST-JOINT.

DR. W. J. TAYLOR exhibited a case of resection of the wrist-joint by a modification of Mynter's method. The patient was a man of middle life, who had suffered from the usual diseases of childhood, and numerous abscesses in various parts of the body. He was tuberculous. About two years ago a pain developed in the region of the wrist-joint, which afterward became swollen and evidences of involvement of the bone were present. The man was placed under ether and an Esmarch bandage applied above the joint. An incision was made on the dorsum from the lower end of the radius downward between the second and third fingers. No tendon was divided except that one attached to the carpal bone. A splendid view of the entire joint was given and the tuberculous bone easily removed. The heads of the bones forming the joint were then removed by a saw, the wound packed with iodoform gauze and the edges of the wound united by silkworm gut. A splint completed the dressing. The wound has now firmly united, sensation is intact and the man is able to move all the fingers slightly. The result, therefore, is a good flail joint.

DR. R. H. HARTE considers the result most satisfactory. Ordinarily an excision of the wrist-joint is a hard one with which to deal. By the method adopted by Dr. Taylor, there is a better opportunity of removing the diseased tissue.

DR. WILSON asked in regard to the kind of support that had been used.

DR. TAYLOR said that different kinds were tried, but, as a rule, the man did better without any appliance. He is now getting massage daily, and the stiffness is yielding. In the operation, he followed Dr. Keen's suggestion to remove a very large part of the metacarpal bone of the thumb. This was advantageous.

The Johns Hopkins Medical Society.

Baltimore, Md., Jan. 8, 1900.

COMMINUTED FRACTURE OF SKULL.

DR. H. W. CUSHING exhibited a son of one of the professors in the university, who had fallen three stories, lighting on his head and sustaining a comminuted fracture of the skull, the lines of fracture extending around the base but not involving the middle fossæ. Following the accident there were general convulsions and unconsciousness lasting three weeks. There was no facial, but there was oculomotor paralysis; the latter has not entirely passed away. During unconsciousness he was fed by food placed on the back of tongue. An incision was made across the vertex from ear to ear, as in making examination of the brain post-mortem, and the flaps of scalp lifted from the skull. Several fragments of bone were removed. The brain was extensively lacerated. The boy is now well and running around with perfect intelligence. Dr. C. has not been able to find any similar case in the literature, but referred to one in Dennis' Surgery, where a comminuted fracture of a negro's skull was caused by "butting."

SHOCK FROM OPERATIONS.

Dr. Cushing also spoke of the shock caused by severe surgical operations, which sometimes causes serious apprehension for the patient's life, and may even prove fatal. This shock can be prevented by cocainization of the nerve in the central side of the site of operation. The cocain shuts off all afferent impulses. The leg can be amputated by cocainizing the sciatic nerve. A case was there shown in which amputation of the arm, clavicle and breast had been done for a sarcoma of the upper humerus. The shock in this case had been most alarming, whereas in a second similar one with cocainization—a male also exhibited—there had been no shock.

GASSERIAN GANGLION AND TIC DOULOUREUX.

DR. CUSHING also exhibited a man in whom the Gasserian ganglion had been removed for tic douloureux, with a successful result and surprisingly little scar or deformity. He also quoted at length from the *Lancet* of 1828, to show that the philosopher Locke did practice medicine, and also his treatment of a similar case.

THROMBOSIS.

DR. T. B. FUTCHER detailed the histories of a number of cases of thrombosis that had occurred recently in the hospital. It is an interesting fact that, according to the statistics of Welch, the condition, taking all cases, is 50 times as frequent in the lower extremities as elsewhere; in cardiac disease, on the other hand, the vast majority occur in the upper extremities and neck, especially in the left upper extremity.

REMOVAL OF CALCULUS.

DR. H. A. KELLY exhibited a woman who had suffered from obscure renal symptoms, especially paroxysmal lumbar pains. The ureter was catheterized and the fine scratchings of the calculus obtained on the wax-tipped end of the catheter. An incision was then made through the left loin and a calculus removed. Although it was necessary to ascertain the presence or absence of other stones, there was but a trace of blood and the muscular edges of the little wound readily closed and were united by a few catgut sutures. The scratch marks were readily seen with a magnifying glass.

THE JOURNAL OF THE
AMERICAN MEDICAL ASSOCIATION.
61 MARKET STREET, - CHICAGO.

SATURDAY, FEBRUARY 3, 1900.

MILKY ASCITES

An accumulation of fluid in the peritoneal cavity may result from either local inflammatory conditions, or more exclusively vascular states. In the first instance, it occurs as an exudation; in the latter as a transudation. The second of these conditions may develop in consequence of venous blood stasis from whatever cause, general or local, or of undue permeability of the veins, such as is associated with nephritis, tuberculosis, carcinoma and other cachectic states. Exudates and transudates are usually clear, though the former are likely to contain flocculi of lymph, while their specific gravity is the higher—above 1014—and they contain the more albumin. The effusion may be bloody, and contain red corpuscles. Occasionally, ascitic fluid is whitish, like milk. This appearance may be due to the presence of either fat or chyle. The former has been observed in connection with tuberculosis or carcinoma of the peritoneum, when large numbers of fat-cells are thrown off and become admixed with and partly dissolved in the fluid present. Chylous ascites may result from rupture of lacteals or the thoracic duct, although it has been observed also in connection with carcinoma of the abdominal viscera.

In a case referred to by Osler[1], diphtheria bacilli were isolated from the fluid, and in one reported by Eshner[2], micro-organisms resembling colon bacilli were found.

A case reported by Poljakoff[3] differs from most of those on record in the failure of the fluid to yield to any of the reactions of fat. The patient was a woman, 48 years old, who presented general anasarca, and who denied and presented no evidence of syphilitic infection. The urine, passed in small amount, was dark red in color, with a specific gravity of 1033, and it contained a small amount of albumin, with hyaline and granular tube-casts. The abdominal effusion increasing, puncture was practiced, and nine quarts of a milky-white fluid were evacuated. The accumulation, however, reformed, the heart became weaker, and death ensued ten days later. On post-mortem examination the kidneys were found involved in parenchymatous inflammation. The liver was small and cirrhotic, and was the seat of a number of cicatrices, and of excessive lobulation. The spleen was scarcely enlarged. The peritoneal cavity contained milky-white fluid, and the peritoneum was sclerotic. The heart exhibited brown atrophy. The peritoneal fluid had a feebly alkaline reaction, and a specific gravity of 1009. The sediment formed on standing was found, on microscopic examination, to consist of well-preserved leucocytes. The presence of fat could not be demonstrated on either microscopic or microchemic examination. Chemical analysis disclosed the presence of serum-albumin and globulin, and an absence of peptone, hemi-albumose and sugar. According to Poljakoff, only three similar cases have been reported (Lion, Achard, Lainton). In these carcinomatous peritonitis was present. In all of the cases a creamy layer failed to form on the surface of the fluid on standing, while the fluid became clear on addition of glacial acetic acid and subsequent application of heat, but not when shaken with ether.

PRACTICAL VALUE OF WIDAL'S REACTION.

Since Widal, in 1896, made "Pfeiffer's phenomenon" available for clinical use, a mass of observations has accumulated from which it ought to be possible to draw rather definite conclusions as to its diagnostic value. At the present time opinion seems to be divided on this point; some regard a positive reaction of decisive importance, others hold that the test is unreliable both in the positive as well as in the negative sense.

With Fischer[1], we hold that an investigator who proclaims his faith in Widal's method must show that his cases of supposed typhoid fever were actually typhoid: and yet the number of instances is decidedly small in which actual scientific proof, namely, the unquestioned demonstration of the bacillus of typhoid fever either during life or after death, has been furnished. Furthermore, the test must be made with the proper dilutions of the serum, and what is regarded as a positive reaction must be definitely stated. A large number of the reports fall short in either or both of these requirements. And those that regard Widal's reaction as unreliable must show, in the cases of positive result in other diseases than typhoid, that the typhoid infection was not present and that the patient did not pass through an attack of typhoid within a reasonable period; and in the cases of permanently negative results it must be clearly stated on what sort of evidence the diagnosis of typhoid fever is made. It is admitted that for therapeutic and prophylactic purposes the diagnosis may be satisfactorily made from a careful consideration of the sum total of clinical symptoms; but when it comes to the question of a scientific demonstration of the actual value of Widal's reaction, then the evidence of the presence or absence of typhoid, as the case may be, must be unimpeachable in all respects.

Observations of positive result with Widal's reaction without typhoid being present, and under circumstances that seem to exclude previous attacks of typhoid, have been published. Ferrand, Kasel and Mann and Fischer describe cases of febrile disease, evidently not typhoid, in which positive results were obtained once or twice with high dilutions of the serum, subsequent trials a few days later giving negative results. Experience does not teach that the presence in the serum of the specific

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Practice of Medicine, 1898, p. 607.

[2] Proc. Path. Soc. of Phila., N. S., Vol. ii, No. 9, p. 230.

[3] Berliner Klin. Woch., 1900. No. 1, p. 9.

[1] Ztft. f. Hyg. u. Infectionskr 1899, xxxii, 407.

paralyzing substances is as evanescent as shown by these reports. The importance of careful bacteriologic control of such cases is shown by the case reported by Gwyn; the case was quite characteristic, rose spots were present, but the Widal reaction was not obtained and cultures from the blood gave a para-colon bacillus.

On the other hand, Busch, Schumacher, and Fischer describe cases of undoubted typhoid, the diagnosis being clinched by the demonstration of the bacillus, in which the reaction could not be obtained on repeated trial.

Much of the material at hand is little suitable for an exact determination of the real value of Widal's reaction: 1, because cases have not often been controlled by bacteriologic examination; 2, because the serum has not been sufficiently diluted—it must not be stronger than one to twenty-five, Fischer; 3, because many have regarded mere agglutination as sufficient to be interpreted as positive, whereas complete paralysis of all bacilli is essential for this purpose. Nevertheless, there are as stated above, faultless observations on record, which show that Widal's reaction, though a frequent phenomenon in typhoid, only has the value of a symptom, and that it can not be regarded as a pathognomonic sign of decisive value in differential diagnosis.

RELATION BETWEEN HEART DISEASE AND EPILEPSY.

Although some observers have contended that a causal relation exists mutually between disease of the heart and epilepsy, this view has not received general acceptance. It is not impossible that the two diseases, when present together, should react unfavorably, the one on the other, but this is a different matter from the one giving rise to the other. While the pathology of epilepsy has yet to be cleared up, that hypothesis seems the more plausible that attributes the manifestations of the disease to irritation of the motor cells of the cerebral cortex, already unduly susceptible in consequence of either hereditary or acquired peculiarities. The irritant may be of most varied kinds, from the products of abnormal metabolism, or toxic substances introduced from without, through all gradations, to coarse organic lesions. With this conception it is difficult to understand how disease of the heart can be capable of causing epilepsy, except, perhaps, as a result of cerebral hemorrhage, embolism, or thrombosis; and it is even more difficult to see how epilepsy can at all cause disease of the heart, except, perhaps, in the form of acute dilatation, in consequence of the violence of the convulsions. That disease of the heart, by giving rise to cerebral anemia or hyperemia, might render more frequent the attacks in an epileptic can also be comprehended. That disease of the heart and epilepsy do mutually give rise to each other would seem to be indicated, among other facts, by the rather infrequent association of the two.

In a recent communication on this subject, Stintzing[1] reports two cases in which the association of epilepsy and heart disease was present, the patients being under observation for long periods of time—seven and five years respectively—and the clinical observation being controlled by post-mortem examination. The one occurred in a girl, 29 years old, without hereditary predisposition, who, in the sequence of a traumatism at the age of 18 years, was seized with epileptic attacks and symptoms of mitral stenosis. The symptoms grew progressively worse, and death occurred after the lapse of eleven years, in consequence of an acute infection. The second patient was a man, 37 years old, who had suffered from epilepsy of moderate severity for fifteen years, and who died as a result of alcoholic excess. He had previously had several attacks of rheumatism, and he presented the lesions of mitral insufficiency and stenosis, as well as the remains of antecedent inflammation of the pleura and the lungs. As a result of a study of these cases and of an analysis of the literature, Stintzing expresses the opinion that the simultaneous occurrence of epilepsy and disease of the heart is usually accidental and is most probably not dependent on the same primary organic disease. Epilepsy may give rise to transient dilatation of the heart, but not to any permanent cardiac disease. When the two diseases are present together, the cardiac disturbance is not the sole cause of the epilepsy, but other etiologic influences, such as the neuropathic predisposition, alcoholism, etc., are also operative. Heart disease and arteriosclerosis favor the occurrence of epileptic attacks in so far as they influence the circulatory conditions in the cortical centers. This is observed with particular frequency in old age, as manifested in senile epilepsy. In the simultaneous presence of epilepsy and heart disease, cardiac tonics, such as digitalis, often exert a favorable influence on the former condition. Serious disease of the heart may aggravate the course of epilepsy and at times give a peculiar impress to the attacks, as exhibited in a cardiac aura before and angina pectoris after.

PERSISTENCE OF LIVING, VIRULENT PEST BACILLI IN THE SPUTUM FOR WEEKS AFTER RECOVERY FROM PEST PNEUMONIA.

Gotschlich[1] reports three cases of pest pneumonia, which are remarkable, first because terminating in recovery, and second because virulent bacilli remained in the sputum for weeks after apparent recovery. The pneumonic form of pest is nearly always fatal. The significance of the observation lies in the fact that such cases undoubtedly constitute a most dangerous source of infection. The primarily pneumonic localization without bubo can not be diagnosed except by bacteriologic means. The frequency of instances like these and their actual influence in epidemics are for future investigations to determine.

COLORADO AND QUACKERY.

The city of Denver has a lawsuit on its hands which has some features of medical interest. A man has sued for damages received from falling on a defective sidewalk, whereby he suffered fracture of his right arm and three ribs. The defense is that his present damaged condition is due to treatment by an osteopath, and if the city wins its suit it may help to fix the status of osteopathy in the dominions of the great and good Governor Thomas, whose veto made Colorado more than ever the special dumping-ground for quacks. If the city loses, let us hope it will consider this fact.

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[1] Deutsches Archiv f. Klin. Med., B. lxvi, p. 241.

[1] Ztft. f. Hyg. u. Infectionskr., 1899, xxxii, 402.

GENERAL INFECTION WITH BACILLUS INFLUENZAE.

There are but few cases in which the bacillus of influenza has been demonstrated in the internal organs and in the blood. Of the twenty odd cases in which this has been done the brain is the organ in which the bacillus has been found most frequently. Slawyk[1] describes a case in a child, diagnosed as cerebrospinal meningitis, in whom the bacillus was present in the exudate obtained by lumbar puncture; later it was also found in the pus of an abscess about the external malleolus, in the blood, and post-mortem in an abscess on the back of the hand; histologically it was also found in sections of the lungs. The entire body of the child was invaded by influenza bacilli. The severest lesions were produced in the meninges, where thick, viscid, purulent exudate formed. Hence the clinical picture resembled that of epidemic meningitis. The point of entrance was probably the lungs.

PNEUMOCOCCUS ULCERATION OF THE STOMACH.

Dieulafoy[2] describes a rare but interesting form of pneumococcus infection, namely the gastric. Ulcerations of the stomach are occasionally seen in autopsies of cases of pneumonia, but Dieulafoy is the first to demonstrate that the pneumococcus is the actual cause of and present in such ulcerations of the human stomach. Bezançon and Griffon have shown that ulcerations may develop in the stomach of guinea-pigs experimentally infected with the pneumococcus. Of two patients with multiple serositis caused by the pneumococcus and presenting severe hematemesis during life, he found in one numerous small ulcers of the stomach reaching to the muscularis mucosæ, surrounded by an inflammatory zone; numerous pneumococci were present in the tissue of the floor and margins of the ulcers, and in the surrounding intertubular glandular tissue, even for some distance from the ulcers. In the second there were hemorrhagic extravasations in the mucosa, but pneumococci were not present. In how far such infectious ulcerations may be transformed into peptic ulcers remains to be seen.

THE BACTERIOLOGY OF OZENA.

Contrary to Loewenberg and to Abel, who regard a variety of Friedlander's bacillus—cocco-bacillus of ozena, bacillus mucosus—as the cause of ozena, Perez[3] finds that this annoying affection is caused by a special organism, which he designates as the cocco-bacillus fetidus ozenæ. The bacteriologic analysis of 63 cases—various form of rhinitis 32, ozena 22, normal nasal fossæ 9—forms the basis of the investigation of Perez. The organism of Loewenberg-Abel was found 17 times in the cases of ozena; 7 times in chronic rhinitis, and once in a perfectly normal nose. The cocco-bacillus fetidus ozenæ was found 7 times in 11 cases of fetid atrophic rhinitis, and once in 11 cases of atrophic rhinitis without fetor. The Loewenberg-Abel organism is regarded as the result of a secondary infection. The cocco-bacillus fetidus ozenæ is immotile, does not stain by Gram's method, is non-liquefying, non-fermenting in lactose, causes fermentation of urea, produces indol, and is pathogenic for guinea-pigs, mice, rabbits and pigeons. In nearly all cultures it produces the fetid odor peculiar to ozena. Experimentally it manifests a distinctly elective action on the nasal mucous membrane. Direct inoculation of the nose in the rabbit produces acute, subacute and chronic inflammations; in intravenous inoculations the principal result is hyperemia, hemorrhages and hypersecretion of the pituitary membrane, the organism being recovered from the mucus. The animals appear sick and miserable, become emaciated and anemic. Bacillus mucosus does not produce fetor and has no special elective action on the nasal mucous membrane. For these reasons cocco-bacillus fetidus ozenæ is regarded as the true cause of ozena.

ALCOHOL AS A FOOD.

The temperance workers of the W. C. T. U. are somewhat agitated over the alleged statement of Professor Atwater, that alcohol is a food and that therefore the teachings of the physiologic text-books to the contrary are incorrect. The antitemperance people are correspondingly elated by his findings, and make the most of them. It seems to us that there is as little basis for alarm on the one hand as for elation on the other, especially when Professor Atwater has expressly said that he believed alcohol an excellent thing for healthy persons to let alone. The whole agitation depends on the signification of the word, "food." If it means anything that is oxidized and used up to any extent in the human body, it will include a very great many unwholesome and unpleasant substances besides alcohol. A man could support life on carrion, for example, and there are other substances that, while they are eminently oxidizable, are yet so disturbing to the general equilibrium of the organism that their ingestion is very unadvisable. The action of alcohol on the general metabolism may not be all included when we say it is consumed in the system and supplies heat and energy. It may be simply a case of very small gain at very large expense. There are many substances that are nutritious in a sense, but have a way of interfering with the important functions, sometimes vital ones, so as to be disastrous in their effects. There are many actively toxic substances that can be oxidized in the animal body and yield energy to a certain extent, and thus meet the technical definition of food. The food value of alcohol is insignificant at the best, and it is not taken for its nourishing but for its neurotic properties. If these latter are in any way inimical to human welfare, it is a very small matter that a couple of ounces be assimilated, and one that has no practical bearing on the temperance question. The school textbooks may require some slight alteration, but that is something that has to be done so frequently that it ought to give no concern. Neither the temperance advocates nor their opponents should lay such stress on such unimportant technical questions which really have no bearing on the main problems of the dangers and uses of alcohol.

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[1] Ztft. f. Hyg. u. Infectionskr, 1899, xxxii, 443.

[2] Clinique médicale de l'Hôtel-Dieu de Paris, iii, 1898-99.

[3] Annales de l'Institut Pasteur, 1899, xiii, 937.

PRACTICE AND DIPLOMA-MILLS.

The newspapers announce that one of the "doctors" who was refused a certificate by the Wisconsin Board of Medical Examiners has commenced suit against the members of the Board to compel them to issue him the coveted certificate. The "college" which gave the complainant a diploma is assisting in the prosecution, and he is likewise being backed by others who have a prievance against the Board and the principles it represents. The question arises: What are the physicians of Wisconsin doing to aid the Board in its fight? There is in Chicago a man who has been making money by running a diploma-mill, and selling diplomas. He has been at it for years, under one plan or another, and has found the occupation decidedly profitable, and an easy way of making a living. The present medical practice acts of Illinois having taken away this man's calling, he has organized a medical liberty (?) league, or something of the kind, for the purpose of fighting the Illinois State Board of Health and the medical laws of the state. United with him are those who oppose everything which tends to raise the standard of education in the medical profession. And again the question arises: What are the physicians of Illinois doing to assist the Board in the fight?

RELIGIO-MEDICAL QUACKERY.

The prophets of the various "healing" Zions of the day are keenly alive to the profits. Brigham Young died a millionaire, Mrs. Eddy is said to have acquired great wealth, and Dowie is investing heavily with the funds derived from the faithful. We have not found any of them, except perhaps "crazy Schlatter," without a very comfortable place to lay their heads, or at all inclined to sell all they have and give to the poor—the giving is the other way, it is the poor that give to them. We admire thrift, and have no special sympathies with the sentimental socialism of the day that holds the world is going to ruin because some people are rich, but we confess to a natural dislike to seeing fortunes acquired by such methods. In comparison with these self-sanctified money accumulators the worldly fraud who heals by "magnetic power" seems even respectable, and osteopathy almost scientific. The love of money, we are told, is the root of all evil, and we have evidence that it is certainly at the bottom of the religio-medical humbugs who are just now afflicting civilization.

EARLY NOTIFICATION OF MENTAL DISEASE.

Dr Walter Channing, in a letter to the *Boston Herald*, makes the suggestion that there should be a compulsory notification of all cases of suspected or developed mental diseases. His letter is instigated by a recent case of murder and suicide by a well known professional baseball player, whose peculiarities had been noticed for some time by his associates, though no attempt had been made to guard against the event that was at least partially foreseen. There is much force in Dr. Channing's suggestion; a persecutory delusional paranoiac is a standing danger and many tragedies are the direct result of such patients being at large and unwatched. As the Doctor says, there is no necessary disgrace in being insane; it does not imply any essential moral defect, but it is a misfortune that should not be permitted to extend itself to others by the irresponsible acts of the victim. The notification and early treatment and watching of these patients would also be to their own advantage, and in case of some forms of derangement might lead to an early recovery, while without it the case might progress to a hopeless stage. If every physician who recognizes a possible case of dangerous insanity was compelled to report it to the proper authorities, and the latter would require that the subject be placed under proper control or committed to a public institution, we would have fewer dangerous and troublesome cranks at large, fewer tragedies to record, and would be spared an occasional judicial murder. There are, it is true, difficulties in the way, but they can be overcome and the law would have an excellent effect. One who, like Dr. Channing and other alienists, has given attention to this subject can realize the public and private dangers from the common neglect in these matters. The Doctor's suggestion is a sensible one that is worth considering by the authorities and the community.

GOVERNMENTAL EMPLOYMENT FOR DENTISTS.

The *Army and Navy Register* of January 27 is responsible for the following:

> *Need of Army Dentists.*—A mail report received from General Otis states that the teeth of nearly every man in the islands are in bad stages of decay and recommends that a number of dentists be sent from the United States to look after the teeth. He states that after a careful investigation, he finds that a year of life in the tropics, living on army rations, has almost completely ruined nearly 50 per cent. of the teeth, while those of the remaining soldiers are in various bad stages of decay. The report was sent to Surgeon-General Sternberg, who wrote: "I am of the opinion that the appointment of competent dentists to the Army is an absolute necessity. I have long been of the opinion that there should be some systematic way by which the teeth of every enlisted man could be inspected at least once in a year, and preferably once in six months. There are few civilians who permit their teeth to be neglected for so long a period as six months. The condition of the teeth is reflected in the physical condition of the individual. If the teeth are bad, ache much, or do not perform their functions properly in the mastication of food, the health of the soldier is seriously impaired. I strongly indorse the proposition, and suggest that one dental surgeon, with the rank of major, be appointed for each regiment." A bill has been drawn up by the direction of the Secretary of War, which will undoubtedly be passed by Congress. The bill provides that the surgeon-general of the army, with the approval of the Secretary of War, shall employ and appoint dental surgeons to serve the officers and enlisted men in the regular and volunteer army, in the proportion of one dental surgeon to every 1000 men in the said army.

We have heard a great deal recently about the unsuitability of the army ration for troops in the tropics, but this is the first occasion on which reference has been made to the rapid decay of the teeth as a diseased condition prevalent in the tropics, for which the army ration is held in part responsible. We know that the teeth of every candidate for enlistment are carefully examined by medical men attached to the recruiting service, and that ordinarily the teeth of men of the military age are not subject to such wholesale and rapid decay as represented in the mail report said to have been received from General Otis. We were therefore so little impressed with the above statement of the ravages of dental caries among the troops in the Philippines that, had the paragraph ended here, we would have regarded it as one of those vague exaggerations which occasionally get into print through the medium of inexperienced reporters on the look out for something sensational. An air of indisputable fact is, however, given to the statement by the opinions and recommendations of Surgeon-General Sternberg, not as heard and reported by one liable to misapprehend, but as printed *verbatim* from the surgeon-general's own writing. This induced us to investigate, and we find that some mistake has been made which will probably call for explanation from the *Register* in its next issue. We learn that Surgeon-General Sternberg did not write the opinions and recommendations credited to him, and that he had yet to see the report reputed as having been sent by General Otis. We may therefore conclude that matters are not in such a desperate condition as represented in the paragraph, which possibly had its origin in the misapprehensions of some earnest but inaccurate promoter of a bill advocating governmental employment for dental surgeons.

FRAUD IN MEDICAL EXAMINATIONS.

So commonplace does bribery seem to have become in some communities, that level-headed men will be prepared for the charges of fraud that have been made in some states in connection with examinations for license to practice medicine. From time to time it has been reported that various devices to cheat have been employed in these examinations, such as prompting, the use of notes, and the like, on the part of individuals, and such expedients will no doubt continue in use until the whole world has been made perfect; but certain preliminary conditions are necessary in order that such wholesale and premeditated fraud may be connived at, as it is said was actually done at recent examinations before a state medical examining board. Having apparently learned from their representatives in municipal, state and national legislatures, and from other public officials, that the road to success and preferment must be paved with deception, bribery, ballot-stuffing, convention-packing, and broken promises, a number of applicants for the license to practise medicine conceived the brilliant thought that it would lighten the labors not only of the small number of examiners, but also of the larger body of applicants to be examined, if the questions to be put were placed in the hands of so many of the applicants as were willing to join in the enterprise, just a little before the time set for the examination. All that was necessary was to find some obliging person who, for a consideration, would secure the questions from a public-spirited, patriotic, and loyal state printer, with an eye single to the welfare of the commonwealth and the nation. The necessary arrangements were made, the price agreed on, and in due time notice was sent to those who had promised to make good the outlay, when it was found that copies of the questions could be obtained for a smaller expenditure. In this way trouble arose, and finally the secret came out. It has been stated, further, that not dissimilar methods have been employed in examinations in some medical schools for the doctorate, or in hospitals for resident physicianships, an obliging clerk either securing the questions in advance or substituting for the original paper of answers prepared in the examining room and handed in, a much more perfect paper prepared at the convenience of the student. There is not much to add. The remedy suggests itself. It might have been hoped, however, that even embryo medical men were less free from the vices of the times than other men, and in spite of revelations such as those cited, there is still good reason to believe that the hope is justified.

"ENDORSED BY PHYSICIANS."

When a patent medicine vendor desires to make a specially strong claim for his stuff, he adds to all its other advantages that it has the endorsement of physicians. If by hook or crook a man who can write "M.D." after his name can be cajoled or bribed to sign a testimonial in favor of a patent nostrum, that testimonial will be kept on duty until the paper fades and the ink has lost its blackness. There are various ways in which to get these endorsements, the most business-like being to buy them outright, provided it does not cost too much. But there is another and better scheme than this. It is to get the doctors to use the nostrum for a while; get them to prescribe and endorse it by writing it up in the medical journals and by talking about it in medical societies. To do this takes time, energy, and no small amount of tact in advertising. The nostrum vendor must give the doctors a present occasionally, such as a pocket-book with an imitation dollar in it; a case containing an assortment of the nostrum to carry in their vest pocket—so they won't forget it—etc., and then he must supply them with an attractive sign to hang on the office wall. This is an especially good thing to do if the sign is ornamental and suggestive. Of course, it must contain the name of the nostrum in plain letters so that all the patients can see it easily. A calendar is a good thing, as it will last for a year and yet will change every month. In this way the promoter of the nostrum keeps on the good side of the doctor and can then work him to work the people. It is a great scheme, because money can be made from the start. After the doctors have been used long enough to make the necessary impression on the people, the latter can be handled direct through the newspapers. This method has been used many times in the past, as it is being used now, and will be so long as physicians are such willing tools. These agreeable reflections are called forth through the kindness of a friend who has sent us a clipping from a newspaper called *The Mirror*. The article is entitled "Mr. Ingalls and Women," although it is difficult to understand just what Ex-Senator Ingalls has to do with the subject, unless it be that he, like the doctors, is used as a tool with which to pull the chestnuts out of the fire. Here is the "meat" of the article, which of course is a paid advertisement, without further comment:

> Maybe, as a rule, women headache and backache and legache more than men, but I declare to goodness! I never heard of one bellyaching more than the men. And so, not altogether cheerfully, I must yet admit that, in a thousand ways, women are more open to attack than men. Against a host of pains, Nature gave them less armor, while man's civilization increases their need of it. But I thank the Lord, that, even as civiliza-

tion has increased our pains, lo! many times and manifold, so hath Science given us relief from our suffering. For, perhaps the greatest boon to our race (the blessings of which, men equally share) comes to us under a name of two Greek words, "Anti" and "Kamnos," which, Anglicized as Antikamnia, mean "*opposed to pain.*" This has been the sheet anchor of joy in a million homes where pain would dwell. It has harmlessly relieved the untold sufferings of countless mothers and daughters. In opposing and dispelling our pains, it is most democratic (which is not a characteristic of Mr. Ingalls). It cares not whether the cause be a "cold," la grippe, rheumatism or neuralgia—whether it be toothache or stomachache, headache or "that pain in the side"—making no difference whether our sufferings be due to man's inhumanity to woman or Nature's regular periods of distress. It discriminates not in favor of the rich or powerful, neither does it depress the overburdened heart—duchess or nurse, bookkeeper or bluestocking, servant or society queen, it's all the same to Antikamnia Tablets—they relieve them all and plant on the pinched face of pain the roses of health and joy.

And right here let me say, parenthetically, for the benefit of my sex (and before I proceed further to demolish Senator John James Ingalls of Kansas), that Antikamnia is put up in the form of five-grain tablets and that the usual dose for adults is from one to two tablets every two to four hours, according to the need. My doctor tells me that physicians prescribe them all over the world, because, unlike opium, narcotics and so many other drugs—gracious me, I can't remember half their names!—Antikamnia Tablets never produce habit, never incapacitate, are always prompt and efficient, have no balloon characteristics, lifting one up among the clouds in "iridescent dreams" only to drop one in the slough of despond. They just relieve the suffering, drive away the pain and leave the nerves as steady as you please, mind you, and Oh! so rested!

Medical News.

THE COUNTY hospital at Colorado Springs, Colo., was destroyed by fire January 20. The loss is estimated at $8000.

THE HEALTH Board of Pine Bluff, Ark., has requested the mayor to issue a proclamation making vaccination compulsory on the part of all citizens.

AT A meeting of the city council of Huntsville, Ala., an ordinance was passed requiring the vaccination of all children attending the public schools.

DR. YVES KERRIEN, superintendent of the insane asylum at Vanvres-Malakoff, with four attendants, is on trial in a Paris court, for cruelty to inmates. Dr. Socquet, sent to investigate, testified to finding many traces of violence on the bodies of the patients.

THE GERMAN lay press has translated President Keen's editorial on the Gallinger bill, from THE JOURNAL of Dec. 23, 1899. The *Kolnische Zeitung* of January 11 publishes it in full, under the heading: "A Call to Arms Against Antivivisectionists," with a few words of explanation and approbation.

THE PARIS dailies mention that the physicians who have been gratuitously devoting their time, for years, to two large dispensaries for children in Paris, connected with the *Ecoles de Terne,* recently resigned *en masse* in consequence of an order from the officers of the society that they must henceforth refuse to treat children who are attending the "free schools."

THE QUESTION of the admission of medical women to membership in the Berlin Medical Society has been finally decided. The resolution, supported by Virchow and others, and adopted by an overwhelming majority, provided that any physician *approbirt* for the German Empire is eligible to membership. This opens the doors to women whenever they succeed in obtaining the official sanction of the German Empire, and not until then.

WE HAVE mentioned the utilization of carrier pigeons by physicians to obtain prompt news of their patients and a summons when needed, but a French confrère, Dr. Kaplan of Janville, Eure-et-Loir, has surpassed them by training pigeons to take back replies to the patients. The *Gazette Méd. de Paris* of January 13 illustrated the "medical pigeon house" and promises, soon, a full description of the methods of training pigeons to accomplish what it calls "these truly elegant and even marvelous results."

A BILL now pending in the Ohio legislature provides for the examination of all desiring to practice medicine in the state. It establishes an examining board which would be simply a continuation of the present board of registration vested with additional powers. The Board will refuse to accept diplomas as qualifications, and if the applicant fails to pass the examination he can not practice. The law has been asked for by a joint committee representing all the schools of medicine in the state.

A POSSIBLE danger of the public bath is illustrated in the report of a number of cases of conjunctivitis of varying degrees of severity, occurring among those known to have frequented a given bathhouse in Berlin. With a reasonable degree of cleanliness, and the observance of ordinary precautions, such an unpleasant occurrence should be avoidable, but the fact that it has been observed should be sufficient, not only to awaken those concerned in the management of such admirable institutions to its possibility, but also to suggest the measures necessary for its prevention.

PRACTICE ON DIPLOMA-MILL DEGREES.—The Michigan Board of Medical Registration has, on the opinion of the attorney-general, decided to throw out diplomas from diploma-mills that sell their degrees without requiring residence or study. This disqualifies a large number of the dupes of Armstrong, Bland & Co. These have flocked into Michigan of late years, and probably not all of them have yet come before the Board, but this decision will settle their status. It is a pity that some neighboring states do not have the Michigan law against diploma-mills; as it is, she has to protect herself against their products. The same question is at present before the Wisconsin Board, and is likely to require settlement by the courts. It is to be hoped that the law in both states will be found sufficiently iron-clad to resist the attacks that are likely to be made against its execution.

SMALLPOX PREVALENT.—The official reports to the U. S. Marine-Hospital Service, Dec. 29, 1899, to Jan. 26, 1900, show the general prevalence of smallpox throughout the country. The greater number of cases are reported from the Southern States. The following is a brief summary of reported cases: Georgia—Brunswick, 10; Blackshear, 16; Waycross, 7; Louisiana—Lafayette, 130; East Feliciana, 50; Shreveport, 51; New Orleans, 32; North Carolina—Halifax County, 50; Guilford County, 23; Rowan County, 16; Ohio—Cincinnati, 5; Cleveland, 18; Oklahoma Territory, 54; Tennessee—Memphis, 132; Columbia, 24; Nashville, 8; Mount Pleasant, 8; Texas—Austin, 10; Houston, 5; Index, 30; balance throughout the state, 31. Press dispatches state that the disease is rapidly increasing in Indiana, and has made its appearance in twenty counties. The chief difficulty lies in the fact that many physicians dispute the diagnosis. Dr. J. N. Hurty, secretary of the

State Board of Health, has issued an order requiring local boards to enforce the rules of the State Board without question. In event of failure to comply with its orders the secretary is empowered to institute legal proceedings against the refractory officials. Twenty cases are unofficially reported from Vicksburg, Miss.

NEW YORK.

New York City.

Dr. J. Riddle Goffe has been elected chairman, and Dr. George G. Ward secretary of the Section on Obstetrics and Gynecology of the New York Academy of Medicine.

While a woman was engaged in spraying the throat of her child, aged nearly 3 years, suffering from diphtheria, the nozzle of the spray apparatus became loosened and lodged in the child's throat. The boy choked to death before a physician could reach him.

The widow of a wealthy brewer has made a number of charitable bequests: $2000 for the Home for Incurables, $3000 for the German Hospital, $1000 for the founding of a training-school in connection with this hospital, and $1000 each to St. Joseph's Home for Consumptives and the Lebanon Hospital.

At the twentieth annual dinner of the New York alumni of Cornell University, held January 26, the president of the University made announcement of an anonymous gift to Cornell of $80,000, for a building to be erected at Ithaca, for the study of anatomy and physiology. The toast, "Cornell in Greater New York," was responded to by Dr. Wm. M. Polk, dean of the Cornell Medical School in New York City.

CASE OF SMALLPOX.

A laborer who had been employed in North Carolina on a railroad, came to New York on the Old Dominion Line and, two days later, walked into Bellevue Hospital complaining of feeling sick. The physicians who saw him, it is said, told him that the proper hospital for him was the Metropolitan, but he could not be sent there until the following day. Not recognizing the true nature of his disease, they allowed him to leave the institution. The day was spent in riding about in street-cars, and at night he sought shelter in the City Lodging House. A few hours later he was so ill that he was sent to Bellevue Hospital, and then the correct diagnosis of smallpox was made. The man was promptly isolated, and the Board of Health notified. The lodging house was thoroughly disinfected, and the ninety-five lodgers were vaccinated.

PENNSYLVANIA.

The annex to the St. Joseph's Hospital, Lancaster, was opened January 26. The hospital is under the Order of the Sisters of St. Francis.

The authorities are still after offenders against the oleomargarin law. On January 20, seven grocers were arrested at Chester and given a hearing. All have been held in $300 bail.

At the Pennsylvania Epileptic Hospital and Colony Farm, in Chester County, forty epileptics are being cared for, while twice that number have been treated during the past year. Many applicants are rejected on account of lack of facilities.

Philadelphia.

The City Board of Health is perfecting arrangements in regard to ventilation of street-cars.

To date $1700 has been subscribed to the fund for the benefit of the widows and families of British soldiers who have lost their lives in the South African War.

Dr. J. Madison Taylor has sent out notices calling attention to the need for a pay hospital for contagious diseases in this city such as exist in Boston, New York, and other cities.

OPIUM SMOKING.

A young woman teacher of the Chinese became addicted to the smoking of opium, which it is believed she learned from her pupils. Having gone to an opium den and smoked, she developed alarming symptoms before medical aid was obtained, and death occurred shortly afterward. Smoking of opium appears to be by no means uncommon, not only among the Chinese but among others. Opium is consigned to Chinese merchants, and by them sold to the habitués, while, it is charged, policemen have been most negligent.

The report of the Philadelphia Society for Organizing Charity, for the past year, shows that fewer applications were made to the Society than during any of the previous five years. There were 22,077 applications for aid. Among these, 1243 non-residents of the city were cared for, of whom 345 were furnished with transportation. Notwithstanding that the state appropriation of $2500, asked for, was not made, the receipts amounted to $30,580.34, and at the end of the year $91.87 remained on hand.

The Committee on Hygiene, of the Board of Education, proposes to give more attention to the subject of hygiene in the public schools, by proper instructions to janitors, on whom rests more responsibility than has been accredited them.

UNIVERSITY OF PENNSYLVANIA MEDICAL SOCIETY.

This society was organized January 26, for the promotion of medical and allied sciences, particularly among those officially connected with the University. It is hoped to enlist the active co-operation of all attached to the medical, biological, dental, and veterinary departments, the University Hospital, the Veterinary Hospital, the Laboratory of Hygiene, and the Wistar Institute of Anatomy and Biology. The following officers were elected: president, Dr. A. C. Abbott; vice-presidents, Drs. Milton B. Hartzell and Leonard Pearson; and secretary, Dr. A. O. J. Kelly.

OHIO.

The schools at North Amherst have been closed on account of an epidemic of scarlet fever and diphtheria. Twenty cases have been reported.

The trustees of the Massillon State Hospital have asked the legislature for an appropriation of $170,000 for improvement of the institution. Of this sum $55,000 is desired for the construction of an assembly hall and the remainder for additional cottages and an infirmary.

Cincinnati.

A new chemical machine for disinfecting alleys and gutters has been tried by the Health Department, with marked success.

Dr. C. C. Agin, who has just recovered from an attack of appendicitis, has left for Cuba, to recuperate, in company with Dr. W. D. Haines.

SUIT AGAINST DRUGGIST.

A rather novel suit for damages was filed January 23, against a druggist. The defendant says that in December, 1898, she was suffering from extreme nervousness and sent her husband to the drug store for a medicine that would relieve or cure her. The druggist recommended and sold to her husband a proprietary medicine, and prescribed, as a dose for her, a teaspoonful three times a day until she was relieved or cured. She says that she took the medicine as directed until Feb. 15, 1899, when she became paralyzed and unconscious. She claims that she was seriously ill for ten weeks, and unable to attend to her work for six months, and that as a result her general health has been greatly impaired. She wants $5300 as damages either for the prescribing of the wrong or too much of the right medicine.

Columbus.

BOARDS OF HEALTH.

The tenth annual meeting of the state and local boards of health was held in this city January 25 and 26. Dr. Frank W. Hendley, of Cincinnati, a member of the state legislature, explained a bill which has just been introduced by him in the House, providing for the immediate disinfection of any school room in which, during a period of thirty days, five cases of any infectious disease have been present. He also spoke of another bill which he is preparing, providing for a state hospital for cattle infected with tuberculosis, and asking for suggestions on this point. Drs. Tenny, Probst, and Deuschle were appointed a committee to confer with Representative Hendley regarding his bill for disinfecting school rooms. Dr. Probst, scretary of the State Board of Health, recommended that the legislature be urged to enact laws corresponding to the standing orders and regulations of the boards of health. A motion was introduced to oppose the appointment of a commission by the Government appointing health officers in cities of over 3000 inhabitants, but, after considerable discussion, a new motion was offered and adopted to let the present mode of appointment remain as it is, and another in favor of appointing county health officers. Dr. W. A. R. Tenney, of Cincinnati, read the outline of a bill providing for the sterilization of barbers' tools, which he asked to have referred to the same committee that was to confer with Dr. Hendley. The Nominating Committee reported the following nominations, which are equivalent to election: president. W. S. Hay, Weelston; vice-president. Mrs. Mary E. Moore, of Youngstown, and H. S. Prophet, of Lima; secretary, H. H. Cassel. Portsmouth.

ILLINOIS.

THE ANNUAL report of the Aurora City Hospital shows that 214 patients were treated in the institution during the past year.

THE QUARTERLY report of the State Board of Charities shows that the total number of inmates of state institutions at the end of the quarter was 10,197. The average cost per capita for their support was $39.06.

Chicago.

DR. CHRISTIAN FENGER has left the city on a vacation. He will return March 1.

DR. NICHOLAS SENN has returned from his hunting trip in Texas.

THE MEDICAL inspectors of schools examined 7376 pupils during the week, of which number 452 were excluded.

DRS. W. T. MONTGOMERY and D. W. Graham sailed for Europe January 30. They will spend six months and visit the principal Mediterranean ports.

THE WILL of the late Dr. Albert E. Hoadley, filed for probate January 26, disposes of an estate valued at $50,000.

MORTALITY STATISTICS.

The total mortality for the past week was 486, a reduction of 55 as compared with the week preceding. The reduction was chiefly in the chronic diseases and among the aged. There was a slight decrease of mortality from scarlet fever and diphtheria. The rate for typhoid fever also shows a decline.

DEATH UNDER "CHRISTIAN SCIENCE."

Another victim was added to the "Christian Science" mortality, January 26. An 8-year-old child was placed under the care of a "healer" who diagnosed the case as "bronchial croup" and applied the usual methods of prayer. During the course of treatment, which extended over two weeks, it was observed that respiration was greatly impaired and that there was some obstruction in the throat, but an examination was not considered necessary by the "healer." When the child finally succumbed, he is said to have stated that the immediate cause of death was "heart disease." The coroner's physician found that the child died of "strangulation, caused by the breaking of an abscess in the throat." It is not known whether legal proceedings will be instituted against the "healer."

PHYSICIANS' CLUB.

A regular meeting of the Physicians' Club was held January 29, with the following program: "Constitutional Aspects of Medical Legislation," Hon. S. P. Shope; "Analysis of the Present Medical Law, Its Strength and Weakness," J. W. Pettit; "Need of Organization to Promote Proper Medical Legislation," George H. Simmons; "Practical Difficulties in the Way of Passing Medical Practice Acts," J. A. Egan. Remarks were made by Drs. I. N. Love, of St. Louis, C. W. Hawley, Frances Dickinson and H. N. Moyer. A resolution was passed recommending George W. Webster for the first vacancy occurring in the State Board of Health.

MARYLAND.

REGULATION OF PRACTICE.

A committee of the Medical and Chirurgical Faculty, consisting of Drs. Samuel T. Earle, Jr., C. Hampson Jones, William Osler, William F. Lockwood and Thomas A. Ashby of Baltimore, and J. McPherson Scott of Hagerstown, have framed a new law, changing and strengthening the existing legislation relating to the practice of medicine in Maryland. The committee visited Annapolis on the [illegible] ult., to bring the proposed measure before the legislature. The first law for the regulation of the practice of medicine in Maryland was that of 1799, the charter law of the Medical and Chirurgical Faculty. In 1838 the legislature changed this, and in 1892 the present law restored to the Society its lost power in regulating practice; the 1892 law was amended in 1894 and in 1896.

Baltimore.

DR. JESSE W. LAZEAR, assistant in clinical microscopy, Johns Hopkins Medical School, recently appointed assistant-surgeon U. S. A., left for Havana, February 1. He will there be connected with the newly-equipped laboratory.

DR. THOMAS WOOD HASTINGS, formerly assistant resident physician of Johns Hopkins Hospital, has charge of the nurses and medical outfit in the American hospital-ship *Maine*, in the English service in South Africa.

DR. H. A. KELLY, while exhibiting some snakes at the meeting of the Johns Hopkins Medical Society, January 22, was bitten by a diamond-backed rattlesnake, on the end of a finger. Jerking his hand away quickly, he merely sucked the finger, and proceeded with his demonstration. No ill-results ensued, as he drew away his hand so quickly that the snake had not time to inject its venom into the wound after it had struck.

"ST. AGNES SANATORIUM."

St. Agnes Hospital, which is under the charge of the Sisters of Charity (R.C.), will be changed from a general hospital to one for treatment of nervous diseases exclusively. No insane will be admitted. Dr. George J. Preston has been made medical director. This is the first institution of the kind in the state, and there has been a growing need for it for many years. The late Dr. John P. VanVibber was on the point of establishing one, having had a successful dispensary in operation for some years, when his health broke down, followed by his untimely death. The institution has seventy acres of ground, part woodland, with greenhouses, flower and gruit gardens and grassy lawns, and over 125 private rooms, with two free wards supported by the city appropriations. A hydrotherapeutic establishment costing $40,000 was recently added.

DISTRICT OF COLUMBIA.

HEALTH OF THE DISTRICT.

The report of the health officer for the week ended January 20 shows the total number of deaths to be 106, of which number 64 were white and 42 colored. There were 2 fatal cases of diphtheria, 1 of scarlet fever, and 1 of typhoid fever. At the close of the week there were 67 cases of diphtheria, over 100 of scarlet fever, and 3 of smallpox under treatment.

Washington.

THE SUM of $5000 has been added to the urgent deficiency bill for the completion of the isolated wards of Providence Hospital.

THE FOLLOWING physicians have been appointed by the Board of Trade on the Committee of Public Health: Dr. W. W. Johnston, Surgeon-General George M. Sternberg, Drs. H. L. E. Johnson, W. P. C. Hazen, L. W. Richie, J. E. Jones, G. H. Henderson, C. W. Richardson, I. S. Stone, H. H. Barker, J. W. Boveé, D. P. Hickling, F. T. Chamberlain, W. C. Woodward, and C. R. Dufour.

As A result of the competitive examination recently held, Dr. Ferdinand Walsh was appointed assistant resident physician, Dr. W. C. Williams was promoted to be resident, and Dr. Charles G. Smith was made assistant resident, at the Central Dispensary and Emergency Hospital. Dr. W. E. Whitson has completed his service as resident physician and retires to enter private practice.

DENTISTS FOR THE ARMY.

The bill recently introduced in Congress authorizing the appointment of dental surgeons with the rank of major for each regiment is strongly opposed by Adjutant-General Corbin and Suregon-General Sternberg. While the latter advocates the appointment of dental surgeons for the army, where required in the interest of the soldiers, he does not approve of their being commissioned officers with the rank of major. He calls attention to the fact that regular surgeons in the army have to serve about twenty years, and sometimes longer, before they reach the rank of major, and he does not think it would be fair to admit dental surgeons in the army with the rank at the outset. He favors the employment of contract dental surgeons.

LOUISIANA.

New Orleans.

THE CIVIL district court has refused to grant the mandamus asked for by the City Board of Health (see THE JOURNAL, January 27, p. 244) to compel the city council to increase its appropriation for the current year.

SMALLPOX, which has been quite prevalent for some time, numbers among its victims two members of the graduating class of the medical department of Tulane University. Twelve others are being cared for in the museum, which has been turned into a temporary ward for them.

At a meeting of the Board of Control of the leper hospital, January 22, it was announced that the appropriation of $20,000 for a permanent leper home was available. A commission will be immediately appointed to select a site.

NEBRASKA.

STATE MEDICAL LEAGUE.

The annual meeting of the Nebraska State Medical League was held in Lincoln, January 24. The work of the League during the past year was discussed and future plans were formulated. This organization was formed last year, for the purpose of uniting the profession in the state for furtherance of medical legislation, enforcement of medical law, and raising the standard of medical education. The League is made up of registered physicians of all schools. A vast amount of work has been done, and the League is steadily gaining in membership. The next meeting will be held in connection with the meeting of the State Medical Society, in June.

CANADA.

DR. SINCLAIR, Paris, Ont., has been appointed chief physician to the Blind Institute, Brantford, in place of Dr. Marquis, recently deceased.

DR. COTTON has given notice of a bill in the Quebec legislature, now in session, concerning the medical profession in that province. It is understood to apply to the election of officers of the College of Physicians and Surgeons. Proxies are to be abolished, and practitioners will hereafter vote in their own districts, instead of in Montreal.

OVERCROWDING IN ONTARIO ASYLUMS.

It is stated that the number of inmates of the various asylums in this province is increasing, at present there being over 4500 lunatics undergoing treatment. Include those feeble-minded people at the Orillia Asylum and the number will reach 5200, an increase of over 100 during the past year. During the last ten years there has been an annual increase of something like 88.8, and, as a consequence, all the provincial asylums are full, and in many places these unfortunates are housed and cared for in the common jails. Although there is an annual increase of the insane population, the per capita ratio of lunatics of the population remains practically the same. The provincial legislature is about to assemble, and provision must be made to accommodate the increasing number of those who require treatment in our asylums. At present there are practically no vacancies in any of them, and the lunatics confined in jails on Dec. 31, 1899, numbered 89. It is very probable that the government will ask, at the coming session, for a large appropriation to turn the old Victoria College at Cobourg into an asylum for epileptics and very mild cases of lunacy. To meet the increase, alterations are proceeding in several of the asylums. There are at present over 700 inmates in the Toronto Asylum, as compared with 643 in 1898. The new asylum in Brockville is already filled, with 600 patients.

COUNTY MEDICAL HEALTH OFFICERS FOR ONTARIO.

That the above is likely soon to become a question of practical politics in Ontario may be gathered from the interest the provincial lay press is devoting to the subject. Lately there has been a rather extensive outbreak of smallpox in North Essex; and the county paper of that district says that had there been a competent county medical officer with power to act promptly, much could have been accomplished in the way of prevention of the spread of the disease. At present physicians are appointed by the municipalities in the respective counties, whereas, if each county had a properly constituted officer, devoting his whole time and attention to the work in hand, it would be done thoroughly and fearlessly, without any dread of offending certain individuals and corporations. It is stated that in the recent outbreak of smallpox in Essex, the ordinary physicians had no desire to look after those afflicted with the disease, and in all probability it was due in a large measure to this diffidence that something like 250 cases of the disease [illegible] For some time the secretary of the Provincial Board of Health, Dr. Bryce, has advocated the appointment of these county officials, and as the matter was up for discussion at the last session of the legislature, it is altogether probable that a fuller and freer consideration of the whole subject will be gone into on the part of the representatives of the people.

BIG DECREASE IN ONTARIO'S BIRTH-RATE.

Dr. Bryce, the deputy registrar-general of Ontario, has prepared the following statement, based on figures now being prepared for the report of the registrar-general: Over a period of ten years, in an urban population estimated (1891) at 407,058, and during which the yearly census has shown an increase of 25.6 per cent., there has been an absolute decrease of births in the thirteen chief cities of Ontario, from 10,819 in 1889 to 9111 in 1898, or a difference of 1708. These cities are: Toronto, Hamilton, Ottawa, London, Kingston, Brantford, St. Thomas, Guelph, St. Catherines, Belleville, Stratford, Windsor, and Chatham. Had the rate of increase of registration from 1889 to 1898 been the same as that in the population for the same period, there would have been registered, in 1898, 12,709 births instead of 10,819. Toronto is cited as an illustration of the defective system of registration. During the ten years there has been no change in the incumbency of the office of registrar; and the population has increased by 47,065, though the births show an absolute decrease of 824; or there were 20 per cent. more births registered in 1889 than in 1898. If, however, the population, according to the municipal returns, be taken into the calculation, viz.: an increase from 139,452 in 1889 to 186,517 in 1898, then had the rate in 1889 been maintained, there would have been 6,615 births registered in 1898. In other words, a relative decrease of 64 per cent. has occurred in the birth-rate of Toronto during the last ten years. This then is the state of affairs only three years after the provincial legislature passed the act of 1896 which provides that division registrars shall use all available means to obtain the necessary information in regard to such births, and shall receive 20 cents for each return, to be paid by the municipality, and that the parent, nurse, midwife, or physician in attendance should give notice thereof to the division registrar within thirty days from such birth. It seems obvious that some other machinery than that at present employed in cities is absolutely necessary if complete returns are to be expected.

CHARLOTTETOWN HOSPITAL.

The report of this hospital, for 1899, shows that 185 patients were received during the year. Of this number 100 were paying patients. Besides these there were 46 outside patients, to whom medicine was dispensed gratis during the year. There were 60 surgical operations and 4 deaths; 13 remained in the hospital at the end of the year. This hospital is the largest in P. E. I.

DR. W. G. NICHOL, Montreal, has been appointed supervising medical examiner for the Royal Arcanum in the Province of Quebec.

IT HAS been proposed that the medical societies appoint a bacteriologist, who may be employed by the milk dealers to make bacteriologic examinations of milk.

DR. W. W. CHIPMAN, of Edinburgh, has been appointed assistant gynecologist to the Royal Victoria Hospital. He is at present assistant to Professor Simpson and to Dr. Barbour.

M'GILL MEDICAL SCHOOL.

Friends of this institution are especially grateful for the recent gift of $100,000 to be devoted to building new laboratories for the departments of chemistry, anatomy, pathology, and physiology. The registration in this school for the current year is 451, the entering class numbering 132. A number of McGill graduates are serving the government in the Transvaal. A new course has been opened, that in hygiene and public health, under the special supervision of Prof. Wyatt Johnson. At present no university on this continent is giving such a course, the one started some years ago by the University of Pennsylvania having been giving up for lack of attendance. The number taking the course this year is limited to members of the medical faculty, who will help in the organization of the work. Next year the course will be presented especially for post-graduates who are interested in the work of health boards, public medicine, etc.

Correspondence.

The Elimination of Tuberculosis Out in the "Open."

DENVER, COLO., Jan. 27, 1900.

To the Editor:—"A hint to the wise" comes from the cattle ranges of the West. It is embodied in an address by Dr. Charles Gresswell, former state veterinarian of Colorado, which address was delivered at the recent National Live Stock Convention held at Fort Worth, Texas. It was on the subject of "Tuberculosis from the Range Standpoint." The author is one whose conclusive opinions should be highly valued by every reader of THE JOURNAL. His father, two brothers and himself were all well known in the fields of veterinary surgery and comparative pathology in England In Colorado, Dr Gresswell has distinguished himself for his clear insight in quarantine matters and the contagious diseases among animals.

I was cognizant of the instance of the twenty head of Shorthorn tuberculous cattle, he refers to. I went with him to see the last of them. Except for the enlarged glands under the jaws, those animals did not look so bad, yet one of them, a cow, gave a temperature of 109° F., after the tuberculin hypodermic. But by closer observation, râles, rhonchi and broncho-vesicular breathing could be heard in the chest. Most of the bulls of this family had been sent out on the range. I knew of some of their earlier progeny, from over in the Bear River country, that were fine fellows, the steers of three years selling as four-year-olds.

As we were leaving that farm, which was between Denver and the mountains, I remember Dr. Gresswell saying: "Wouldn't it be remarkable if the owner—himself coming to Colorado a consumptive—had, by expectorating on the grass or hay, infected his own herd, while he himself has apparently recovered from the disease?" The Doctor believed, however, that the continued in-breeding and the close confinement of this herd had resulted in their complete infection, as will better appear from his paper. It should be noted that the original stock, over-bred before leaving the British Isles, had never been reinforced by new blood in America.

This excellent lesson and plan of cure is commended to the careful consideration of those Eastern physicians who are possessed with the latest fad, the home treatment of consumption in sanatoria, near or in the cities where they respectively reside. If those philanthropic gentlemen would spread out their consumptives—the curable ones—over the elevated Western plains, as Gresswell would his tuberculous cattle, they would not need such "closed" institutions, and artificial methods. Dr. Gresswell says, in part:

> I will start with the bold assertion that terrible as the disease is in its effects on both animals and mankind, yet to the range cattle industry proper it has no danger whatever, and neither does the range industry need any protective quarantine against it, nor would any quarantine measures be practicable, even if they might be considered necessary by some alarmists.
>
> This assertion is a bold one and especially coming from me, probably one of the first over twenty years ago to draw attention to the widespread existence of tuberculosis in the high-bred beef and dairy herds of Great Britain, and to the danger which existed from the communicability of this disease to mankind and the necessity of severe measures toward its suppression.
>
> Since that time the intercommunicability of the disease between man and the lower animals, and the identity of the disease, whether found in man, cattle, hogs or poultry, have been fully established beyond question of doubt. It has further been demonstrated that the direct cause of the disease is the presence in the blood and tissues of a micro-organism—the bacillus of tuberculosis—and that this organism is common to all forms of the disease in whatever animal it is found, and that the successful transmission of the disease from one to another depends only on the condition of the recipient.
>
> It is therefore, I repeat, a bold statement to make that the disease, contagious as it is known to be, and so terrible in its effects when once it is established, has no terror for the range cattle owner, and that he needs no state or federal protection from its ravages.
>
> Although the direct cause of tuberculosis is the admission into the system of the specific germ, yet its pernicious action depends as much on the manner in which it gains access to the victim and the condition of the recipient, that it may be said that conditions form a more potent factor in the ultimate causation of the disease than the germ itself. So common is the disease in civilized life that were it equal in potency for evil to that of rinderpest, or pleuro-pneumonia of cattle, or to the germ of smallpox or scarlet fever of man, not a hoof of cattle or a living man would be free from infection twelve months from date. When it is realized how common the germ is, and how intercommunicable between different species of animals, and how insidious it is so frequently in its action, it will be evident how hopeless it is to expect to do much toward limiting exposure by quarantines, and how much rather it is necessary to base preventive measures against those conditions under which the germ becomes effective.
>
> The disease is seen with great intensity equally in the highest grades of cattle, as in the retrograde monkeys of a traveling menagerie; in the degenerate Indian, as in the inbred highest social families of the Old World. Wherever the conditions of life are unnatural, from inbreeding, intense breeding, excessive development of one set of organs of the body over those of another—as exemplified in the highest grades of dairy cows—and wherever these conditions are associated with overcrowding, or a generally unhealthy method of living, the germ of tuberculosis finds a hotbed for its certain fructification.
>
> On the other hand, where growth is more uniform, and the condition of life more in accordance with natural customs of the animal, it is difficult for the germ to cause the slightest disturbance. In a word, in some cases the germ is exceedingly contagious, whereas in others, it is very feebly infectious even if at all.
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> Extremely susceptible subjects to tuberculosis are also produced in the artificial management, commercially necessary in the economical production of dairy products, yet we can not afford to revert to the more natural dairy cow of years ago. Now, all the favorable conditions for the fructification of the tuberculosis germ are absent on the range, and so adverse are range conditions to the disease that it may practically be considered non-contagious thereon. It is extremely doubtful if any active subject of the disease could communicate it to other animals under range conditions; and even if it were communicated in an isolated case through a peculiar combination of favorable causes, it could not spread. The acute cases would either rapidly die from exposure or get sufficiently well to be free from infective qualities. Susceptible subjects to tuberculosis will not live on the range, and the germ itself, when free from an infected animal, will not survive long enough in potent form to damage other animals liable to come in contact with it. The two main elements of the contagion are wanting—the proper receptivity of the animal and the potency of the germ.
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> Some years ago I followed the history of a herd of some twenty head of Shorthorns, all more or less tuberculous, which were thrown on the open range. Three of the advanced cases died in a short time. The rest gradually improved in condition, and continued to breed with no bad result whatever to their offspring or to other stock. Some years later I witnessed the slaughter for beef of some of the original herd, and some of the offspring of the bulls out of other cows. Healed traces of disease appeared in some of the old herd, but no trace in the offspring.
>
> For the reason, therefore, that the disease on the range is so little, if at all contagious, it may be assumed that the inauguration of any quarantine measures is entirely unnecessary. The impossibility of detecting tuberculosis in the case of large movements of cattle from one Western state to another renders the maintenance of a quarantine utterly impracticable. A physical examination will only reveal the most advanced cases, which would in most instances be cut out by the trader.
>
> The majority of cases are impossible of detection by any outward examination, the only possible method being by the tuberculin test.
>
> I trust I have made it clear that the range cattle owner has little to fear from this disease, the bugbear of the advanced dairyman and the sanitarian of to-day. Recollect the disease is no new thing; it has always existed and will always exist wherever cattle are domesticated and men are civilized. It is one of the results of a rapid artificiality following a natural life, and the true solution of its control will not be in vain attempts to annihilate the germ, but in the discovery and utilization of those conditions of natural life which we have up to date lost and failed to replace in our present states of domestication and higher civilization.

What inference, as to human beings, may be drawn from Dr. Gresswell's range experience? What except that the domiciling of human beings, as with the housing and domestication of cattle, has *something* to do with their degeneration? It seems to be a question of ventilation made defective either inside or outside the lungs. It clearly does not make so much difference whether the defective ventilation is *in* the lungs—lack of use—or *outside*—impure air, because of our confined or too small abodes—the result is the same as to the consequent blood dyscrasia. That is it—a poisoning of the blood through vitiated air. We can admit that other diseases—as syphilis—are perpetuated through inheritance, and that like dyscrasias in both father and mother are accentuated in the offspring, yet this vitiated air-cause of tuberculosis still holds sway, only increased in its potency by such outside helps. It is a condition precedent to the bacillus—a condition which would be nearly as potent for evil if every bacillus of tubercle in the universe were this minute blotted out of existence. There is no proof that the same dyscrasia would not soon develop into the same tuberculosis upon such an assumed state. None whatever. Then why be so concerned about the germ?

Nothing is meant to be said against the necessary precautions which all admit must be taken, to protect susceptible persons from infection by tuberculosis bacilli. We should not, however, so magnify their importance as to make us blind to other causes and conditions. It seems that the law of ventilation answers for a judgment against our civilization, defective chiefly because of insufficient breathing-space allotted to each individual, or defective also because of our ignorance of how to breathe. Tuberculosis will never be eradicated by quarantine, whatever is done with the germ, till man knows how to quarantine himself against vitiated air in his own lungs; that is, till this law of ventilation is understood and obeyed.

The increasing congestion of people in commercial centers, and the inadequacy of our habitations for man's needs are more vital questions of the hour than the mere wiping out of the bacillary results of tuberculosis.

CHARLES DENISON, M.D.

Too Many Sections.

ROCKFORD, ILL., Jan. 22, 1900.

To the Editor:—It must be apparent to those who attend the Sections of the AMERICAN MEDICAL ASSOCIATION that there are either too many Sections, or too few members to some of them. Who has not witnessed the painful spectacle of a member with a really meritorious paper, reading with listless emphasis to an audience of three or four—I have seen an audience of two—this product of his study and thought?

At Columbus, a beautiful hall had been secured for one of the Sections, but the company was so lost in this hall that it adjourned to a committee-room at a hotel, where from two to six patient and faithful members sat and listened to the papers presented, through the three days of the meeting.

Then, too, papers are not properly classified by authors or chairmen and secretaries of Sections, or else a knowledge of this attendance from previous experience induces the readers to seek Sections where *audiences are assured*. Should not a general committee, to whom titles could be submitted early enough, classify these papers so they might appear listed in the Sections to which their titles imply?

Thus, to be general, and by no means personal, for the sake of illustration; Dr. Ott's valuable paper on "The Spread of Contagious Diseases in Schools and Its Prevention" would have been expected in the Section on State Medicine, instead of in Practice of Medicine. The same with Julia W. Carpenter's paper on "Vaccination;" as also Dr. M. P. Hatfield's on "Dynamics of School Puberty;" with propriety the papers on state control of tuberculosis and those on climate and allied topics; the papers on railroad or transportation companies' responsibilities and relations to employees and patrons, should come in this class.

Forensic papers or addresses should be classed with the Section on State Medicine. This Section might well comprise psychiatry and medical jurisprudence, and papers pertaining to neurology should go in Practice of Medicine, with more exact propriety.

By placing gynecology with surgery a more normal classification would ensue, a harmony of interests would go together and the present wants of the profession be better met. Dietetics should belong to the Section on Materia Medica, Pharmacy and Therapeutics, where its efficiency as a means of treatment normally places it.

Obstetrics should go into a section with pediatrics, all obstetric papers being grouped together, and all pediatric ones the same way, so that those interested could be informed when these subjects of their liking were coming, and so could best utilize their time.

Stomatology, a Section admitted by the urgement of evolution, would lose none of its prestige if it were moved over with the Section on Otology and Laryngology; the latter having a national association of its own, the Section would not become crowded by this union.

A new section might be created, of which skiagraphy would be a part and this should embrace the subject of pathology.

It is to be anticipated that there are other coming themes in the onward march of medical progress, for which there must be a place made, and with the side-tracks to Sections now in, the main line will still hold to its right of way on the annual trip and go on with constantly accruing interest and scientific momentum.

D. LICHTY, M.D.

Dosage of Blennostasin.

NEW YORK, Jan. 22, 1900.

To the Editor:—Our attention has been called to a misprint in the third edition of "The Newer Remedies," by Prof. Virgil Coblentz, whereby the dose of blennostasin is given as from 1 to 4 grams (15 to 60 grains) instead of from 1 to 4 grains. Inasmuch as the work had been widely circulated prior to the correction, we would ask you to call the attention of the profession to the error, as the administration of so large a dose would, in all probability, cause serious complications.

Very respectfully yours,

MCKESSON & ROBBINS.

Medicine in the Far East.

CALCUTTA, INDIA, Dec. 15, 1899.

THE CHINESE AND THE JAPANESE.

One of the first things that strikes the observer on landing in China, from Japan, is the apparent difference in the physical stamina of the inhabitants of these two countries. I found by experience that this difference was not only an apparent, but a real one; for the jinriksha man of the "Flowery Kingdom" would carry me nearly twice as far in a day, without fatigue as his pig-tailed prototype across the Yellow Sea was able to do.

After my observation in China, I am inclined to look upon three factors as causative agents in the production of this result: 1. The wide-spread prevalence of malaria, which I found to affect at least one-third of all the sick Chinese I saw in the country. By this term I mean true paludal malaria, and not that false variety that so many of us call into requisition when we are puzzled to make a correct diagnosis in any given case. 2. The terribly dirty and unsanitary condition of the dwellings in which the people live. 3. The wide-spread prevalence of the opium habit among all classes of the population.

When we consider that the two races have probably sprung from a common stock, have drunk for centuries at a common source of learning, and have so much that is common in their religious belief, it is a striking phenomenon that they should be in many ways so unlike each other.

The Japanese is ever on the alert to grasp something of value to add to his stock of learning. The Chinaman, on the contrary, looks askance at everything that is offered him from abroad and views with suspicion everything that has not stamped on it the impress of antiquity. His medicine, as he practices it to-day, is as old as the Christian era. The text-books that he uses in his common schools consist, in the main, of extracts from the writings of Confucius, or authors that lived before his time.

MEDICAL EDUCATION IN CHINA.

There is no place in the wide world where correct information on any subject whatever is so difficult to obtain as in China, and though what I shall write under the above head has been obtained with no little inquiry and observation, I am prepared to face the fact that men, who will claim to have had equal opportunities with myself, will give every assertion that I could possibly make, the flat contradiction.

Within the whole Chinese empire, with its population of 400,000,000, there are probably not at the present time 500 young men who are receiving a medical education that would be recognized as such in the Western world. Among the Chinese themselves, the practice of medicine is looked on more in the light of a trade than that of a learned profession. The true Chinese scholar who has through years of difficult study achieved a high position in the domain of letters seldom takes up the study of medicine. In fact, he looks on it as a sphere too low for a true scholar to occupy.

So the profession is recruited, in general, from men of a mediocre talent and very little education. A young man who wishes to study medicine apprentices himself to one of these practitioners and after serving an apprenticeship of three years is supposed to be fitted to launch out on his own responsibility. In his course of study, anatomy, physiology, chemistry, or pathology is never taught. The Chinese materia medica is recruited from a very large number of articles, consisting of the tissues of various species of animals, their excretions, as well as a vast array of vegetable substances. While these men know little or nothing of the real action of the remedies they use, they must study with considerable care the dosage of these agents or their results would be often disastrous to their patients.

CHINESE THERAPEUTICS.

I visited several dispensaries attached to Chinese hospitals, and saw their prescriptions compounded and prepared for use. They were real shotgun affairs, containing from six to twenty-four different ingredients. They were all prepared in the form of a decoction, and the usual quantity of the liquid when ready for use was one pint, which was generally given at a dose during the early morning, and was not repeated again for twenty-four hours.

A complication in Chinese therapeutics arises from the fact that the physician looks on the organization of the two sexes as so different that a plan of treatment adapted to the one is not at all applicable to the other. One of the arguments used by the native doctor against our Western remedies is, that while these agents may be all proper and right for the white race. the Chinaman is so different in his organic make-up, that a plan of treatment that might be proper for the one might be disastrous for the other.

On a shelf in one of these Chinese hospital dispensaries I saw a large bottle containing half a gallon of a dark-colored fluid, in which was macerating a snake about two feet long. The doctor informed me that the liquid was red wine, and that the serpent was a variety of reptile that had wonderful medicinal virtues, and that this wine thus treated was a sovereign remedy for amenorrhea and other forms of menstrual derangements in the female.

I visited some of the hospitals run on true Chinese methods, and saw some of the best men in Shanghai and Hongkong, and the work they do. These men make their visits in the hospital wards, as well as attend to their out-door patients, at an early hour in the morning. They claim that at this time of day they can better judge of the nature of the disease with which they have to deal. An extra charge is made for all visits made to patients at their homes, before noon, as these visits are considered more valuable than if they are made in the afternoon.

With these men the pulse is the only avenue through which they attempt to gain a knowledge of the disease from which the patient is suffering. They place two or three fingers on the radial artery and often spend several minutes in studying the quality of the circulation. They ask the patient his age, occupation, and the length of time he has been sick, and with this examination they seem to be entirely satisfied.

In general, surgery forms no part of the practice of medicine with the true Chinese physician. He entirely dispenses with the use of the knife, except to occasionally open an abscess that is just ready to open itself. In the treatment of fractures, however, he possesses considerable skill, adjusting the two ends of the bones with great care, and applying his splints and bandages in a manner that would do credit to his western confrère. He never attempts any extension in the management of these cases; still, I am told by those qualified to judge that his results are generally good. In cases of severe compound fractures, or other injuries of the extremities, where we would do a primary amputation, he leaves the case to Nature, and saws the bones off after a complete line of demarcation has been formed, and the soft parts have sloughed away. The practice of obstetrics he completely ignores, leaving this branch of medicine to a set of ignorant midwives.

The fear of the knife seems to be inherent in the Chinese race. While I was in Shanghai, a Chinaman was brought into St. Luke's Hospital, with such a severe crushing injury to one of his legs that Dr. Boone considered an amputation necessary. The patient, however, after a consultation with his friends, refused to be operated on and left the hospital to be treated by a native doctor. This kind of occurrence is so frequent in China that it greatly lessens the amount of surgery done in that country. This fear of surgical operations is not caused by a lack of courage on the part of the Chinaman, or his unwillingness to endure pain, for I have often seen him unflinchingly bear the application of caustics, and the use of the thermo-cautery, and that too with a heroism I have never seen equalled by any other race. It is, however, his ideas as to a future state that make him look with horror on any operation that would mutilate his body. Thus by the loss of a leg or an arm in this world, he believes that down through all the innumerable mutations that he will pass after death he will be a mutilated being.

A vast majority of those who are being educated in medicine, after anything like the plan adopted in the West, are receiving their instruction in the different missionary establishments that are scattered over that vast empire. When we consider the material with which they have to do, the talent that is required to constitute a good teacher in medicine, and the want of proper appliances to illustrate the subject taught, one can readily appreciate what the results are likely to be. At St. John's College, near Shanghai, I saw a medical class of eight young men—the class is limited to this number—being taught in chemistry, materia medica, anatomy, and physiology. In this institution they have a very good set of appliances to illustrate the subjects taught. As no dissections are allowed on the human body, a French manikin, supplemented now and then by the body of a monkey, is the only means they have of teaching anatomy. These young men, before entering on this course of study, must first have graduated in the literary department of this college, and after two years of teaching in the elementary branches of their profession, are taught for another two years by Dr. Boone and Dr. Reed at St. Luke's Hospital, when they are given a degree in medicine. From what I saw of Dr. Boone's work in this hospital, I believe these men receive a very efficient, practical course there. Dr. Mary Gates has charge of the obstetric and gynecologic work in this institution, and while she is teaching several young Chinese women to practice in her department, I doubt whether the young men of this institution receive very much efficient instruction in these branches, owing to the great aversion that Chinese women have to being examined by a man.

At the college proper, I was authorized to say that this is the most thorough course given in medicine anywhere in China. Later I paid a visit to the Red Cross Hospital at Canton, and was given an epitome of their mode of teaching their medical students, comprising a class of about thirty men and six women. When I mentioned what I had seen of the teachings done at St. John's, and the claims of that institution, to the most thorough course given in medicine, anywhere in China, the Canton Hospital's doctors vehemently repudiated the claims of the Shanghai institution. By what I could glean, however, of the means that each has to illustrate its teachings, I am inclined to think that the claims of St. John's College are well founded.

At Tientsin, near Pekin, there is a medical school supported by the Chinese government, and where the faculty are mostly Americans and in which Western medicine is exclusively taught. The class consists of about thirty students, and when they graduate, they are designed for places in the army and navy. Sanitary science is a branch that is taught most thoroughly. This school is well equipped and, excepting that its students have not the advantage of dissecting the human body, in all other respects their course of study is an excellent one. The students, who make up this class are chosen by competitive examination, and as the numbers that compete for the places are very large, excellent men who are found in this.

I saw several of these Tientsin graduates, and, compared with other Chinese physicians, wherever educated, they were the best men that I met anywhere in China. One whom I saw in Shanghai told me that when he went up for the examination to enter this school, he was one of six, and that one thousand young men competed for these places. These young men, after graduating, print on their cards, "Diplomat of the Imperial Medical College of Tientsin," and are ever after recognized as government officials. The educated Chinaman, like our politician at home, has an insatiable appetite for office. In his prayers to his gods, he never forgets to implore them to get him a position in the government service. In Canton I saw the little brick stalls where 11,000 young men were lately incarcerated for three days, undergoing an examination for positions in the government civil service. From these 11,000 applicants, however, there were only eighty-eight places to be filled. After meeting these Tientsin graduates, and observing what a superior class of men they are, intellectually, I regretted that our material at home, to fill the ranks of our profession, could not be chosen in the same manner that these men are

SHANGHAI GENERAL HOSPITAL.

The first hospital I visited in China was the Shanghai General Hospital, an institution supported largely by the English and American municipalities that form a union in the management of their affairs in this city. While thirty-nine out of forty of the inhabitants of Shanghai are Chinese, none of that race is admitted to this institution. This city being one of the most important commercial centers in the Far East, and this hospital receiving the sick of every nationality except the Chinese, one finds within its walls as cosmopolitan a class of invalids as it would be possible to imagine. The three physicians who have charge of it are all Scotchmen. In Dr. McLeod, the senior member of the staff, I found a most genial and hospitable man, who received me most cordially and answered my many questions with patience and politeness. In spite of the extreme unsanitary condition of this city, I found here, as in Japan, that typhoid fever is not a prevalent disease among its permanent inhabitants. I saw, however, a good many patients with this complaint in this institution, who had been infected before coming here. Among these were eight lately taken from a Japanese man-of-war. Dr. McLeod's treatment of this disease is expectant in the extreme. If constipation exists, he uses no cathartics, but enemas only, to move the bowels. If diarrhea be present, he gives a single dose of some opiate at night. Apart from this he leaves the case entirely to Nature, even ignoring digitalis, camphor, or strychnin, in cases where symptoms of great depression manifest themselves, relying on the use of milk punch to combat symptoms of circulatory depression. He claims that his results have been better under this kind of treatment than when he followed a more active one.

As in Japan, I found here also that true croupous pneumonia is a very rare disease. They have a ward connected with this hospital for the isolation of scarlet fever, and diphtheritic cases. But these diseases are so rare here that the beds in this ward are nearly always empty. While I was in Shanghai a case came up before the mixed court which illustrates the fact, that the heathen Chinese, like his more civilized brother of the Western world, is easily gulled in matters of medicine, and is an easy victim of quackery and quacks.

October 17 was the birthday of the Chinese god of medicine. On that day an enterprising druggist imported from Japan, a fine specimen of a lady deer whose tissues are supposed to be possessed of wonderful therapeutic virtues. To render this beast's body more efficacious, it is necessary to get its blood as hot as possible before it is killed. To accomplish this object an iron was bound on to its head, in such a manner as to press deeply, and put the poor beast into the most terrible agony. After hours of this torture it was strangled to death by the application of a cord around its neck. The pills made from this animal's tissues were widely advertised, and warranted to cure a hundred diseases. The thing was a grand success, but unfortunately for the druggist, he killed this poor beast within the English concession, and some member of the Society for the Prevention of Cruelty to Animals had the Chinese apothecary prosecuted. When the case was tried, the European members of the court were disposed to impose a heavy fine on the offender, but when the Chinese member of the bench explained that this was a long-established custom in China, the man was let off with only a fine of $10, after promising never to do the like again on British soil.

W. S. CALDWELL, M.D.

Association News.

Affiliated Societies and the Association.—The following letter has been addressed to the secretaries of the different medical societies affiliated with the AMERICAN MEDICAL ASSOCIATION:

Dear Doctor:—At a recent meeting of the Committee on National Legislation of the AMERICAN MEDICAL ASSOCIATION, held Nov. 10, 1899, at Washington, D. C., I was directed to request one delegate to represent your society at the general meeting of delegates to be called by this committee to meet in Washington, D. C., some time in January or February, 1900, to act in accordance with the resolution adopted by the AMERICAN MEDICAL ASSOCIATION at the Columbus meeting, June 7, 1899. Many of the secretaries of the societies have replied promptly, sending in the name and address of their delegate, but a few have as yet not responded. The Legislative Committee hereby respectfully requests the societies that have not furnished us with the name and address of their delegate to the proposed meeting, to do so at once, that we may call the general meeting on legislation at the earliest possible moment. The special subjects to be considered at that meeting were specially mentioned in our circular letter to the secretaries, under date of Jan. 10, 1900. You will confer a great favor by responding promptly.

Very truly yours,

H. L. E. JOHNSON, M.D., Chairman.

Deaths and Obituaries.

JOHN CARGILL SHAW, M.D., died at his home in Brooklyn, N. Y., January 23. He was born in Jamaica, West Indies, fifty years ago, was a member of the class of 1874, College of Physicians and Surgeons, N. Y., and at the time of his death was consulting neurologist of many Brooklyn institutions and a professor of nervous diseases in the Long Island College Hospital. As a writer he guarded against over-statements, and as an executive officer was eminently satisfactory, particularly as superintendent of the Kings County Insane Asylum.

JOHN WILLIAM CORBELL, M.D. died in Baltimore, Md., January 20, aged 73. He was born in Winchester, Va., and attended the medical college there and the University of Maryland. He was connected with the medical department of Jackson's C.S.A., later practiced in North Carolina, Wilmington, Del., Tarrytown, Md., and for the last twenty-five years in Baltimore and its suburbs. For three years he had been incapacitated for practice, by a complication of diseases.

ENOCH ADAMS, M.D., Litchfield, Me., died January 23, at the age of 71 years. He was a graduate of the medical department of Harvard University, class of 1851, and during the Civil War was surgeon of the 14th Maine.

MATHEW A. BOOTH, M.D., Newport, Del., died at Washington, D. C., at the age of 81 years, January 23. He was a graduate of the Winchester Medical College, Va., and during the Civil War was acting assistant surgeon at Hammond General Hospital.

C. B. BOSHBYSHELL, M.D., Glenwood, Iowa, died January 16. The Doctor was born in Pennsylvania in 1833, and graduated from the Jefferson Medical College. During the Civil War he was assistant-surgeon of the First Iowa Volunteer Cavalry and then of the Twenty-third Iowa Infantry.

ALFRED J. WATTS, M.D. died from apoplexy, at his home in Brooklyn, N. Y., January 22. Born in England, in 1825, where he received his medical degree, he settled in Utica, N. Y., in 1848, and here he practiced his profession until about thirty-five years ago. He invented "crystal gold" for teeth filling, which proved a great financial success and induced him to give his entire time to the development of the new process.

COLUMBUS W. KRISE, M.D., University of Maryland, 1871, died at his home in Carlisle, Pa., January 23, aged 52 years. He was born in Gettysburg, Pa., and was a member of the AMERICAN MEDICAL ASSOCIATION and also of the Pennsylvania Medical Association.

A. LEWIS BOUGHNER, M.D., University of Michigan, 1885, died in Chester, Pa., January 16, aged 40 years. His death was attributed to septicemia from a finger wound received three months before.

ERNEST M. GALLION, M.D., Harriman, Tenn., aged 38 years, died near Dundridge, Tenn., January 15. He was a graduate of the medical department of the University of Louisville, class of 1889. He was one of the pioneers of Harriman, and president of the Board of Education.

C. O. MATTHEWS, M.D., Terrell, Tex., died Dec. 14, 1899, at the age of 39 years. He was a graduate of the College of Physicians and Surgeons of Baltimore, Md., class of 1884.

THOMAS H. FRANKLIN died suddenly at Atlantic City, N. J., January 9, aged 59. He was an alumnus of the University of Pennsylvania, and had seen service during the Civil War.

LYMAN RODGERS, M.D., University of Vermont, Burlington, 1858, once president of the Vermont Medical Society and a state senator, died from cardiac disease on January 22.

WILLIAM S. HOUSE, M.D., New York University, 1859, of Haverstraw, N. Y., died there January 27, aged 62 years.

We also note the following deaths:

T. F. Burke, M.D., DeWitt, Iowa, January 23, aged 45 years.

Henry Chapple, M.D., Billings, Mont., in Arizona, where he recently went for his health, aged 30 years.

Dixi Crosby, M.D., New York City, January 20, aged 31 years.

L. F. Corgan, M.D., Woodburn, Ill., January 22.

R. S. Gabbey, M.D., Rossville, Kan., January 25, aged 60 years.

A. Klein, M.D., Corryville, Ohio, January 22.

H. F. Koehler, M.D., Arcadia, Neb., January 21.

Levi H. Lawall, M.D., Bethlehem, Pa., January 24, aged 70 years.

S. F. Milner, M.D., Earl, I. T., January 16, of pneumonia.

M. L. Overton, M.D., Lorraine, N. Y., January 13.

Henry Clay Van Zandt, M.D., Schenectady, N. Y., January 16, aged 56 years.

E. E. Weston, M.D., Pittston, Pa., January 20, aged 48.

Stanley D. Wilkinson, M.D., Barnesville, Ohio, January 19, aged 31.

DEATHS ABROAD.

Advices from Rio de Janeiro, Brazil, announce the death of Dr. Domingo Freire, recently. He was born in Rio fifty years ago, held the chair of chemistry in the Government University and won an enduring reputation for his yellow fever researches.

Three prominent members of the profession in Italy have recently died at advanced ages: L. Brunetti professor of pathologic anatomy at Padua; G. Zoia, professor of anatomy at Pavia, and G. Pinto, of Rome, whose name will always be associated with the reclaiming of the Campagna. The death is also announced of A. Mooren, Düsseldorf, a pioneer in ophthalmology.

J. R. SHANNON, M.D., Goderich, Ont., died on the 18th ult., of typhoid fever, at the age of 31 years. For two years he occupied the mayor's chair, being one of the most popular occupants of that position, Goderich has seen for many years.

New Instrument.

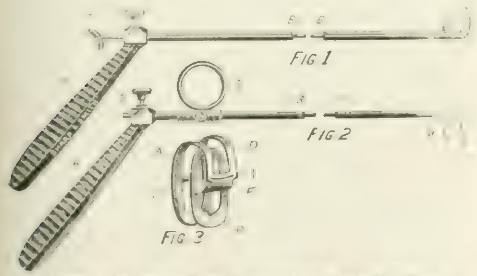
Automatic Valve Clip.

BY J. RAWSON PENNINGTON, M.D.

PROFESSOR OF PROCTOLOGY, CHICAGO CLINICAL SCHOOL.

CHICAGO.

This mechanical device was designed more especially for making a safe, permanent and bloodless division of annular, semiannular and other rectal strictures and obstructions located in the middle and upper portion of the rectum. These pathologic conditions are usually built on the semilunar, rectal, or Houston's valves, and are frequently a prime factor in the etiology of chronic constipation, obstipation, intestinal obstruction, mucous discharges, etc. It may also be used for the removal of neoplasms, prolapse, etc.



AUTOMATIC VALVE CLIP, INTRODUCER AND FORCEPS.

Fig. 1 is a valve forceps. Fig. 2 I have designated as the clip introducer. Each is 25 cm. long. H is a removable handle controlled by the set-screw S. I is a thumb-rest connected by the slide-bar B, for opening and closing the beak F of the forceps. O is a ring connected by the slide-bar E for opening and closing the beak M of the clip introducer.

Fig. 3 is a mechanical device to be known as an automatic valve clip, and is slightly opened. It is made of spring steel, is 20 mm. long, 11 mm. wide and 8 mm. in depth; a, the permanent plate; *d*, the spring; *p*, the removable plate connected to the spring *d*, by means of the fulcrum *f*; *i*, two bridge holders for opening and applying the clip. The clips are made of different sizes. To apply this mechanical device, introduce a tubular speculum into the rectum, remove the obturator, pass the forceps through the speculum and grasp the structure to be divided. The speculum is then held by an assistant, the clip attached to the introducer at M, opened and carried through the speculum to the pathologic structure, where it is carefully applied. The introducer and other instruments are then withdrawn. The clip is retained in position by means of its spring and automatic action. The section grasped by the clip is destroyed and removed by pressure atrophy.

N. B.—Since having the drawings made, I have adopted a scissors handle for the forceps and introducer.

Columbus Memorial Building.

Miscellany.

Pasteur Institutes.—Lyons has opened a Pasteur institute, the eighth in France; Russia has six; Italy, five; Austria, two. There is one in New York, Chicago, Havana, Rio Janeiro, and Buenos Ayres; also at Saragossa, Malta, Bucharest, Constantinople, Aleppo, Tiflis, and Athens. The *Gazette Méd. de Paris* observes that all of these thirty-three establishments have been founded with the consent and supervision of the pupils of Pasteur, although once started they usually become entirely independent of the mother institute in Paris.

Affections of the Ear and Life Insurance.—Coosemans stated at the congress of medical officers of life insurance companies (THE JOURNAL, xxxiii, p. 1311), that dry affections of the ears have no importance in respect to life insurance, but that a suppurative affection should exclude the candidate unless it heals with *restitutio ad integrum* and especially occlusion of the tympanic perforations. If the suppuration heals but leaves a large, dry, tympanic perforation, an extra premium should be imposed. Buys adds that sclerosis of the ear, inducing deafness, renders the candidate inferior on account of the danger of accidents to the deaf, except in exceptional cases.

Committee on District of Columbia.—For the information of those interested in the defeat of the Gallinger bill, we again mention the members of the committee to which the bill was referred, the personel of the committee having changed. As at present constituted it is as follows: Senator James McMillan, Michigan, Chairman, and Senators J. H. Gallinger, New Hampshire; H. C. Hansborough, North Dakota; R. Redfield Proctor, Vermont; J. C. Pritchard, North Carolina; Lucien Baker, Kansas; Geo. L. Wellington, Maryland; S. R. Mallory; Florida; W. V. Sullivan, Mississippi; W. A. Clark, Montana; Thomas S. Martin, Virginia; Wm. M. Stewart, Nevada, and Richard Kenney, Delaware. Personal letters may be addressed to them or to other senators. Petitions should be addressed to the Senate of the United States.

Bill on Retaining Assistant Surgeons U. S. A.—The following bill (S. 1782) has been introduced in Congress. See p. 292 for action of N. Y. Co. Med. Ass'n. concerning it:

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled, That all acting surgeons of the United States Army who served as medical officers, agreeably to Army Regulations, either in the Civil War or the Spanish-American War or the Philippine Rebellion, and whose services were honorably terminated, and those acting assistant-surgeons of the army who are still serving as medical officers, be issued warrants by the Secretary of War as acting assistant-surgeons of the United States Army in a similar manner with the warrants issued to the acting assistant-surgeons of the United States Navy by the Secretary of the Navy, the date of their warrants to be the date of their entry into the service of the United States as medical officers and the date when their services as medical officers were or will be honorably terminated to be the date of their discharges from the service of the United States: *Provided*, That no back pay or emoluments be made to any such acting assistant-surgeon by virtue of this Act.

Mechanism of the Effect of Rhythmic Tractions of the Tongue.—Laborde recently reported at the Société de [illegible]

[illegible] Semaine Méd., Dec. 27, 1899, that it is not the accession of air into the lungs that restores suspended animation but merely the re-establishment of the respiratory reflex. A tube with a stopcock was introduced into the trachea of a dog, and the cock turned until the animal was completely asphyxiated. When the contractions of the heart and of the diaphragm had been entirely arrested except for a slight trembling in the auricles perceived by stethoscope, rhythmic tractions of the tongue without opening the cock in the tube were sufficient to re-establish the movements of the diaphragm and soon after of the heart, and the animal was completely restored when hematosis was restored by opening the cock in the tube. This experience fully demonstrates that the re-establishment of the respiratory reflex precedes that of the respiration proper.

Damages of Ten Thousand Dollars for Dog's Bite.—A child, a little over 4 years of age was suddenly attacked, while playing with her dolls, by a large St. Bernard dog belonging to their master, that had accompanied two servant girls who had called on, and were at the time in an adjoining room engaged in conversation with, the child's mother. The was torn loose, resulting in a considerable loss of blood, and, it child was ferociously bitten on the face and on the scalp, which was claimed, permanent disfigurement. There was also evidence tending to show that four months thereafter she had spasms, which were epileptic, though there was a difference of opinion brought as to whether they were caused by the attack of the dog. A suit against the owner of the dog resulted in a verdict for $10,000, and judgment for double this amount was entered in the child's favor. But $20,000, the supreme court of Michigan thinks too much, Fye vs. Chapin, and has ordered a remittitur of $10,000 therefrom.

May Disclose What Was Ascertained Assisting Coroner.—When the homicide case of State vs. Vaughan was recently before the supreme court of Missouri for the second time, it was sought to secure a new trial on alleged error in the admission of the evidence of a physician who, at the request of the coroner, made a post-mortem examination of the deceased to ascertain if there were any other cause of death than the wound produced by the defendant on his arm. When asked by counsel for the state to give the result of the autopsy, counsel for the defendant objected, because the law required the coroner to make a record of his inquest, and because the physician could not disclose what he did while assisting the coroner, who was not a physician. The trial court promptly overruled these objections, and the supreme court holds that it was clearly right in doing so. The fact that the coroner was required to make a record, the supreme court holds, in no way affected the competency of the physician to testify to what he found on his autopsy.

Should Allege Assistance.—Under the practice in Connecticut, as perhaps in other states, the plaintiff in an action to recover for goods sold by his salesmen, or labor performed by his workmen in the ordinary manner of such business, would not be required to state in his complaint that he had acted by such agents. But, the supreme court of errors of Connecticut says, in Sayles vs. FitzGerald, physicians do not send agents to perform professional services, such as making calls on sick persons, and in an action for such services which have been rendered by another physician provided by the plaintiff suing to recover for professional services that fact should be stated in the complaint in order to fairly apprise the defendant of what is intended to be proved. And, no such fact being stated in the complaint, the court holds it error against an objection, to permit the introduction of evidence as to another physician having attended the plaintiff's patients on certain occasions during his absence. The court further holds that a physician [illegible] of an operation and testified what was a reasonable price for performing the operation and dressing the wound might, on cross-examination, after having further stated that he received his pay for his services from the attending physician, be asked as to what his own charges for such consultation and assistance were, and whether they were reasonable.

Classification of Action for Malpractice.—Is an action for alleged malpractice as for example for an alleged amputation of an arm without proper care or skill, causing great pain to be suffered and leaving the arm in a very bad condition, "an action for an injury to the person of the plaintiff?" It was so contended as one of the defenses, in the case of Menefee vs. Alexander, and that, therefore, the one-year statute of limitations of Kentucky, covering cases of the latter character barred such an action for malpractice, if not brought within that time. But the court of appeals of Kentucky does not concur in that view. It holds that the case was governed by Section 2515 of the Kentucky statutes which allows actions on implied contracts or for injuries to the rights of the plaintiff not arising on contract and not otherwise provided for, to be commenced within five years next after the cause of action accrued. It says, by way of illustration, that if a druggist should sell a man poison for a harmless medicine, the suit for damages therefor would not be an action for injury to the person, although great suffering or loss of health had resulted from it. The limitation to an action against a physician for improperly treating his patient is the same as that in a like action against an attorney, a teacher, or mechanic for negligence in the discharge of a duty assumed by them.

Sterilization of Hands. In the *Medical Age* for Dec. 25, 1899, Keen is credited with the following concerning preparation before operations: "First the hands are thoroughly scrubbed in soap and water, after the nails have been cut, if needed. This is the most important part of the preparation. If I had the choice of soap and water, the lime and soda method we use, or potassium permanganate and oxalic acid—one of the three and no more—I should unhesitatingly choose the soap and water. After scrubbing with this the soap and water is washed off with alcohol. Then a dram or so of chlorinated lime and an equal amount of sodium carbonate is placed in the palm of one hand and moistened sufficiently to make a paste. This is rubbed thoroughly into the arms and hands, a bit of orange wood being used to introduce it around and under the nails. The hands and arms are then washed with hot sterile water and finally in bichlorid solution."

Reposition of Anterior Luxation of Humerus by Pulling on the Adducted Arm.—Riedel has been much dissatisfied with the results of operative treatment of old luxations of this kind. In one case he had to ligate the axillary artery, and in another the patient succumbed to an after-hemorrhage. In four cases resection had to be performed on account of complications and gangrene of the head. Seven were primarily resected. The functional results were not very favorable. He therefore recommends (*Cbl. f. Chir., Heilkunde*, October, 1899) a new, simple process with which he has been unfailingly successful in 150 cases. It must be applied within the first forty-eight hours, with the patient thoroughly chloroformed after a previous injection of morphin. The arm is merely pulled with a strong pull lengthwise, slanting toward the pelvis on the sound side, when the head springs spontaneously into the cavity. He explains the mechanism as the fall on the shoulder, to which the largest majority of anterior luxations are due, pushes the head out over the inner edge of the cavity. The humerus then hangs by a strip of tendon in the center, reaching from the acromion, and when the muscles are completely relaxed in narcosis, this tendon is its only support. When pulled, the humerus tends to assume a position parallel with this tendon and rotates on it, which brings the head into its normal position in the glenoid cavity.

Operation for Hallux Valgus.—A modified operation for this condition is described in the *Brooklyn Med. Jour.* for January (p. 48). Fowler makes a transfixion incision, "the knife entering the plantar surface between the great toe and its neighbor, one-half inch proximad to the metatarso-phalangeal joint and emerging on the extensor surface just external to the extensor surface of the great toe. The soft parts are divided in the line of the web. The great toe is adducted and the external lateral ligament divided, thus allowing complete inward dislocation of the toe and exposure of the enlargement on the head of the first metatarsal. A triangular-shaped piece of bone is removed, including the exostosis. The parts are restored to their normal relationship and, if necessary, the extensor tendon lengthened through a second incision at a distance from the original one, thus avoiding any risk of infection in the tendon sheath." The procedure is essentially that devised by Fowler a number of years ago, with the exception that one transfixion incision is used and the lengthening of the tendon is done at a distance. Uniform success, both as to functional results and freedom from pain has followed in all cases that the writer has had.

Delaying Message to Doctor.—A man attacked in the evening with right oblique inguinal hernia, had a telegram sent at about 11 o'clock to a doctor about eleven miles distant, which was not delivered until about 7 o'clock the next morning, although the doctor lived within four blocks of the telegraph office, was known to the operator, had telephone communication with his office, and was within the free-delivery limits of the city. Besides, it was shown, in the action subsequently brought by the patient to recover damages from the telegraph company, that the doctor was at home, had no professional engagements, was ready to meet the call, had it been presented, and did on receipt of the message the following morning go to attend the case. The message, in addition to summoning the doctor, advised him that it was a case of rupture. The telegraph company admitted its negligence, and made no excuse therefor, but insisted that the sufferer was entitled under the contract to but 25 cents damages, being the amount paid for the services in transmitting the message. There was a jury trial, and a verdict for $1400, from which a remittitur of $50 eliminated the allowance on account of the surgical operation, though it would seem that there was evidence to have sustained this item. Now the court of appeals of Kansas affirms the judgment of the lower court; appeal of Western Union Telegraph Company vs. McCall. It being beyond controversy that damage had been suffered which was a natural and proximate result of the negligent act of the company, the court holds that the amount thereof was properly left to the good sense and sound judgment of the jury. Nor is it willing to say that the finding here was excessive. And it intimates that the allowance of the $50 referred to was legal, notwithstanding the contention that the operation was not made necessary by the company's negligence. It takes this view because it thinks that it was a question for the jury to decide whether under the evidence about the uncertainty of such cases, the delay made the operation necessary or not.

May Practice Under Diploma in Texas.—The supreme court of Texas has reversed the court of civil appeals on the question of the right of a physician who has a diploma duly recorded, but who has not had recorded a certificate from an authorized board of medical examiners, to recover for medical services rendered by him. The supreme court remarks that there is an apparent inconsistency between the provisions of the civil statutes and those of the penal code, which it says that it has found somewhat difficult to reconcile on satisfactory grounds. But, clearly, it adds, the penal code does not prohibit a physician from practicing his profession who has received a diploma from a proper college, and who has had it properly recorded. Nor is there any express prohibition in the civil statutes. And the purpose of the omission from the Revised Statutes now in force, of article 3638 of the Revised Statutes of 1879, which clearly made practicing without a certificate unlawful, the supreme court suggests, would seem to be to bring the provisions of the civil statutes in consonance with the criminal statutes upon the same subject, and to make it not unlawful for a physician having a duly-recorded diploma from a proper college to practice his profession. It also suggests that it may have been deemed wise to leave the provision standing which made it the duty of the medical boards to examine all physicians who should apply, whether with or without diplomas, for the reason that some physicians might prefer to take out certificates, rather than rely upon their diplomas to fix their status as legal practitioners. In the case before the court of Wilson vs. Vick, to sustain his right to recover for medical services rendered by him, the physician in question averred that he was entitled to practice his profession by virtue of a regular diploma granted to him by the Vanderbilt University, of Nashville, Tenn., the said university being a university of the first class, and being a medical school recognized by the AMERICAN MEDICAL ASSOCIATION, which diploma he had caused to be duly recorded in the office of the district clerk of the county. However, this plea, the supreme court intimates, was probably not good, as against a proper objection, as it should have been averred that Vanderbilt University was chartered by the legislature of the State of Tennessee or its authority.

Reciprocity of State License.—The following resolution was adopted by the Illinois State Board of Health, Oct. 10, 1899.

Resolved, That applicants for a state certificate to practice medicine and surgery in the State of Illinois, who have been examined and licensed by other state examining boards maintaining standards not lower than those provided for in the Act to Regulate the Practice of Medicine in the State of Illinois, in force July 1, 1899, shall be granted certificates without further examination, on payment of the fees required by the Act, providing that the applicant, who must be a graduate of a medical college in good standing with this Board, shall present with his license, an affidavit from the president or secretary of the state examining board showing that the requirements of said examining board at the time of his examination were equal to those exacted by this Board under the present law, and providing further, that the said state examining board will grant licenses without examination to applicants holding certificates issued by the Illinois State Board of Health under the act now in force.

NOTE.—Under the provisions of the Act to Regulate the Practice of Medicine in the State of Illinois in force July 1, 1899, an applicant for a certificate to practice medicine and surgery in the State must present evidence of being a graduate of a medical college in good standing as may be determined by the Board, and must pass an examination in those general subjects and topics, a knowledge of which is commonly and generally required of candidates for the degree of doctor of medicine by reputable medical colleges in the United States.

No medical college will be considered in good standing after January 1, 1900, which does not require of all graduates receiving diplomas after that date, as a condition of graduation, an attendance upon four full courses of lectures in four separate years. (See also, THE JOURNAL of Nov. 11, 1899, p. 1226.)

Case to Order Physical Examination.—A day or two after a man met with an accident alleged to have been due to the negligence of the city in allowing a sidewalk to get out of repair and remain so, his wife, at his request, called on one of the aldermen, and asked him to send the city physician to treat the case at the city's expense. The city physician being absent from the city, the alderman sent another doctor in his place. The latter attended the case for some time, during which he made two or three physical examinations of his patient. Then, the latter, becoming dissatisfied with the treatment, employed another physician in this one's stead. Later, he sued the city for damages—Wanek vs. City of Winona. After he had served notice of his claim against the city, presumably, the city attorney called with the doctor who had been discharged, and demanded that the doctor be allowed to make another examination, which the man declined to permit, and the trial judge subsequently declared that he would not order a physical examination in the case, even if he considered that he had the power, which he did not. The supreme court of Minnesota holds that this denial of an application for an order requiring the plaintiff to submit to a physical examination was error. Assuming that the examinations by this doctor, in the course of his treatment, were to be considered as made at the request and in behalf of the city, still, being made before it knew what injuries he would claim in his complaint, the court makes a point of the fact that they could not have been specifically directed to ascertaining whether those particular injuries had or had not been sustained. Again, in view of the case, the developments during the intervening six months, it says, would be most valuable, if not essential, in ascertaining the severity of the injuries, and whether they were permanent. And for these reasons, it holds that the application should have been granted.

Treatment of Diseases by Light. The Advance Sheets of Consular Reports, Dec. 29, 1899, have the following, under the above heading: Minister Swenson sends from Copenhagen, Dec. 2, 1899, a letter to a Minnesota physician in reply to in-studies as to the treatment of certain diseases by concentrated light rays. The letter reads:

Dr. Finsen's Light Institute was founded in 1896 for the purpose, as expressed in the articles of incorporation, of making and encouraging investigations regarding the effects of light on the living organism, especially with the view of utilizing these in the field of practical medicine.

The corporation numbers among its members men of eminence and recognized authority in the medical profession, such as the professors of the University of Copenhagen in pathological anatomy, anatomy, and common pathology; and the superintendents of the leading hospitals in Copenhagen.

The institute has gained the confidence and aroused the interest of the public to such an extent that it now receives State as well as municipal aid in the way of appropriations. Its success and growth have been phenomenal. Altogether, some three hundred and fifty cases of lupus vulgaris have been treated, in all of which satisfactory results have been obtained. A large number of cases have been treated experimentally for other diseases of the skin, among them erysipelas and alopecia areata. Scarlet fever is to be experimented with. In an interview which I had with Dr. Finsen a few days ago, he told me that the light treatment as now perfected is so effective that there is reason to believe that every case of lupus vulgaris can be cured by means of it. Dr. Finsen's successful treatment of smallpox by means of red light is also very interesting and ought to be widely known.

Both sunlight and electric light can be used for medical purposes. Owing to its latitude, Denmark is not favorably situated for using sunlight; hence the institute makes nearly exclusive use of electric light. The arc lights used are each of 4000 candlepower (ordinary street arc lights are from 2000 to 4000 candlepower). Earlier experiments with this method of treatment have failed because the light used has not been powerful enough.

Dr. Finsen is also experimenting with photo-chemical baths to ascertain how far light is instrumental in supplying the skin with blood. He says that the red color of the exposed parts of the skin is caused principally by light. Heat seems to hinder, and cold to further it.

Poor Opinion of Opinion Evidence.—In Baxter vs. the Northwestern Railway Company, the finding of the jury that the plaintiff's spinal cord was permanently impaired seemingly rested on the uncorroborated opinion of one expert witness, which was inconsistent with, and demonstrated to be wrong by, undisputed facts and all the reasonable probabilities, besides being opposed by three equally competent witnesses whose evidence was in harmony with such facts and probabilities. In such a situation, the supreme court of Wisconsin holds, a verdict can not stand. It says that mere opinion evidence, at best, is to be received and scrutinized with the greatest care. It is, ordinarily, the most uncertain kind of evidence that can be produced, and falls to the ground as utterly worthless when inconsistent with undisputed facts or with reason and common sense as applied to other creditable evidence. Opinion evidence alone is not conclusive in any case. The jury must pass upon the probabilities, and unless the opinion relied on is within scope of reason and common sense, it should not be regarded at all. If that were not so, continues the court, injustice would often rule in the jury room, because, in a case like this, or any case involving a personal injury, there is no theory so preposterous but that men can be procured to support it under oath from the witness stand by expert evidence. On questions involving skill and experience in such matters, experts must be called from the necessities of the case, for want of better evidence, and when stripped of all the elements of the mere conjecture, and pretense, and partisan influence, it is invaluable, and what is left will rarely appear improbable to [illegible]. It is the duty of the courts and juries to do that,—to subject expert opinions to all reasonable tests to determine their credibility. Again, the court more specifically says that, as before indicated, the ease with which experts can be arrayed on each side of a controversy, especially where the human anatomy and human afflictions, their cause and probable results, are the subject of judicial inquiry, and two theories be sustained by the evidence of reputable men skilled in their calling, each theory fitting with exactness the necessities of the side on which it is advanced, is an unexplainable phenomenon which all have experienced who have had much to do with the trial of cases. It seems that if a person is called as a witness to support one side of a controversy by opinion evidence, he is quite likely to espouse such side with all the zeal of blind partisanship, to view the situation from the point of interest and necessity of that one side of the controversy with such a degree of mental concentration as to shut out of view everything not within that narrow focus, inducing a mental condition of entire incapability of giving an independent, impartial opinion, and capability only of acting in the line which the interest of the one side suggests, with as much certainty as the hypnotized follows the mental suggestion of the hypnotizer. Opinions of experts must be tested by the same methods as other evidence for the purpose of determining their credibility, keeping in view that one fact is of greater weight than any amount of conjecture. What is here said, the court adds, should not be taken as disparaging at all the legitimate use of the results of study and experience in special lines. Such results are very helpful, and in many cases absolutely necessary, in judicial search after truth. When a skilled witness can be kept within his legitimate sphere of impartiality, like a jury or a judge, his evidence will elicit the respect, which is due from all, to the results of study and experience.

In Congress.—The following bills, of interest to physicians, have been introduced in the present session of Congress: by Mr. Crowley, No. 5563 H. R., which provides for the payment of the sum of $377.50 to the two surviving children of Shubal York, late surgeon of the 54th Ill. Vols.; by Mr. Bromwell, No. 5774 H. R., which provides for the payment of medical expenses of sick officers and enlisted men of the army while absent from duty with leave or on furlough; by Mr. Shafrock, No. 6065 H. R., which provides for the erection of a monument in Washington, D. C., to the memory of the women who, during the Rebellion, attended and nursed the sick and dying soldiers of the U. S.; by Mr. Lloyd, No. 6232 H. R., which provides an amendment to Section 1320 of Chapter 4 of the Revised Statutes of the U. S., prescribing the oath of a cadet so as to prevent hazing—the amendment adds: I will abstain from the practice of hazing in any form while at the academy. Mr. Young, of Pennsylvania, introduced one (No. 6869) which provides for establishing, under the U. S. Treasury Department, a bureau of health as follows—Be it enacted by the Senate and House of Representatives of the U. S. A., in Congress assembled: that to protect the health of the public; to encourage the adoption and enforcement by states of uniform laws of health and hygiene; to encourage individual coöperation; to collect statistics of births, deaths, and preventable diseases; to furnish information having a tendency to prevent the development or propagation of disease, especially those due to inheritance; to conduct investigations having a tendency to protect the public health, the President shall, by and with the consent of the Senate, appoint a commissioner and health officer, the latter to be a qualified physician in good standing, of not less than ten years' practice. They shall receive a salary of $5000 annually. The commissioner may appoint one or more expert physicians, who must be graduates of medicine of not less than ten years' practice. They shall receive the sum of $25 per diem and traveling expenses when on duty. The commissioner shall appoint a chief and other clerks and employees needed, who shall receive such salaries as may be determined; that, in case of threatened epidemic, the President may call the surgeons-general of the army and navy and marine-hospital service, commissioner, and health officer to have charge of the subject; that the sum —— thousand dollars is hereby appropriated to carry this act into effect; that the commissioner shall formulate such rules as may be required. Mr. Young also introduced No. 7082 H. R. providing for the purchase of certain buildings and grounds for the use of the U. S. Army Dispensary. Mr. Hull introduced No. 6379 H. R., which provides for the employment of women nurses in military hospitals of the army. Mr. McClellen, by request, introduced No. 7017 H. R., which provides for amending the statutes relating to patents relieving medical and dental practitioners from unjust burdens imposed by patentees holding patents covering methods and devices for treating human diseases, ailments, and disabilities. Senator McMillan is responsible for No. 2551 S., which provides for the establishment of an inebriate asylum in the District of Columbia, the chief executive of the asylum to be a superintendent, to be ap-

and shall, subject to the approval of the directors, engage and discharge all the employees of the asylum and determine their wages and duties. He shall be the responsible disbursing agent of the asylum, giving bond to the satisfaction of the directors, and shall be ex-officio secretary of the board. Seven citizens of the District of Columbia, of whom at least three shall be physicians engaged in practice for more than five years, shall be appointed by the President and board of directors. The judges of the police court shall in addition be ex-officio members of the said Board, which shall make all needful by-laws for the government of the asylum and for carrying out the purposes of its creation. The superintendent shall receive and keep in custody until they are cured, or discharged by order of the Board of Directors or by order of the court by which they were committed, all persons committed to him for treatment as inebriates by order of the Police Court of the District of Columbia, or by the voluntary request of the party to be committed for treatment for inebriety, said request to be in writing in such form as the directors may require. The directors may make such reasonable and just regulations as they may think best, requiring payment in case the party is shown not to be indigent and able to pay. Proceedings to commit to the asylum shall be by information in the police court, to be filed by the attorney for the District of Columbia, charging the defendant to be a habitual drunkard, said intimation to be tried as are other cases in said court. (See also, pp. 307 and 313.)

DIAGNOSIS OF AND OFFICIAL INSTRUCTIONS IN REGARD TO THE PLAGUE.

The German National Board of Health has issued a circular of instructions exclusively for physicians, which is published in full in the *Munich Med. Week.* of January 2. The differentiation of the first cases is of vast import. In former epidemics even prominent physicians failed to recognize it when it appeared, and diagnosed the disease as carbuncle, glandular affection, congestion of the lungs, typhus, anthrax or intermittent fever, and persisted in their error until the accumulation of similar cases, the mortality, the evident contagious character of the affection forced on them the conviction that they had some mysterious, extraordinary disease before them. It affects both sexes, young and old, and every social class, although it usually appears first and is most malignant in the homes of the poor and insufficiently fed. The outbreak of the disease proper is preceded by lassitude, depression, pains in the lumbar region, increased thirst and diminished appetite. It frequently begins quite suddenly. Stinging, burning, or dull pains at the point which corresponds then or later to the bubo, the inflammation of the glands or the pneumonia, may be the first manifestations of the disease, soon accompanied by chilliness amounting to a rigor, and consecutive fever. The latter may exist for several hours or days before the local manifestations develop. The commencement of the disease is almost invariably accompanied by a sensation of vertigo in the head, which may increase to resemble a severe intoxication, with the external indications of extreme stupor, and loss of control over the limbs, and then pass away. Nausea or vomiting frequently accompanies the vertigo. When the patient reaches the physician the clinical picture in severe cases is usually fully developed. The patient produces the impression of a drunken man: the vacant stare; the face bloated, flabby, expressionless; the extremely bloodshot eyes, the thick, stammering speech, and uncertain, staggering gait. This impression is enhanced by the abrasions and bumps caused by the stumbles and falls of the patient. The tongue looks as if it were whitewashed with lime, or occasionally red and knobby like a raspberry. The skin is dry over the entire body and burning hot, or it is merely hot on the face and trunk, while the pulseless limbs are already cold and covered with a sticky sweat. The respiration is labored, sighing; the heart-beat much accelerated; the arteries relaxed; the radial pulse dicrotic, full or already thready, near extinction, while the heart-beat is still vigorous. Put to bed the patient lies dormant in extreme exhaustion, whispers low or talks confusedly to himself or tosses restlessly on the bed with loud delirious ravings, or if he is not prevented by the attendant or fastened to the bed, gets up and wanders restlessly about in a wild frenzy and makes efforts to escape. With careful scrutiny it is possible to detect the local disease focus even in the first hours, and thus approach the correct diagnosis. A tender, swollen gland or a pustule on the skin are the indications of commencing inflammation of the lungs, belong to the developed clinical picture of the plague, which can thus appear as gland plague, skin plague or lung plague. Plague of the alimentary canal has only hitherto been established in animals. The gland plague or bubo usually appears in the inguinal region, but also frequently in the axilla and in the neck, especially with children. In a few cases it has been noted on the back of the head, on the elbow, the popliteal space, the anterior or posterior ear glands, the hyoid glands, etc. Frequently the superficial glands are only slightly inflamed; the disease process seems to have jumped them and affected the deeper glands, the second or third class glands, which develop into buboes. For instance, the femoral glands may be unaffected, while a large iliac or lumbar bubo may be palpated like an appendicular tumor through the abdominal wall; or a cervical gland may be only slightly swollen, while an area of dulness in the clavicular region and symptoms of compression in the cervical organs may reveal the formation of a bubo in the upper portion of the thoracic cavity. The separate enlarged glands can be distinctly palpated in the bubo, or the inflammation of the interstitial tissue may have bound them into a thick bunch which can only be vaguely distinguished from the surrounding tissues, and is frequently surrounded by doughy edema extending far around and involving the skin. The sensibility of the bubo to pressure is usually much more than the spontaneous pain, so that the patient, by favoring the bubo by the position of the limb, experiences no pain. A small bubo is frequently not even noticed by the patient and his attendants, so that every gland that can be reached should be carefully and repeatedly investigated by the physician. Plague pustule and carbuncle are rare in comparison to the bubo. They begin with a small spot like a flea's bite anywhere on the body. The spot smarts sharply and soon develops into a larger or smaller blister with a cloudy fluid. The pustule either stops at this stage, or the subjacent tissues harden and soon become transformed into a deep carbuncle, progressing to a gangrenous ulcer. Inflamed lymph vessels frequently lead from the pustule to the nearest cluster of glands, and a bubo may then develop in them. A bubo may also develop in the vicinity of a carbuncle. Buboes, pustules and pneumonia may appear from the first, at the commencement of the disease, sometimes before the fever, or they may become evident a few hours or days afterward, seldom later than the third day. In all forms of the plague the early weakness of the heart is noticeable. In all, symptoms of irritation in the alimentary canal are evident at first, with sensitiveness to pressure in the upper abdomen and cecal region, violent vomiting, later also the passage of black fecal masses. With considerable regularity there has also been observed a slight degree of tympanitis: a soft, palpable or percussionable swelling of the spleen, and traces of nucleo-albumin and serum-albumin in the urine. Vomiting of blood or blood in the urine is rarer. A diphtheritic affection of the tonsils is frequently noted early. There is almost constantly more or less conjunctivitis, which is frequently and rapidly complicated with keratitis and may lead to the complete suppuration of the eye. Punctuated or striped hemorrhages in the skin and mucous membranes have been noted with varying frequency in different epidemics. In the course of the disease the lymph vessels beneath the buboes may become involved in the inflammation, and new buboes may develop elsewhere in the body. In the treatment, a good bed, fresh air and cool baths are the most important. The intense thirst should be freely gratified. Cold water, acid drinks and milk are most relished by the patients. Alcoholic drinks are rejected by many physicians. Cleansing the digestive organs with castor-oil or some other mild purgative is recommended by many, but opinions differ in respect to cardiac stimulants. Cauterizing the pustule, rubbing in gray ointment, compresses with sublimate or carbolic acid over the inflamed glands or buboes, seem rational. Inhalations of a 1 per cent. carbolic spray can be tried in the pulmonary form. The most important protective measure for physicians and attendants is scrupulous cleanliness. The great danger of infection from the sputum and edema fluid must be constantly borne in mind. The best disinfectants are 1 per cent. sublimate; 3 per cent. carbolic acid; kresol soap and 2 per cent. chlorid of lime. Preventive vaccination is recommended. "Serum therapeutics is still on trial."

The Public Service.

ARMY CHANGES.

Movements of Army Medical Officers under orders from the Adjutant General's Office, Washington, D. C., Jan. 12 to 18, 1900.

Bailey V. Ashford, lieut. and asst.-surgeon, U. S. A., from the Department of Puerto Rico, to report by Feb. 5, 1900, for duty in the Department of California.

William J. Calvert, lieut. and asst.-surgeon, U. S. A., member of a board convened at Manila, P. I., to study tropical diseases.

Joseph J. Curry, acting asst.-surgeon, member of a board at Manila for the study of tropical diseases.

José M. Delgado, acting asst.-surgeon, from Plattsburg Barracks, N. Y., to Washington, D. C., for instructions.

Frank Du Bois, acting asst.-surgeon, from New York City, to the Department of California.

William E. Hamlin, acting asst.-surgeon, from New York City to Waltham, Mass., for annulment of contract.

Ashton B. Heyl, captain and asst.-surgeon, U. S. A., leave of absence granted to Feb. 28, 1900, at which date the acceptance of his resignation will take effect.

James M. Kennedy, captain and asst.-surgeon, U. S. A., member of a board convened at San Francisco, Cal., for the examination of officers for promotion.

Henry S. Kilbourne, major and surgeon, U. S. A., from New York City to the Norfolk navy yard, Va., on temporary duty connected with the army transport service.

William O. Owens, captain and asst.-surgeon, U. S. A., from the department of California to Fort Thomas, Ky.

Benjamin F. Pope, lieut.-col., deputy surgeon general, U. S. A., from Columbus Barracks, Ohio, to report at San Francisco, Cal., on or before Feb. 5, 1900.

Henry I. Raymond, major and surgeon, Vols., (captain and asst.-pointed by a board of directors, who shall be entitled to a salary of $2500 per annum, and who shall be a well-educated physician having had experience in the treatment of inebriates. He shall give his whole time to the welfare of the institution surgeon, U. S. A., honorably discharged from the volunteer service upon tender of his resignation to take effect Jan. 18, 1900.

Charles St. John, acting asst. surgeon, from Buffalo, N. Y., to the Department of California.

John H. Stone, lieut. and asst. surgeon, U. S. A., now at Matanzas, Cuba, is relieved from further duty at Fort Leavenworth, Kan.

Richard P. Strong, lieut. and asst. surgeon, U. S. A., member of a board at Manila, P. I., to study tropical diseases.

William J. Wakeman, captain and asst.-surgeon, U. S. A., from Fort Thomas, Ky., to report at San Francisco, Cal., on or before Feb. 5, 1900.

ARMY MEDICAL EXAMINING BOARD IN MANILA, P. I.

A board of medical officers to consist of Lieut.-Col. Benjamin F. Pope, deputy surgeon-general, U. S. A.; Major Guy L. Edie, surgeon, U. S. A. (captain and asst. surgeon, U. S. A.); Capt. William J. Wakeman, asst. surgeon, U. S. A., and Lieut. Bailey K. Ashford, asst. surgeon, U. S. A., has been constituted to meet in Manila, P. I., as soon as practicable, for the examination of candidates for admission to the medical corps of the army. The board will receive instructions for its guidance from the surgeon-general. It will remain in session until all the candidates who are authorized to present themselves shall have been examined. The president of the board will then report the completion of the examination of the candidates by cable to the adjutant-general of the army. Lieut.-Col. Pope, Capt. Wakeman and Lieut. Ashford will then report in person to the commanding general, Department of the Pacific and 8th Army Corps, for assignment to duty.

NAVY CHANGES.

Changes in the Medical Corps of the U. S. Navy for the week ended Jan. 20, 1900:

(Changes by Cable from Asiatic Station.)

Asst.-Surgeon D. L. Wright, detached from the *Monterey* and ordered to the *Isla du Luzon*.

Medical Director D. Dickinson, ordered to duty as a member of the naval examining board, Washington navy yard.

Medical Director G. S. Beardsley, detached from the naval retiring board, Washington navy yard, and ordered home to await orders.

Medical Inspector J. C. Wise, detached from the naval medical examining board, Washington navy yard, and ordered to duty as member of the retiring board.

Surgeon L. G. Heneberger, detached from the naval recruiting rendezvous, Detroit, Mich., and ordered to the training station, Newport, R. I.

Surgeon Oliver Diehl, detached from the *Michigan* and ordered to the naval recruiting rendezvous, Philadelphia, Pa.

P. A. Surgeon A. R. Alfred, detached from the New York navy yard and ordered to the *Texas*.

P. A. Surgeon F. W. Olcott, detached from the *Texas* and ordered to the naval recruiting rendezvous, Detroit, Mich.

P. A. Surgeon H. D. Wilson, ordered to duty on the *Michigan*.

P. A. Surgeon C. E. Riggs, detached from the naval recruiting rendezvous, New York, and ordered to the New York navy yard.

Surgeon H. N. T. Harris, ordered to temporary duty on the *Vermont* in connection with the crew of the *Albany*.

Asst.-Surgeon R. Spear, detached from the naval recruiting rendezvous, Philadelphia, Pa., and ordered to the *Constellation*, temporary.

Asst.-Surgeon H. A. Dunn, ordered to the Naval Proving Grounds, Indian Head, Md.

Asst.-Surgeon D. H. Morgan, detached from the *Iris* and ordered home.

Medical Director G. S. Beardsley, placed on the list of retired officers of the Navy from Jan. 22, 1900.

Medical Director J. M. Flint, placed on the list of retired officers of the Navy from Feb. 7, 1900.

Pharmacist J. H. McGuigan, detached from the Naval Proving Grounds, Indian Head, Md., and ordered to the New York navy yard.

Pharmacist S. Englander, detached from the Navy Yard, New York, and ordered to the Naval Hospital, New York.

MARINE-HOSPITAL CHANGES.

Official list of the changes of station and duties of commissioned and non-commissioned officers of the U. S. Marine-Hospital Service for the seven days ended Jan. 18, 1900:

P. A. Surgeon C. P. Wertenbaker, to proceed to Greensboro, N. C., and Jessup, Ga., for special temporary duty.

Asst.-Surgeon L. L. Lumsden, relieved from duty at Seattle, Wash., and directed to proceed to the San Francisco quarantine station and report to the medical officer in command for duty and assignment to quarters.

Asst. Surgeon W. W. King, to report to Surgeon L. L. Williams (Immigration Depot), New York City, for temporary duty, pending departure for Ponce, Puerto Rico.

Asst.-Surgeon F. H. Thornbury, relieved from duty at the San Francisco quarantine and directed to proceed to San Francisco, Cal., and report to the medical officer in command for duty and assignment to quarters.

Asst.-Surgeon Carl Ramus, relieved from duty at Havana, Cuba, and directed to proceed to Fort Stanton, N. M., and report to the medical officer in command for duty and assignment to quarters.

Asst.-Surgeon H. A. Stansfield, relieved from duty at San Francisco, Cal., and directed to proceed to Honolulu, H. I., and report to Surgeon D. A. Carmichael for duty.

Asst.-Surgeon Carroll Fox, relieved from duty at the Reedy Island quarantine station and directed to proceed to the Port Townsend quarantine station and report to the medical officer in command for duty.

Asst.-Surgeon F. E. Trotter, relieved from duty at the Tortugas quarantine station and directed to proceed to Havana, Cuba, and report to the quarantine officer for duty.

Asst.-Surgeon E. R. Edson, relieved from duty at St. Louis, Mo., and directed to proceed to the Reedy Island quarantine station and report to the medical officer in command for duty and assignment to quarters.

Acting Asst.-Surgeon John W. Stevenson granted leave of absence for 30 days from Jan. 22, 1900.

HEALTH REPORTS.

The following cases of smallpox, yellow fever, cholera and plague have been reported to the Surgeon-General, U. S. Marine-Hospital Service, during the week ended Jan. 19, 1900:

SMALLPOX—UNITED STATES.

Delaware: Wilmington, Jan. 6 to 13, 1 death.

Florida: Jacksonville, Jan. 6 to 13, 2 cases.

Georgia: Jessup, Jan. 16, 1 case.

Illinois: Cairo, Jan. 1 to 7, 5 cases, 2 deaths; Chicago, Jan. 6 to 13, 4 cases.

Louisiana: New Orleans, Jan. 6 to 13, 13 cases, 2 deaths.

Nebraska: Omaha, Jan. 6 to 13, 1 case.

New York: New York, Jan. 6 to 13, 1 case.

North Carolina: Greensburg, Jan. 15, numerous.

Ohio: Cincinnati, Jan. 5 to 12, 1 case; Cleveland, Jan. 10, 25 lent.

Oklahoma: Blackwell, Jan. 8, prevalent; Newkirk, Jan. 8, preva- cases.

South Carolina: Greenville, Jan. 6 to 13, 2 cases.

Tennessee: Columbia, Jan. 6, 24 cases.

Tennessee: Columbia, Jan. 6, 24 cases; Mount Pleasant, Jan. 6, 8 cases; Nashville, Jan. 11 to 18, 6 cases.

Texas: Houston, Dec. 31 to Jan. 6, 5 cases.

Virginia: Portsmouth, Jan. 6 to 13, 10 cases, 2 deaths.

SMALLPOX—FOREIGN.

Belgium: Antwerp, Dec. 16 to 30, 14 cases, 4 deaths.

Bohemia: Prague, Dec. 16 to 30, 10 cases, 1 death.

England: London, Dec. 16 to 30, 12 cases.

France: Lyons, Dec. 16 to 23, 2 deaths.

Germany: Königsburg, Dec. 16 to 23, 1 case.

Gibraltar: Gibraltar, Dec. 24 to 31, 1 case.

Greece: Athens, Dec. 16 to 30, 10 cases, 2 deaths.

India: Bombay, Dec. 12 to 19, 40 cases; Calcutta, Nov. 25 to Dec. 9, 9 deaths.

Japan: Yokohama, Nov. 18 to 25, 1 case.

Mexico: Chihuahua, Dec. 31 to Jan. 6, 4 deaths; Vera Cruz, Dec. 31 to Jan. 13, 3 deaths.

Russia: Moscow, Dec. 16 to 23, 7 cases; Odessa, Dec. 24 to 30, 4 cases 3 deaths; St. Petersburg, Dec. 16 to 23, 19 cases, 7 deaths; Warsaw, Dec. 9 to 23, 12 cases.

Spain: Corunna, Dec. 24 to 30, 2 cases; Madrid, Dec. 16 to 23, 14 cases.

Uruguay: Montevideo, Dec. 9, 1 case.

YELLOW FEVER—UNITED STATES.

Florida: Key West, Jan. 8, 1 case.

YELLOW FEVER—FOREIGN.

Cuba: Habana, Dec. 31 to Jan. 6, 5 deaths; Matanzas, Dec. 20, 1 case. Santiago de Cuba, Dec. 31 to Jan. 2, 2 deaths.

Mexico: Vera Cruz, Dec. 29 to Jan. 13, 3 deaths.

CHOLERA.

India: Bombay, Dec. 12 to 19, 1 death; Calcutta, Nov. 25 to Dec. 9, 74 deaths.

PLAGUE—UNITED STATES.

Hawaii: Honolulu, Jan. 1 to 16, 5 cases, 4 deaths.

Philippine Islands: Manila, Jan. 16, 5 cases.

PLAGUE—FOREIGN.

Brazil: Santos, Oct. 15, Dec. 23, 38 cases, 13 deaths.

China: Hongkong, Nov. 25 to Dec. 7, 42 cases, 42 deaths.

India: Bombay, Dec. 12 to 17, 248 deaths; Calcutta, Nov. 25 to Dec. 9, 138 deaths.

Japan: Kobe, Dec. 10 to 20, 3 deaths; Nagasaki, Dec. 9, 1 case; Osaka and Hiogo, Dec. 2 to 23, 12 cases, 9 deaths.

New Caledonia: Numea, Jan. 1 to 9, 9 cases, 5 deaths.

Portugal: Lisbon, Jan. 1, 1 case; Morau, Dec. 25, 9 cases, 7 deaths.

CHANGE OF ADDRESS.

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Godfrey, B. B., from Box 42, to 65 E. 10th, Holland, Mich.

Smith, J. W., from 2100 Market to Mermod Jaccard Bldg., St. Louis, Mo.

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The Journal of the
American Medical Association

Vol. XXXIV CHICAGO, ILLINOIS, FEBRUARY 10, 1900. No. 6.

Original Articles.

STRANGULATED HERNIA: SOME PRACTICAL REMARKS CONCERNING ITS DIAGNOSIS AND ITS PROPER MANAGEMENT*.

BY PARKER SYMS, M.D.
NEW YORK CITY.

Strangulated hernia presents too important a subject to be comprehensively set forth in a brief essay, therefore the scope of this paper has been limited to the entirely practical and clinical features. No attempt has been made to minutely describe the pathic anatomy of the condition, nor to review the theories of the etiology of strangulation of a hernia. Broad rules have been treated as being invariable; the exceptions have not been dwelt on.

An incarcerated hernia is one in which the contents of the bowel involved are so included as to prevent their passage or escape, but in which the blood circulation is not materially impeded.

A strangulated hernia, on the other hand, is one in which the constriction is sufficient to shut off the blood circulation of the part involved. For the practical purposes of this paper it may be stated that strangulation of a hernia depends on the fact that the hernial canal or the neck of the sac has become too small for the mass it contains. This may be due to a narrowing of the canal, or to a swelling of the hernia. Volvulus or constriction of the intestine by bands may occur within the sac exactly as they may take place within the abdomen, but in the majority of cases the strangulation is caused by constriction at the hernial canal or at the neck of the hernial sac.

When the return flow of blood is prevented by constriction, the mass becomes congested and swollen; so strangulated hernia is a condition that augments itself. When the blood circulation has been completely arrested by strangulation, gangrene of the part will soon occur. This is so serious a condition that it may be practically considered fatal, and it should never be allowed to take place. The arrangement of the vascular system of the intestine is such that strangulation of even a small loop of bowel results in a serious derangement of the blood-supply of the entire intestinal tract.

Symptoms and Diagnosis.—The symptoms of strangulated hernia are a logical result of the conditions producing them, and they are absolutely characteristic and distinct, and failure to make a diagnosis is inexcusable. They are those of acute intestinal obstruction with the addition of the local objective and subjective symptoms of the hernia itself. They represent the condition known as abdominal shock followed by intestinal obstruction—later with gangrene of the intestine and general systemic infection. They are in no wise similar to the symptoms of a case of ordinary functional constipation, and it is most important they should be early recognized and properly interpreted, for they indicate a state of affairs which will surely result in death unless spontaneous reduction or surgical interference afford relief.

The prominent symptoms of strangulated hernia are: pain, tenderness, vomiting, obstipation, tympanites, local changes, disturbance of the pulse, disturbance of temperature, facial expression, mental condition, derangement of the capillary circulation.

Pain is usually the first symptom to be noticed. It comes on suddenly, at first radiating from the umbilicus and finally becoming a general abdominal pain. It is colicky in character and severe in degree. There is also local pain about the hernia itself. Tenderness accompanies the pain and is of a corresponding character. Pain and tenderness occur soon after the strangulation, and they continue till reduction is accomplished or until gangrene has taken place.

Sudden cessation of local pain and tenderness without reduction of the hernia indicate the occurrence of gangrene and should be regarded as a grave sign of danger.

Vomiting is usually an early and persistent symptom. At first it is reflex in character, being caused by nerve irritation. Later it becomes projectile in character, and then it is due to obstruction of the intestine and to waves of peristaltic action. At first the vomit consists of the contents of the stomach, later of gastric mucus and bile, and finally of the contents of the small intestine; then it has the characteristic appearance and odor of stercoraceous vomit.

Obstipation will be present from the first to last, though there may be a fecal movement from the lower bowel. Aside from this there will be no passage of feces or gas.

Tympanites will increase till relief is obtained.

The local symptoms, besides those peculiar to hernia, will be those of inflammation, viz.: swelling, heat, redness, pain, and tenderness. To these will be added loss of impulse on coughing, and gradual loss of tympanitic resonance.

The pulse is always disturbed in its action, both as regards its frequency and its volume. Its rate is increased and it becomes irregular, small and thready. As exhaustion takes place the pulse will show evidence of final heart failure.

The temperature is variously disturbed. It is often subnormal from shock. When systemic infection has taken place the temperature will be elevated; and finally it will again become subnormal from exhaustion and collapse.

The facial expression is indicative of severe injury or shock. It has the pinched, drawn, anxious, ashen look known as the Hippocratic face.

The mental condition is that found accompanying any severe abdominal injury. The patient exhibits a queer combination of fear, and of braggadocio, both evincing anxiety about himself and boasting that he feels perfectly well. This often seems like an abnormal form of delirium. The capillary circulation is always disturbed, as is evidenced by pallor and by the slight cyanosis of the extremities.

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* Read in a Symposium on Strangulated Hernia, before the New York County Medical Association, New York City.

Shock is always present to a greater or lesser degree, and this alone stamps the case as different from one of functional constipation or intestinal derangement, and should lead to a proper diagnosis. It is evidenced by the characteristic pulse, facial expression, pallor and prostration, with the peculiar mental condition described above.

The clinical history of a typical case will be about as follows: The patient who has a hernia—either recently acquired or of long standing—will be suddenly attacked with severe abdominal pain radiating from the umbilicus. Vomiting from nerve reflex may come on as one of the earliest symptoms. From the onset of the attack the patient will show the symptoms of shock. His pulse will be rapid, small and thready. His surface will be pale and ashen with slight cyanosis of the finger tips. The face will appear pale, drawn, pinched and anxious. There will be pain and tenderness in the region of the hernia. The hernia will become swollen, tense and inelastic. It will not give an impulse on coughing. Constipation will be present from the onset, though there may be a discharge from the lower bowel. No gas will be expelled, and the abdomen will become more and more distended. The patient will be greatly prostrated from the beginning, out of proportion to the other symptoms, and if the strangulation is allowed to continue he will pass from a state of exhaustion to one of final collapse. The temperature will vary according to the conditions described above, and it is not an important element of this disease. The vomiting will sometimes be constant, and sometimes it will cease after the first few hours, but when the obstruction has lasted long the vomiting will recur and it will be projectile and of the stercoraceous variety. The tongue will be dry and coated and the breath will be offensive. Hiccough may come on at any time or it may be absent. Spontaneous reduction, surgical relief or death will terminate the case.

If one will consider the mechanics of the condition he will see that the strangulated intestine is in the same plight as a limb or finger is with a tight elastic band around it. The blood circulation is cut off by compression, the resultant swelling causing increasing compression, and it will be readily understood that if relief by mechanical means is neglected, death of the part will ensue. The rule has so few exceptions that it may be stated that strangulated hernia unrelieved is always a fatal condition. Fortunately, the converse, that strangulated hernia properly relieved at a sufficiently early date should never be fatal, is true. The danger lies in delay, and when we take up the question of treatment this is one thing I want especially to urge on all: strangulated hernia should be early recognized and promptly relieved.

Treatment.—We come now to the question of treatment, the rules for which are very simple. Taxis should never be employed when it is possible to operate. All that should be done in the way of expectant treatment is to place the patient in a position which most favors spontaneous reduction of the hernia, to apply cold by means of an ice-bag or cracked ice wrapped up in clothes, to withhold all food from the patient until his condition is relieved, and if these measures do not succeed in accelerating a spontaneous reduction of the hernia, operation should be resorted to before any of the more severe symptoms have set in. That is to say, one should never wait for fecal vomiting, nor until the patient is in a condition of exhaustion. In fact, one should not expect a spontaneous recovery from this condition, for spontaneous recovery is the rare exception, and an operation done on a patient who might have recovered without it will have done no harm if it is properly performed, but a patient who requires operation for this condition will surely die if the operation is not done. The reason that such a large mortality is recorded against surgery of strangulated hernia is entirely owing to the fact that the cases are not properly treated as far as this very point is concerned. Too often do we find that a patient has been subjected to taxis. The manipulations, no matter how gentle, are dangerous and in many cases have hastened the fatal result. In no case can taxis be regarded as free from danger.

Should operation be found necessary, it should be done in the simplest manner possible. As most of these cases are suffering from vomiting due to nerve reflex or to obstruction of the intestinal canal, there may be risk in administering a general anesthetic. Where vomiting is persistent and frequent, local anesthesia should be depended on, for we all recognize the danger of suffocation from administering ether or chloroform to a patient in this condition. Wherefore, it is my rule to administer a full dose of morphia and an ounce of whisky, if the patient be an adult, and then to use cocain locally, for which purpose I employ a weak solution—from .1 to .25 of 1 per cent. The usual preparation of the operation field, as regards asepsis, must be rigidly carried out. After making the incision through the tissues down to the sac, it will become necessary to proceed slowly and cautiously so as to avoid wounding the intestine, which may be adherent to the hernial sac. The incision in these cases should be a free one, permitting thorough exposure of the hernial mass for its inspection and treatment. After opening the hernial sac the band of constriction should be sought with the finger and, either by dissection or by simple incision guarded by special director, the constricting portion of the canal or sac should be divided so as to be fully relieved. As strangulation of the intestine interferes so radically with its circulation, it will be found, a very few hours after the onset in some cases, that the intestine may have become gangrenous. In all cases it will be darkly congested with ecchymotic spots, and in every case judgment will be required to determine whether the intestine is in a condition which will render it safe to return it to the abdomen. If it is gangrenous, then it must not be returned, but must be properly dealt with, while if there is doubt as to whether it is gangrenous or viable after relieving the constriction so that the blood circulation may be restored, one should often wait a long time to determine the question, for it is a fact that an intestine which will be apparently dead will after a time show that its life is intact. This will be evidenced by the appearance of fresh blood in the vessels, and finally the restoration to its natural color.

When the intestine is not gangrenous, after being thoroughly cleansed and inspected to see that there is no spot of perforation and after the operator has assured himself that there is no cause for strangulation remaining, the loop of it should be returned to the abdomen, and if the patient's condition warrants the slight expenditure of time, one of the standard methods for radical cure of hernia should be employed in closing the wound; but if the patient is in a weakened state, so that haste is of all importance, this may be omitted and the wound closed by ordinary suture; or the canal may be packed with gauze and the patient put to bed.

If the intestine be gangrenous, there is nothing to do but a resection, either repairing the intestine at once or at a later period. To determine whether or not this should be done at once requires the exercise of much judgment, and there is no doubt that one must be largely influenced by the patient's general condition. Should it be decided that the patient is too weak to stand an immediate repair of the resected bowel, an artificial anus should be established by suturing both ends of the intestine to the wound, and the repair can be completed later. But if the patient's strength will warrant it the bowel should be closed at once, by an end-to-end suture either by means of the Murphy button or by the modified Maunsell method.

The subject of technique for these operations and for that for radical cure of hernia can not be dwelt on in this paper.

In closing, the author would like to emphasize certain points:

1. The symptoms of strangulated hernia are distinct, and diagnosis can always be made.
2. Strangulated hernia is a purely mechanical condition and can only be relieved by mechanical means.
3. Taxis is dangerous and should never be employed.
4. Strangulated hernia is a fatal disease if not promptly relieved.
5. Strangulated hernia should never prove fatal if properly treated at a sufficiently early time.

50 West Forty-seventh Street

TREATMENT OF STRANGULATED HERNIA.*

BY JOHN F. ERDMANN, M.D.

NEW YORK CITY.

With the status of aseptic surgery at the present date, the treatment of strangulated hernia has become a matter of great simplicity, and although we still try and always will try reduction by means of taxis in the early period of the strangulation, operation will be more strongly advocated, because of the low rate of mortality in early operation and also because we can and should do a radical cure when conditions allow; thereby guaranteeing the patient not only a recovery from his strangulation, but also a cure of his hernia. Taxis is never practiced by myself for more than a few moments, if no evidence of diminution in size of the hernia be manifest, and never if previously treated by physicians or if upon examination a hard small constriction can be felt at the proximal end of the protrusion, i. e., the site of strangulation. The patient is always given a full dose of morphin hypodermically, to relax the constriction, a full half hour before any taxis is practiced; in addition heat to the full point of toleration is applied over the hernia.

We make it a rule to obtain permission to operate in all cases where an anesthetic is required to relax the strangulation.

Operative Proceedings.—Our incision is always made with a view of performing a radical cure. We have seen several sad results in cases accompanied by vomiting where ether was used and we make it a rule never more to use general anesthesia in this class of cases. These are always operated on with local anesthesia, our preference being a 1 to 2 per cent. solution of eucain B. in normal salt solution. Out of a great number of operations for hernia, both strangulated and radical cases, in which we have used local anesthesia, pain was a prominent feature in one case only, and that was observed while handling the cord, where but sixty minims of a 1 per cent. solution of eucain were used.

Should omentum be the presenting tissue, it is cut off, if matted together, inflamed, or gangrenous, and frequently returned if these conditions do not exist. When the gut is in condition to return, the radical cure of Bassini is practiced. Should the condition of the gut be questionable and the patient's condition allow, hot towels or gauze are applied for a time, even for a full half hour, with a view of proving the propriety or not of returning the gut.

In case of death in part, i. e., a small area, or in the entire lumen of the gut for some length, and the patient's condition not admitting of extended procedure, an artificial anus is established, while the gangrenous gut is left on the abdominal wall after a packing is placed in the abdominal incision. The artificial anus is readily attended to at a later date.

Should the patient's condition warrant, resection is immediately done, anastomosis accomplished by one of the many means at hand and the operation completed so as to make a radical cure. Repair of an artificial anus should not be delayed beyond the time when the patient's general condition will admit of a second operation, especially so when the opening is in the ileum or jejenum, as in these cases exhaustion due to starvation follows rapidly, and the patient is prone to die from the added shock.

DIAGNOSIS OF STRANGULATED HERNIA.*

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A strangulated hernia is an acute form of intestinal obstruction which exhibits, in addition to the usual symptoms, certain local signs. The results of the strangulation are a sudden and severe irritation of the abdominal plexus of sympathetic nerves, an interference with the return flow of blood, an obstruction to the fecal current and local injury.

The irritation of the peritoneal and intestinal nerves causes reflex vasomotor changes which account for the extreme prostration, the rapid, feeble, low-tension pulse, the shallow respiration, the subnormal temperature, the cold and livid extremities, the cold sweats, the diminished amount of urine, and partly for the vomiting, constipation and pain.

Interference with the venous current accounts for the local signs, which are tension, irreducibility, pain, tenderness, dulness on percussion and absence of impulse.

Obstruction to the fecal current accounts for the constipation, vomiting, tympanites and the presence of indican in the urine.

The severity of these symptoms will vary in different cases, at different stages of the disease, and will be modified by the age and previous condition of the patient's health. Should a recent hernia be strangulated, all the symptoms will be very marked, and particularly so in a previously robust young individual. In inguinal hernias they are more acute than in femoral, and in enteroceles more than in epiploceles. If the strangulation is not relieved, most of the symptoms become aggravated or modified. The strangulated loop of intestines will become gangrenous, perforated, and a diffuse inflammation of the hernial mass with general septic peritonitis will set in. After perforation is present the hernial mass becomes swollen, more painful and tender, and if the patient survives long enough, the skin over the hernia will be red and finally break down. Of the symptoms of general septic peritonitis, suffice it to say that frequently the patient will cease to complain of pain, the vomiting will be replaced by distressing singultus and the patient will present the picture of one dying from ptomain poisoning.

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* Read in a Symposium on Strangulated Hernia, before the New York County Medical Association, New York City.

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The cardinal symptoms of a strangulated hernia are those of shock or collapse, pain, vomiting and constipation. Pain is one of the first to appear and is referred to the hernia itself or the umbilical region. It is colicky in nature and is due to injury of the peritoneum, distention of the intestines and very active peristalsis.

Vomiting is at first a reflex, but if the case goes on without relief it is caused by the obstruction to the natural current of intestinal contents. It is frequently repeated, but affords no relief and gives rise to great thirst. At first only the contents of the stomach are ejected, then some bile-stained fluid, and finally a very offensive, dirty liquid with a fecal odor. This stercoraceous fluid is from the distended intestines in which it has undergone decomposition. From the very outset there is constipation, which comes on suddenly and is complete. There is no escape of flatus, though an enema may bring down some fecal matter from below the seat of obstruction. This absolute constipation is due to reflex paralysis of the intestines and not to the obstruction alone.

Intestinal paralysis promotes stagnation of fluid, which, being rich in bacteria, now undergoes decomposition and gives rise to tympanitic distention.

Indol, not being discharged from the intestinal canal, is changed into indican and is found in the urine. The amount of urine is diminished. This is due to the low arterial pressure brought on by irritation of the abdominal plexus of nerves.

The local signs of a strangulated hernia have been given above, and it only remains to give the rationale of some of them.

The hernia is not reducible, on account of the increase in volume caused by venous stasis. This is also responsible for the exudation of serum into the sac, which gives rise to increased tension and a dull percussion note. The amount of exudate will increase as the case goes on, and in time the tension and dulness will be more pronounced. The presence of tension and the absence of an impulse are characteristic signs of a strangulated hernia; they are not found in obstructed, simple, irreducible or inflamed hernia. While vomiting and constipation are symptoms of an obstructed or an incarcerated hernia as well, they are not so severe nor persistent, and yield to appropriate treatment; furthermore, constitutional symptoms are not pronounced, and tenderness of the hernia is absent. An inflamed hernia, on the other hand, is tender and presents the symptoms and signs of a local inflammation. There will usually be a rise in the temperature, but rarely shock or collapse; vomiting is frequently absent, and constipation, if present, yields to simple treatment.

If we bear in mind that in strangulated hernia marked irritation of the abdominal sympathetics is present, and that this gives rise to pronounced constitutional symptoms, the diagnosis will readily be made. Difficulty will arise if the strangulation occurs in one of the rare and obscure varieties, such as obturator, sciatic or lumbar hernia.

If symptoms of acute intestinal obstruction arise in the presence of a tumor of doubtful nature, in one of the hernial regions, the benefit of the doubt should be given to the patient and the case treated as one of strangulated hernia.

667 East 135th Street

RADICAL CURE OF STRANGULATED INGUINAL AND FEMORAL HERNIAE.*

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To all intents and purposes this means attempting the radical cure of any inguinal or femoral hernia operated on primarily for the relief of strangulation. I take it for granted that the hernia in either locality has been cut down upon, the sac has been opened, the constriction found and divided, complications dealt with successfully and the gut found in a condition to be returned to the abdominal cavity, either with or without an anastomosis having been performed, and that the condition of the patient and parts is such as to warrant an attempt at permanent closure of the wound with primary union very probable.

INGUINAL HERNIA.

Our first concern is with the sac itself. This should be carefully isolated from the spermatic cord. If the sac is an acquired one, this will be an easy matter, if congenital, more difficult. In separating it from the vas deferens, the former may be torn through. Tearing a slit in the sac, even though it extends into the abdomen, need cause no apprehension. If it is not obliterated by the ligature it can be closed by a running suture of catgut.

Free the neck of the sac, as well as the parietal peritoneum, about the internal ring. This will be facilitated by dividing the internal oblique and transversalis muscles and the transversalis fascia outward, just above and parallel with Poupart's ligament, to its outer and middle thirds. Then, while making strong traction on the sac, ligate its neck as high up as possible, with chromic gut, or if the pedicle is very thick, with silk. The object of lossening the peritoneum around the internal ring, and of ligating the hernial sac under considerable tension as far up as possible, is to obliterate the funnel which leads into the neck of the sac.

Cut the sac away. Some advise its retention, and by rolling or plaiting form a pad which is placed over the internal ring. This is supposed to serve two purposes: to form a barricade strengthening the ring, and to produce an elevation in the peritoneum at the place where a depression had formerly existed, and thus prevent a return of the hernia.

I am opposed to this plan of treatment because such a pad of tissue over the ring will act as a wedge to reopen that orifice, and any bulging which at first was formed toward the abdomen will become converted into a depression into which the intestine can easily enter. It is better to cut the pedicle short and guard against a return of the hernia by a proper repair of the abdominal walls, for in them lies our only permanent source of strength. In other words, the more closely we can imitate the construction in the normal body, the more lasting will be our results.

The disposition of the cord is next in order. Numerous large veins, much loose areolar tissue, thickened cremaster muscle and fascia need to be removed, and a thick, loose, vascular cord converted into a thin, firm one. Following the suggestion of Halsted, all the veins but one or two should be removed, with the excess of loose tissue.

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*Read in a Symposium on Strangulated Hernia, before the New York County Medical Association, New York City.

The closure of the abdominal wall and formation of the inguinal canal come next. In children the internal is nearly behind the external ring. The inguinal canal is very short or does not exist. By the growth of the pelvis the rings are separated and the inguinal canal is formed by the internal ring being carried outward until it assumes its adult position, above the middle of Poupart's ligament. If a hernia exists, the infantile condition is reproduced—either as a result of arrested development or from the traction of the neck of the sac—and the internal ring is found partially or wholly behind the external, the inguinal canal is obliterated and the examining finger passes through what appears a single opening into the abdominal cavity. This abnormal condition must be changed, by making a new internal ring beyond the middle of Poupart's ligament and reconstructing an inguinal canal.

With this end in view, and to afford room for the isolation of the hernial sac the first step has already been taken by dividing the internal oblique and transversalis muscles with the transversalis fascia outward, as already given. Arrest all bleeding. Draw the cord to the outer angle of this incision and hold it there by a blunt hook or a loop of silk. Suture, from without inward, behind the cord, the internal oblique and transversalis muscles and the transversalis fascia, the conjoined tendon and the outer edge of the rectus muscle when this is lax, to Poupart' ligament.

These sutures should be of chromic gut, No. 1 or 2, placed about half an inch apart and inserted according to the method employed by Bassini, as described by Dr. E. W. Andrews.[1] He says: "Each stitch enters the transversalis and internal oblique 1.5 cm. from their lower margin and makes exit at that margin. The needle then penetrates the shelving edge of Poupart's ligament from within outward."

The first suture is the most important, as on its placement the size of the new internal ring will depend. It should be placed close enough to the cord that when tied the fibers of the muscles, and fascia, will hug the cord tightly but there will be no obstruction to the circulation in it.

We have now reformed the internal ring and the posterior wall of the inguinal canal. Place the cord along the line of the normal inguinal canal and unite the aponeurosis of the external oblique over it by sutures of chromic catgut, No. 1 or 2, inserted interruptedly or continuously. The external oblique is closed as far as the spine of the pubes, where an opening is left just large enough for the cord to pass through without constriction. Finally, the skin is brought together by a subcutaneous suture of chromic gut No. 0.

The plan suggested above combines the favorable features of the operations suggested by two well-known surgeons, without the disadvantage of either. For instance, Halsted's plan of forming a new internal ring and of lessening the size of a large varicose cord is based on correct principles, viz., conforming to the natural construction, but he deviates from this and introduces a structural weakness when he brings the cord out through the external oblique and forms the external ring directly in front of the internal, with obliteration of the normal inguinal canal. This establishes a condition most favorable for the return of a hernia. Bassini's operation is improved by adding to it the reconstruction of a new internal ring over the outer and middle thirds of Poupart's ligament, by diminishing the size of the spermatic cord and substituting an absorbable for a non-absorbable ligature and suture material.

I would like to protest against the use of any non absorbable material for ligatures or sutures in this work. Silk is the least, but silkworm gut and silver wire are the most, objectionable. They add a fictitious strength, but really become a source of weakness because of the probability that, even though buried at the time, they will act like other foreign bodies—be pushed toward the surface, and will finally require removal.

Primary union is most essential to the success of any operation for radical cure of a hernia. Hence, everything which can prevent or retard it must be eliminated.

We take it for granted that the operation is performed with the utmost regard for aseptic details. Aside from this there are certain defects of technique that tend to interfere with the desired result. One of these is too much and rough handling of the tissues. Another is a failure to remove masses of fatty tissue which may either undergo necrosis or mechanically prevent union by remaining between the sutured tissues. Another very important oversight is a failure to completely arrest all oozing before starting to suture the parts. Close apposition of the divided muscles is necessary, but, at the same time, this must be secured by using not too many sutures, for if they are tied thick and close together necrosis of the sutured line may result.

In the female the operation for indirect inguinal hernia is carried out along the same lines as just given, and no special mention is needed for any one part. The operation can be done with greater ease and the result will more often be permanent. That is, it will be if Nature's plan is copied in repairing the parts.

Directly bearing on this point is the frequency of hernia following Alexander's operation for shortening the round ligaments. Such an undesirable occurrence is due to a failure to properly reproduce the normal construction.

FEMORAL HERNIA.

While herniæ do not take place at the femoral opening, with the same degree of frequency that they do at the inguinal, the attempt at radical cure is attended with greater natural difficulties and more frequent relapses. The explanation of both facts is based on the anatomic construction of the parts.

To cure a femoral hernia theoretically, we have only to bring the inner end of Poupart's ligament down to the horizontal ramus of the pubic bone, and fasten it there so as to closely embrace the femoral vein and obliterate the femoral opening and canal by deeply placed sutures. No matter how skilfully this is done, there remains alongside the obliterated ring and canal, the large femoral vein which can not be moved, and which will yield to intra-abdominal pressure. Such yielding to pressure stretches the union between its sheath and the ligament, and thus a thin, weak spot is developed which predisposes to the return of the rupture. Many operations have been practiced for overcoming this inherent structural difficulty. I will not enumerate them here, but only mention the best plan.

The sac should be separated from the surrounding parts, the neck freed well into the abdomen, a ligature applied as high as possible and the sac removed. Suture the crural arch and Poupart's ligament firmly to the pectineal fascia, close to the iliopectineal line. These sutures are interrupted ones of chromic gut No. 2, and are applied from the vein toward. The one next to the vein needs the most care for its insertion, so that when tied the overlying ligament will not compress it. In the same manner close the femoral tract and reunite the deep fascia. Finish the operation by suturing the skin with a single strand of No. [illegible] catgut applied subcutaneously.

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[1] Medical Record, Oct. 28, 1899

112 Madison Avenue.

STRANGULATED HERNIA IN CHILDREN.*

BY W. B. COLEY, M.D.

NEW YORK CITY.

Strangulated hernia in infants and children is by no means so rare as one might be led to suppose from various text-books and monographs on hernia. I have operated on eight patients under the age of 2 years, with one death. The one fatal case was an infant of 8 weeks, and almost moribund at the time of operation. Strangulation had existed for two days. The patient was operated on after midnight, in a poorly-lighted room and under most unfavorable circumstances. The cecum and appendix were present in the sac. The patient rallied after operation, but died two days later. This is the only case in which no attempt at radical cure was made. It was very interesting to note that a considerable portion of my cases were of the cecal variety. In four, or 50 per cent., the sac contained cecum, and in three of these four the appendix also was found. In one case the appendix was gangrenous and it was thought best to remove it. In the others the appendix seemed viable and was returned to the abdominal cavity. Five of my patients were under 1 year of age.

Tariel, of Paris, has made the most complete collection of cases of strangulated hernia in infants. He states that in 128 cases the cecum and appendix were found in only eight.

I believe that the duration of the strangulation is of special importance in hernia in infants. In my series the longest duration was forty-eight hours, and the shortest twelve. There was only one case in which a bacteriologic examination was made of the fluid contained in the hernial sac, and this was negative.

Most writers on strangulated hernia have stated that in the greater proportion of cases the constriction was due to the neck of the sac. Marsh, in 1874,[1] stated that of 32 cases of strangulated hernia in infants, strangulation was due to the neck of the sac. And Tariel states that in 128 he found the neck of the sac to be the cause of strangulation in 58. Personally, I believe this view to be incorrect; in the great majority of instances Tariel and Marsh based their calculations on cases operated on prior to the introduction of modern methods. By these older methods it was impossible, in the small incisions employed, to accurately determine the location of the cause of the constriction. By the modern methods, Bassini's and Halsted's, the aponeurosis of the external oblique is freely opened, and only when this is done is it possible to state definitely whether the strangulation is due to the neck of the sac or the external ring. In every one of my own cases the aponeurosis was freely opened, and this alone was sufficient to render reduction easy, showing that in not a single case was the neck of the sac the cause of constriction. I believe that with scarcely an exception herniotomy in all cases of strangulated hernia in infants and children may be supplemented by an attempt at radical cure. I have employed this procedure in all my cases, with the exception of the one nearly moribund at the time of operation, and in no case up to the present time has there been a recurrence.

I should like to add a word in regard to the diagnosis of strangulated hernia in infants and children. This is not unusually difficult. There is, however, one condition, viz., hydrocele of the cord, which very frequently gives rise to confusion. The history of the case and general condition of the patient will, as a rule, make the diagnosis clear, although I have seen a number of cases in which prolonged taxis, under anesthesia, has been resorted to for simple hydrocele of the cord.

A diagnosis of strangulated hernia having been made, I believe that gentle taxis, not longer than two or three minutes, should be tried. If this fails, application of hot cloths for from ten to twenty minutes should be resorted to, and if a second attempt to reduce it under gentle taxis fails, chloroform or ether should be administered and preparations made for immediate operation. The relaxation following anesthesia will occasionally render reduction possible without operation, but if this fails, operation should be performed.

I have personally known of three deaths from strangulated hernia in infants as the result of temporizing. One of these was an infant aged 8 months, who was brought to the Hospital for Ruptured and Crippled *in extremis*. Operation was refused. The after-history I am unable to state, but death undoubtedly occurred within a short time.

In another case, a patient aged 1 year was brought to the hospital. Prolonged taxis had been tried prior to admission. Very moderate taxis was again made by the house surgeon, with the result that the hernia was easily reduced. The infant, whose condition on admission was by no means good, rapidly grew worse and died within twenty-four hours. No autopsy was permitted.

These personal cases are cited to furnish abundant evidence that the chief danger lies in deferring operation.

CENTRIFUGAL ANALYSIS OF URINE.

BY CHARLES W. PURDY, LL.D., M.D.

CHICAGO.

The immense value of urinary analysis in its interpretations of physiologic and pathologic processes may now be said to be fully appreciated by the practical clinician. The disturbance of metabolism, the derangement of the physiologic balance, the disorder of secretion and excretion, indeed the tendency toward death or recovery are often more accurately indicated by careful scrutiny of the urine than by any other available means. The many and important improvements in our methods of analysis have done much to place this subject within the ready reach of the advanced physician. It must, however, be admitted that, notwithstanding the degree of advancement attained in expert laboratory work, there remains much to be accomplished in the way of rendering many of the processes more expeditious and ready, so that they may be made more generally available by the busy physician in practical work. Up to the present time the more rapid and ready processes in uranalysis are only available for a few of the leading constituents of the urine—and these mostly regarding qualitative rather than quantitative data. It therefore happens that the practical clinician for the most part is only able to make a partial and therefore incomplete analysis of the urine in a few of his more important cases, whereas uranalysis should properly constitute a routine of complete investigation in all details of the urine in all cases, at least occasionally. It is indeed only when this practice is fully established that we can expect to thoroughly grasp the many lessons yet to be learned of physiologic disturbances, and pathologic processes, which are reflected in the various and varied urinary changes. Fully realizing the important bearing of these facts on clinical medicine, the writer has devoted much time and experimentation along these lines during the last decade. Unfortunately the amount of time, thought and practical experiment necessary to reach practical results of value relative to many of these problems is so great that few unacquainted from practical experience in the matter would be prepared to believe the extent of the details of work or the sacrifice of time that is required. It may be stated then that for the most part practical results of value in this direction are only possible after years of investigation, for indeed it is after all only methods that withstand the test of years of practical application that finally become entitled to rank as standard.

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*Read in a Symposium on Strangulated Hernia, before the New York County Medical Association, New York City.

[1] St. Bartholomew Hospital Reports.

The writer's rapid quantitative method for sugar in the urine was introduced to the profession over eleven years ago, and although it can only be said to be an improvement or modification of one or two well-known methods previously in use, yet it was only perfected after eight years of study and experiment. The writer's rapid quantitative method for albumin in the urine was only perfected after four years of labor and experiment, notwithstanding no inconsiderable amount of laboratory facilities and clinical material were at hand for practical observation.

It is now over five years since the writer first proposed the quantitative determination of chlorids, phosphates and sulphates in the urine by the centrifugal method[1]. Nothing further was claimed for this method at the time of its introduction, further than a rapid approximate bulk measurement of the precipitates, because the method was then new and untried save in the writer's laboratory, and it seemed a radical departure from methods better known and considered more exact, such as titration, weighing, etc. Moreover, only bulk percentages had then been worked out in the cases of chlorids, phosphates, sulphates, and albumin, without any attempt having been made to give corresponding gravimetric values, much less the actual corresponding values in Cl, P_2O_5 or SO_3 from the bulk percentages of these combined as salts in the sediment. Since the introduction of the centrifugal method, however, it has been demonstrated, in the writer's laboratory, that centrifugal analysis of the urine, if carried out by refined methods and improved apparatus, may readily reach results that are entitled to rank with older standard methods, the gravimetric and volumetric included, and that bulk percentages of sediments may be worked out in their equivalent values of their elements, not only with precision, but also with a rapidity and facility that at once renders this method of the greatest practical value in clinical work. Indeed, the amount of practical information that this method is capable of laying before the clinician without loss of time can not but prove of inestimable value in his practical work.

The essentials for reaching these results are in no way complex or difficult to comprehend, much less to put into actual practice in the most ordinary laboratory. The equipment should consist of an efficient motor capable of the uniform standard speed, possessing a standard radius of arm and tube (6¾ inches); accurately graduated percentage tubes, and a gauge for regulating the speed. The writer's improved electric centrifuge fulfils all the requirements for accurate work, and is now so well known that its description here seems unnecessary. It may be mentioned here, however, that very recently a further improvement in the writer's percentage tubes has been adopted as follows: The points have been drawn out finer, and the first 5 c.c. have been more minutely graduated in order to indicate measurements in 0.25 percentages instead of 1 per cent., as before[2]. This modification was found necessary in order more accurately to determine quantities less than 1 per cent. of certain urinary constituents when measured in bulk percentage—such, for instance, as the sulphates of the urine, which normally fall somewhat below 1 per cent.

TABLE SHOWING THE BULK PERCENTAGE OF SILVER CHLORID (AgCl) AND THE CORRESPONDING GRAVIMETRIC PERCENTAGES AND GRAINS PER FLUID OUNCE OF NaCl AND Cl.

Bulk per cent. of AgCl.	Per cent. of NaCl.	Gr. per oz. of NaCl.	Per cent of Cl.	Gr. per oz. of Cl.	Bulk per cent. of AgCl.	Per cent. of NaCl.	G. per oz. of NaCl.	Per cent of Cl.	Gr. per oz. of Cl.
.25	0.03	0.15	0.02	0.1	8.	1.04	4.98	0.63	3.02
.5	0.07	0.31	0.04	0.19	8.5	1.1	5.29	0.67	3.22
.75	0.1	0.47	0.06	0.28	9	1.17	5.6	0.71	3.40
1.	0.13	0.62	0.08	0.38	9.5	1.23	5.91	0.75	3.6
1.25	0.16	0.78	0.1	0.48	10.	1.3	6.22	0.79	3.79
1.5	0.19	0.93	0.12	0.57	10.5	1.36	6.53	0.83	3.97
1.75	0.23	1.09	0.14	0.66	11.	1.43	6.84	0.87	4.16
2.	0.26	1.24	0.16	0.76	11.5	1.49	7.2	0.91	4.35
2.25	0.29	1.41	0.18	0.85	12.	1.56	7.46	0.95	4.54
2.5	0.32	1.56	0.2	0.96	12.5	1.62	7.78	0.99	4.73
2.75	0.36	1.71	0.22	1.04	13.	1.69	8.09	1.02	4.92
3	0.39	1.87	0.24	1.13	13.5	1.75	8.4	1.06	5.11
3.25	0.42	2.02	0.26	1.23	14	1.82	8.71	1.1	5.29
3.5	0.45	2.18	0.28	1.32	14.5	1.88	9.02	1.14	5.49
3.75	0.49	2.35	0.3	1.42	15.	1.94	9.33	1.18	5.67
4	0.52	2.49	0.32	1.51	15.5	2.01	9.65	1.22	5.86
4.25	0.55	2.64	0.34	1.61	16.	2.07	9.94	1.26	6.06
4.5	0.58	2.8	0.35	1.7	16.5	2.14	10.27	1.3	6.24
4.75	0.62	2.96	0.37	1.8	17.	2.20	10.51	1.34	6.43
5.	0.65	3.11	0.39	1.89	17.5	2.27	10.87	1.38	6.62
5.5	0.71	3.42	0.43	2.09	18	2.33	11.2	1.42	6.81
6	0.78	3.73	0.47	2.26	18.5	2.4	11.51	1.46	7
6.5	0.84	4.05	0.51	2.46	19	2.46	11.82	1.5	7.19
7.	0.91	4.35	0.55	2.62	19.5	2.53	12.13	1.54	7.38
7.5	0.97	4.67	0.59	2.84	20	2.59	12.44	1.58	7.56

TABLE SHOWING THE BULK PERCENTAGES OF URANYL PHOSPHATE $H(UO_2)PO_4$, AND THE CORRESPONDING GRAVIMETRIC PERCENTAGES AND GRAINS PER FLUID OUNCE OF P_2O_5.

Bulk per cent. of $(UO_2)_2P_2O_7$	Per cent. P_2O_5	Gr. per oz. P_2O_5	Bulk per cent. of $(UO_2)_2P_2O_7$	Per cent. P_2O_5	Gr. per oz. P_2O_5
.5	0.02	0.1	11	0.14	0.67
1	0.04	0.19	12	0.15	0.72
1.5	0.045	0.22	13	0.16	0.77
2	0.05	0.24	14	0.17	0.82
2.5	0.055	0.26	15	0.18	0.86
3	0.06	0.29	16	0.19	0.91
3.5	0.065	0.31	17	0.2	0.96
4	0.07	0.34	18	0.21	1
4.5	0.075	0.38	19	0.22	1.06
5.	0.08	0.38	20	0.23	1.1
6.	0.09	0.43	21	0.24	1.15
7.	0.1	0.48	22	0.25	1.2
8.	0.11	0.53	23	0.26	1.25
9	0.12	0.58	24	0.27	1.3
10	0.13	0.62	25	0.28	1.3

TABLE SHOWING THE BULK PERCENTAGES OF BARIUM SULPHATE ($BaSO_4$) AND THE CORRESPONDING GRAVIMETRIC PERCENTAGES AND GRAINS PER FLUID OUNCE OF SO_3

Bulk per cent of $BaSO_4$.	Per cent. SO_3.	Gr. per oz. SO_3	Bulk per cent. of $BaSO_4$.	Per cent. SO_3	Gr. per oz. SO_3.
.125	0.04	0.19	2.25	0.55	2.64
.25	0.07	0.34	2.5	0.61	2.93
.375	0.1	0.48	2.75	0.67	3.22
.5	0.13	0.62	3	0.73	3.5
.625	0.16	0.77	3.25	0.79	3.79
.75	0.19	0.91	3.5	0.85	4.08
.875	0.22	1.06	3.75	0.91	4.37
1	0.25	1.1	4	0.97	4.66
1.25	0.31	1.49	4.25	1.03	4.94
1.5	0.37	1.78	4.5	1.09	5.23
1.75	0.43	2.06	4.75	1.15	5.52
2	0.49	2.35	5	1.21	5.81

For the determination of chlorids, phosphates and sulphates of the urine by the centrifugal method, the foregoing standard and tables are now adopted in the writer's laboratory, after an extended series of practical observations sufficient to establish their accuracy.

Process.—The double arm of the motor is employed, carrying four tubes. Three of the percentage tubes are filled to the 10 c.c. mark with the urine—this having been previously filtered if not perfectly clear. To the first tube is added 1 c.c. of strong nitric acid, and 4 c.c. of standard solution of silver nitrate[3]. To the second tube is added 2 c.c. of 50 per cent. acetic acid and 3 c.c. of uranium nitrate solution[4]. To the third tube is added 5 c.c. of the standard barium chlorid solution[5]. The tubes are next inverted three or four times to insure mingling of the urine and the reagents, and then *allowed to stand aside for three minutes*, to secure complete precipitation. In order to balance the arm of the centrifuge, the fourth tube is filled to the 15 c.c. mark with water. The centrifuge is next operated at a speed of 1200 revolutions a minute for exactly three minutes. The tubes are then removed and the percentage of precipitates is read off on the scale. No. 1 gives the bulk percentage of chlorid of silver ($AgCl$); No. 2 the bulk percentage of uranium phosphate $H(UO_2)PO_4$, and No. 3 the percentage of barium sulphate ($BaSO_4$). The bulk percentages are converted into their equivalent values of percentages by weight and grains per ounce by means of the following tables; and from these the grains or grams of total chlorin (Cl), phosphoric acid (P_2O_5) and sulphuric acid (SO_3) are readily calculated by a glance at the tables. The results are more accurate if the urine be diluted in the cases of chlorids and phosphates if the bulk percentage of these exceed 15 per cent.

The time required to carry out these three quantitative determinations should not exceed ten minutes, even when the total Cl, P_2O_5, and SO_3 for twenty-four hours is calculated from the accompanying tables.

The writer is greatly indebted to his laboratory assistant, Mr. Carl Irenaeus, for his valuable assistance in carrying out the details of the many experimental observations necessary to establish the accuracy of the method herewith brought forward.

57 East Twentieth Street.

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1. Practical Uranalysis and Urinary Diagnosis, 1st ed., 1896.

2. Eimer & Amend, 205-211 Third Ave., New York City, manufacture and supply the writer's improved standard percentage tubes.

3. Standard nitrate of silver solution consists of nitrate of silver, ℥i; distilled water, ℥i.

4. Standard nitrate of uranium solution consists of nitrate of uranium, 100 gr.; distilled water, ℥iv.

5. Standard barium chlorid solution consists of barium chlorid, 4 parts, strong HCl, 1 part; distilled water, 16 parts.

CONTRIBUTION TO TREATMENT OF SPINAL CARIES, WITH SPECIAL REFERENCE TO THE WOVEN WIRE CORSET.*

BY GEORGE R. ELLIOTT, M.D.

NEW YORK CITY.

For many years the profession has been traveling along two well-defined roads in the mechanical treatment of spinal caries or Pott's disease of the spine—one, that of anterio-posterior support or leverage fixation, so clearly described and skillfully employed by Dr. C. Fayette Taylor nearly half a century ago. The force and weight given to it by Dr. Taylor is felt to-day in the number of modifications of his brace employed by expert orthopedic surgeons the world over. His name will live as long as surgery itself. The second road has a much larger body of travelers. I refer to the partial suspension and fixation treatment which, through indefatigable work and energy, was brought to the foreground by another veteran surgeon whose name can never be forgotten. The exponent of partial suspension and fixation, Dr. Lewis A. Sayre gave us in the form of the plaster-of-Paris jacket.

We constantly find allusion made to these ideas having been known many, many years ago and put into practice. Many of us doubtless have in our own libraries books that even give us actual illustrations of these two methods of treatment. We know that Ambrose Paré in 1579 used the corset idea in steel form; that in the seventeenth century Von Nuck employed suspension apparatus for the relief of the disease in question, and that in 1700 Heister devised an anteroposterior support; while in 1764 Levacher originated the jury mast, and we have seen the cuts in fine wood and copper engravings of the old school. The profession knows all of this, but it remained for Drs. Taylor and Sayre to rediscover and add some things. I believe I come very near Dr. Sayre's own remark when I use the word "rediscover."

If we think for a moment, we will readily come to the conclusion that in the *mechanical line especially,* we are not surprised in finding ideas met from a mechanical standpoint in bygone ages, much as the surgeon of common sense meets indications to-day.

While, for example, it is generally conceded that our common table-fork was unknown prior to the time of Queen Elizabeth, if we wander through the collection of articles recovered from the ruins of Pompeii we find the same idea expressed in an instrument having a knife at one end and a prong at the other. In the Halstadt period, 1500 years prior to this, we meet with the same idea. It remained for Elizabeth to add the other prong, but that other prong revolutionized the table etiquette of the world. So in mechanical surgery, if we wish to travel back in search of mechanical exponents of ideas we will find ourselves frequently, at least, in the company of Hippocrates. In certain of the mechanical appliances of orthopedic surgery it remained for Drs. C. Fayette Taylor and Lewis A. Sayre to add the "other prong." This took the form, from the hands of one, of a modernized brace, and from the hands of the other of a plaster-of-Paris corset and perfected jury mast, and these revolutionized the mechanical therapeutics of the world.

Let us leave the brace for the moment and confine ourselves to the corset idea or moderate suspension with partial fixation. I say "partial" for it is impossible to lock up the spine as we lock up the leg or arm, for example. We have seen corsets made of almost every conceivable substance known to man, come into the field. Among these are wood, paper, steel, leather, celluloid, aluminum—all founded on the same mechanical principle—all firm, unyielding, hard. The originators of these various supports, while admitting the unquestionable value of the plaster-of-Paris jacket, which is now in use from one end of the world to the other, sought to get something cleaner, more durable, more elegant and lighter, if possible. The comfort of the patient was considered as only secondary to the perfect support itself. The result of all this energy has given us a very complete line of supports, and in the hands of competent surgeons excellent results.

While the corset principle, or that of moderate extension with fixation, is the leading principle of mechanical treatment of spinal caries, I do not wish to deny that the leverage fixation principle of the brace properly carried out in expert hands yields remarkably good results. The truth lies to a certain extent between the views so eagerly held by the two schools, and I further believe this capable of demonstration.

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*Presented to the Section on Surgery and Anatomy, at the Fiftieth Annual Meeting of the American Medical Association, held at Columbus, Ohio, June 6-9, 1899.

In studying my cases under treatment in hospital practice, where I have used the plaster-of-Paris jacket almost entirely, intelligent adults requiring support invariably have said that they wanted more pressure on the sides and beneath the prominences. This was partially accomplished by pressing in the plaster, while yet soft, with the ball of the thumb or pads. In private practice I accomplish this end by making a cast and modelling it, and then make the jacket over the corrected cast. We thus get something that the brace does in addition to the extension gotten by the corset. I expect to publish this more fully later and hence only allude to it now.

Some years ago Dr. Milton J. Roberts, formerly professor of orthopedic surgery at the New York Post-Graduate Medical School and Hospital, with whom I was associated in private practice and as lecturer on orthopedic surgery at the same school, and whose ingenuity did so much for the progress of mechanical therapeutics, believed in the principle laid down many years ago by Dr. Davis, that extension *is* fixation. This can be demonstrated in knee-joint disease or hip disease, by painless motion being permitted when the limb is carefully extended. Acting on this principle Dr. Roberts devised apparatus for almost every joint of the body, among them a woven wire corset for the spine, which forms the basis of this contribution. I carefully followed the development of the support step by step, working with him through a long experimental trial. Difficulty after difficulty was overcome until we felt we had a support more satisfactory for the great majority of patients than any before the profession. The great problem to overcome was the difficulty in keeping up the extension which we have seen means fixation, owing to the yielding nature of the material, and this to my mind was never quite satisfactorily accomplished at the time of Dr. Roberts' untimely death six years ago. Since then I have faithfully labored to perfect the support I so thoroughly believed in, and I have carefully refrained from publishing anything, prefering to thoroughly test the efficacy of the support which had been called in question and wait until I was certain that I could present to the profession a support as nearly ideal as anything in this line can be called ideal. By ideal is meant: 1, satisfying mechanical problems and, 2, satisfying the comfort and esthetic requirements of the patient.

No boast is intended in saying that, did medical ethics allow, I have many patients to-day wearing the support who would only too willingly testify to its superiority in every way over wood, paper, aluminum, leather, plaster and braces they have worn. I do not wish to stray from my object to keep close to the naked details, leaving the rest to your judgment.

THE SUPPORT OF THE CORSET.

To fully satisfy myself on this point, and being thoroughly familiar with the requirements of patients suffering from acute Pott's disease, acquired from a long experience in hospital orthopedic practice in the use of the plaster-of-Paris corset, I selected cases from my private ones. Those were chosen requiring maximum support due to the disease being in a state of activity, or, in some few cases, where partial ankylosis had taken place but where the deformity was very great—such requiring approximate maximum support. Further, my studies were made on patients only who had worn rigid apparatus applied by experts whose names are familiar to you all.

Most of our patients suffering from acute Pott's disease, I need not tell you, are children, but here we are denied any expression of opinion beyond that of positive pain and discomfort. I then selected *observing* adults, and those of you who have treated many adults suffering from Pott's disease who have worn appliances before coming to you will not question the word "observing." I know of no class of patients in the domain of medicine or surgery where the patients' observations are more valuable to the surgeon. We know that many of them become very expert and know at once whether they are getting proper support or not, and can tell if they are in the hands of practitioners experienced in the management of their disease. If I could properly support the cases I selected—those requiring maximum support—the question would be settled. The great majority of patients require support very far from the maximum.

I will not take your time in giving in detail the history of many of these cases.

Dr. M., aged 40 years, applied to me for treatment of lower dorsal caries, in October, 1897. He was then wearing a Taylor brace, which he had worn for some months, under expert advice. Prior to this he had been wearing a Shaffer brace. His disease was of one year's duration. When he came to me he was unable to stand with the brace applied, without holding on to something with his hands, and he complained of abdominal pains. He further manifested some compression paralysis, as evidenced by exaggerated knee-jerks and weakness of the leg muscles. Examination revealed a tubercular involvement of the tenth and eleventh dorsal and first lumbar vertebræ. He said that the deformity was increasing in spite of the brace—"a new lump," as he expressed it, had appeared during the past month. I found that in suspension it required a removal of forty pounds, registered by my suspension apparatus, to give him maximum relief.

This patient further had marked evidence of tubercular involvement of one lung, as evidenced by free broncho-purulent expectoration, moist râles, circumscribed area of dulness, temperature rise, and tubercle bacilli. Here was indeed a complication. Few more serious conditions of the disease have ever come under my experience in hospital or private practice.

I applied a wire support, but found it necessary to make a new one after one month. After the application of the second support, modified slightly, he obtained complete relief and improvement which has continued, steadily followed. The deformity, which was increasing, was held in check and has improved. All pain has disappeared, together with all signs of muscular weakness of the lower extremities. He is still wearing the same support applied eighteen months ago. He walks briskly and has attended to his business throughout. I may add that he had been taking carbonate of creosote in large doses prior to my seeing him, and still continues to take it. He requires much less support now than he did eighteen months ago.

Here was a condition to test the efficacy of our support in a most intelligent professional man, keenly observing and critical and, from long suffering, irritable to a degree.

A young woman, aged 35 years, was referred to me by Dr. Williams of New York. On Dec. 2, 1898, she applied to me with caries of the four lower dorsal ver-jury. The disease was of several years' duration, the was very pronounced. She had worn braces, plaster-of-Paris jackets, and when I saw her was wearing a Hawes's paper jacket—all these had at different times been applied by specialists. The supports so far had failed in getting in between the thorax and pelvis on the right side, resulting in her continually settling to that side. She was suffering from lack of support, in consequence, and symptoms of a progressive paralysis were beginning to show themselves. She suffered from twitching of the leg muscles and was obliged to go to bed every few days.

I modeled her cast with the usual great care, and succeeded in applying a support so that the thorax was somewhat held away from the pelvis. The effect of this was marked in relieving her symptoms. The getting in between the thorax and brim of the pelvis had been the difficulty that so far surgeons had been unable to overcome in her case. She immediately began to improve. All symptoms of lack of support disappeared, together with the symptoms of compression paralysis and disappearance of twitching of the leg muscles. She wears the support with great comfort, and is able to be up and about all day, attending to her usual domestic and social duties.

A young woman, aged 24 years, was referred to me by Dr. Nunn of Savannah, Ga., for treatment of dorsal caries involving the sixth, seventh, eighth and ninth dorsal vertebræ, with very great deformity. She had been afflicted since childhood and had had repeated spinal abscesses. She was of a nervous temperament and the skin on the trunk was exceedingly hyperalgesic. She had tried to wear a great variety of supports during her long period of suffering, among them plaster-of-Paris and wood corsets applied by New York specialists. She was unable to wear an absolutely rigid appliance even from the hands of experts, preferring, as she expressed it, the suffering incident to her disease to that of the hard supports. As a result symptoms of lack of support manifested themselves continually. From time to time she had twitching and spasms of the leg muscles, and weakness and a great feeling of continually settling. From her inability to wear a support the thorax had so settled that the lower ribs were in contact with the pelvis. From the irregular settling there was also a lateral tilting of the spine. From a plaster mould I modeled a cast and succeeded in holding the ribs away from the pelvis, and, by graduating the pressure as she could bear it, I succeeded in getting a *pou sto* to sustain the superimposed weight. She was 1½ inches taller when the apparatus was applied, and was soon able to walk more erect than she had done for years, and with very little fatigue. The improvement was remarkable. This was the first support that she had ever been able to wear. The failure made by those who had endeavored to adjust more rigid supports is sufficient evidence that it was impossible.

A case where support short of maximum was required, but where a certain amount of freedom was desirable:

Dr. N., affected with Pott's disease of the tenth and eleventh dorsal and first lumbar vertebræ, applied to me for treatment, in October, 1895. He stated that he was unable to wear any one of a half dozen different kinds of support that had been made for him, all day. He had been compelled to give up much of a very large practice, but wished to attend to the strictly office part. The various supports he had gave him so much discomfort that he was obliged to take them off several hours during the day. Among those he had may be mentioned plaster, wood, leather and aluminium. All had been applied by specialists. I succeeded in applying a wire corset, giving him the necessary amount of support with a certain degree of freedom that enabled him to attend to the desired part of his professional duties and made life bearable and, indeed, quite comfortable. He wore the support all day with but little discomfort. The observations of this very intelligent physician were invaluable to me. Being of a marked mechanical turn of mind, and appreciating the various points of any mechanical appliance, made his experience valuable to the surgeon treating him. I questioned him again and again as to whether he felt he was getting thorough support. His answer always was that nothing he had ever worn gave him more support, and in none had he felt so comfortable. He has been under my observation ever since, and is decidedly better. It is yet inadvisable for him to go without the support.

I could cite many other cases under treatment, but do not wish to take more time. So much, then, regarding the question of support.

ELEGANCE OF THE SUPPORT AND COMFORT OF THE PATIENT.

After we are satisfied that we are using an appliance which meets the therapeutic requirements of the patient, which must always be decidedly classified first by the conscientious surgeon, the elegance of the support to be recommended and the comfort of the patient strongly appeal to us.

Here the support will show for itself. Thoroughly open, perspiration can go on freely unimpeded. The subject of retained perspiration and resulting disagreeable odor is a constant complaint I hear from those who wear the more solid appliances. This support is readily kept practically aseptically clean. Again, the movements of respiration are not unduly restricted, yet the support follows the body during expiration as well as inspiration. The surgeon sees at a glance when the support fits the body, and a certain amount of modeling and graduating is permissible which is not possible with any absolutely rigid appliance.

One word regarding the aluminium corset that has recently become somewhat more manageable in the hands of Dr. Phelps. It marks no advance over any of the dozen other rigid corsets now in use, from a thereapeutic standpoint. It is quite as hard and unyielding as steel, and when once made is virtually unalterable. Were the torso like a rod of iron—the same to-day and to-morrow and next month—then we could fit it and look to our solid aluminium band to keep its position unchanged and unchangeable. But the torso is not like iron or wood, not even like the legs or arms, but changes with each respiratory movement. Right here is claimed a great superiority of the support I show you. I attribute a great share of my excellent results to having been able to support the body every moment and to graduate pressure where it was needed by modeling the support to accurately fit the patient at all points where a close fit was desirable.

The aluminium brace is lighter than most rigid supports—a distinct advantage—but it is not so manageable as some others—an offset to its lightness.

The patients who appreciate the wire corset are those who have worn rigid ones. You bore holes through your leather, your wood, your aluminium, your plaster, and you still have an imperfectly ventilated apparatus; you still have a rigid appliance the wearer is totally unable to disguise. This is indeed a sad affliction for a woman who cares for the appearance of her figure and the comments of a curious public. The comfort and appearance of our patients is too often lost sight of.

Finally, I need not tell you that the successful use of any support, like a remedy, depends on the way it is used. One does not attempt the treatment of spinal caries very long before he sees that each case is a problem requiring adaptation of the thing at hand. I can not better emphasize this than to use the apt expression of Dr. Phelps, when he says that *plaster of Paris is effective as a brace or support only in proportion to the amount of gray cerebral matter mixed up with it.* I would add a third ingredient to the mixture, viz., an adequate experience. While true of any mechanical appliance, it is especially true of the woven wire corset, in order to get the best results. During an experience of twelve years in the use of this support, from its very incipiency through a long evolutionary stage in the hands of my friend and associate, Dr. Roberts, to its present state of approximate perfection, many patients—some most difficult to support—have come under my treatment. So far, as already stated, I have carefully refrained from publishing anything regarding results until I could speak from a thorough knowledge of the subject, based on an extended experience.

48 East Twenty-sixth Street.

IMPROVE THE SPECIES.

BY H. C. CROWELL, M.D.

KANSAS CITY, MO.

Conforming to established custom, I am expected as your president to deliver an address on this occasion. I shall disappoint, or gratify, you by departing in some essentials from the usual style and character of the address, and content myself by briefly referring to some things which might, in my opinion, profitably occupy the thought of the medical profession. I shall not attempt more than to bring the questions before you, leaving the discussions largely for others who may be so disposed.

There are many things practical to us as a profession, people and nation, that might be considered with profit to us collectively, but since it can not benefit any single individual by agitating these questions, it is safe to say they will remain but imperfectly considered.

At the recent Hereford Cattle Show, held in Kansas City, with its large number of fine cattle, excellent and perfected in every particular, over the ordinary every-day common breed, I was forcibly impressed with the degree of excellence to which these cattle had been brought, but the attainment of this degree of perfection did not so occupy my mind as the means employed to bring about such ends, and I could not refrain from making comparison with the development of a people, the intelligence, the power, the agency of greatest import in carrying out the destiny of creation. How neglected, how utterly disregarded, are all laws for higher and more perfect development, when applied to the human race.

Is it less important that the most potent factor in making history, man, should receive less thought and care in his pedigree, than the dumb beasts, his slaves? Such we are compelled to admit is the case. In the case of the animal we look carefully to his pedigree, we know to an absolute certainty what degree of purity his or her blood contains. Perfection is sought in every particular. The contour, temperament, durability, nature and peculiar class attributes are sought out in both the male and female, in order that their union may produce the most typical specimen of their kind. The care given the progeny of well-selected antecedents is directed to the end of perfecting and developing to their fullest capabilities, their inherent possibilities; no detail is neglected.

In seeking to perpetuate their kind, only the most perfect, according to a critical examination, are set apart for this purpose.

If this higher degree of development and perfection is desirable in the dumb beasts, in creatures that figure but in a material way in the perpetuating of worlds, how much more should it seem that some regard should be paid to the rules governing development and perpetuation by the human race? Why such utter disregard of all laws of development and improvement among men? We should remember that the progeny always corresponds to its progenitors; that its tendency is to degenerate rather than to improve, generation after generation, unless care is exercised to introduce improved blood on one side or the other. If the blood of one parent is tainted with some infirmity, weakness or peculiarity, it is quite apt to be visited on the progeny.

In the human family we observe none of the precautions taken by the cattle-breeder; here chaos reigns supreme. No law, no rule, no custom nor thought governs in the selection of mates in the human family. The only governing factors are passion, fancy and fortune, either of which outweighs any physical or mental consideration. The phthisical are joined to the phthisical, the neurotic to the neurotic, the vicious to the vicious, and so on through the category of inheritable features, until we have come to a nation of cripples, dyspeptics and neurotics, inferior in stature and durability, if not intellectually. Such being the case, then, to a greater or less degree, should we not learn a lesson from the grower of the lower animals, and insist that such rules and regulations be established as shall aid, at least, in stamping out inherited vices and disease, and bring about a higher order of beings; beings with better mental and physical constitutions. This is a political question which will, perforce, interest those who come after us, if it does not us; for the tendency is, by the promiscuous marrying and intermarrying, regardless, to a degeneracy of the race, which in time must affect a nation. Indeed, it may be truthfully said that to this cause, more than any other, may be attributed the fact that the descendants of Julius Cæsar have degenerated to banana-sellers, those of Demosthenes to the candy-venders of our streets and those of the mighty Moor are relegated to the deserts of Africa.

Let us have laws which shall prevent flagrant violations of all physiologic precepts, and a higher and better manhood. "Let the medical profession awaken to the fact that it owes a duty to the world more than simply modifying the results of disease. Moral vices are plunging the nations of the earth into crimes far worse in their effects, present and ultimate, than scores of the diseases for which we have no remedies."

Turning from cattle to the "horse," we see even greater evidences of improvement as the result of care in reproduction. Here we see special qualities brought to the highest degree of perfection, independent of instruction in an individual instance. It is noticeable, however, that with the higher blooded "horse," his intellectual nature is keeping pace with every other development. The stature, style, action, durability and gait have been subservient to care in pedigree until the

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[*] Presidential address delivered before the Western Surgical and Gynecological Association, Des Moines, Iowa, Dec. 28, 1899.

most sanguine expectations of the horsemen have been realized.

In the dog, intelligence and all those attributes which constitute the desired qualities of its class are brought so nearly to a state of perfection that multitudes often express amazement at the possibilities in dog creation.

Looking now to the beauties of Nature, as seen in the flower kingdom; we are told of wondrous changes and added beauties, brought about through the agency of man, by adding up, in certain directions, individual differences, producing wondrous and striking changes in their attractive qualities, as well as modifying their aromas to the utmost pleasing degree.

Thus we see that man can bring about almost any change he may desire in domestic animals and plants, by a careful painstaking study of differences. Perfection has been the high ideal, and as a result a better product has been secured.

Is there less reason for improvement in the higher order of creation than in the lower, that causes absolute abandonment or neglect of laws which shall maintain the present standard, or give us an improved class of beings? It is well understood that continued cultivation of a certain soil or of a certain class, without infusing something that shall maintain its power of reproduction, tends to a weaker and lower order of things. This principle and knowledge is taken advantage of by man in caring for the lower order of creation, but not his own species.

This neglect, along these lines, in betterment of self, is not, as we have seen, in consequence of lack of intelligence and knowledge of what can be accomplished by "natural selection," but must be the result of neglect, or an uncertain starting-point—a sacrifice of high ideals, for mercenary or passionate fancies. I can not better express my convictions along this line of thought, perhaps, than by quoting the lines of an original thinker, one whose thoughts, although not popular with some, will yet be handed down as among the best, purest and containing more of honest conviction than those of some possessed of more popular favor, one who was born a hundred years too soon. I refer to the late Robert G. Ingersoll:

> For thousands of years men and women have been trying to reform the world. They have created gods and devils, heavens and hells; they have written sacred books, performed miracles, built cathedrals and dungeons; they crowned kings and queens; they tormented and imprisoned, flayed alive and burned; they have preached and prayed; they have tried promises and threats; they have coaxed and persuaded; they have exhorted and taught, and in countless ways have endeavored to make people honest, temperate, industrious and virtuous; they have built hospitals and asylums, universities and schools, and seem to have done their best to make mankind better and happier, and yet they have not succeeded.
>
> Why have the reformers failed? I will tell you why. Ignorance and vice are populating the world. The gutter is a nursery. People unable even to support themselves fill the tenements, the huts and hovels with children. They depend on the Lord, on luck and charity. They are not intelligent enough to think about consequences or to feel responsibility. At the same time they do not want children, because a child is a curse, a curse to them and to itself. The babe is not welcome, because it is a burden. These unwelcome children fill the jails and prisons, the asylums and hospitals, and they crowd the scaffolds. A few are rescued by chance or charity, but the great majority are failures. They become vicious, ferocious. They live by fraud and violence, and bequeath their vices to their children.
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> Against this inundation of vice the forces of reform are helpless, and charity itself becomes an unconscious promoter of crime.
>
> Failure seems to be the trade-mark of Nature. Why? Nature has no design, no intelligence. Nature produces without intention, and destroys without thought.
>
> Man has a little intelligence, and he should use it. Intelligence is the only lever capable of raising mankind.
>
> The real question is, can we prevent the ignorant, the poor, the vicious from filling the world with their children?
>
> Must the world forever remain the victim of ignorant passion? Can the world be civilized to that degree, that consequences will be taken into consideration by all? Why should men and women have children that they can not take care of, children that are burdens and curses? Why? Because they have more passion than intelligence, more passion than conscience, more passion than reason.
>
> You can not reform these people with tracts and talk. You can not reform these people with preach and creed. Passion is, and always has been, deaf. These weapons of reform are substantially useless. Criminals, tramps, beggars and failures are increasing every day. The prisons, jails, poor-houses and asylums are crowded. Religion is helpless. Law can punish, but it can neither reform criminals nor prevent crime.
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> The tide of vice is rising. The war that is now being waged against the forces of evil is as hopeless as the battle of the fireflies against the darkness of night.
>
> There is but one hope. Ignorance, poverty and vice must stop populating the world. This can not be done by moral suasion. This can not be done by talk or example. This can not be done by religion, or by law, by priest or hangman. This can not be done by force, physical or moral.
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> To accomplish this there is but one way. Science must make woman the owner, the mistress of herself. Science, the only possible savior of mankind, must put it in the power of woman to decide for herself whether she will or will not become a mother.
>
> This is the solution of the whole question. This frees woman. The babes that are born then will be welcome. They will be clasped by glad hands to happy breasts. They will fill homes with light and joy. Men and women who believe that slaves are purer, truer than the free, who believe that fear is a safer guide than knowledge, that only those are really good who obey the commands of others, and that ignorance is the soil in which the perfect perfumed flower of virtue grows, will, with protesting hands, hide their shocked faces.
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> Men and women who think that light is the enemy of virtue, that purity dwells in darkness, that it is dangerous for human beings to know themselves and the facts in Nature that affect their well-being, will be horrified at the thought of making intelligence the master of passion. But look forward to the time when men and women, by reason of their knowledge of consequences, of the morality born of intelligence, will refuse to perpetuate disease and pain, will refuse to fill the world with failures.
>
> When that time comes, the prison walls will fall, the dungeons will be flooded with light, and the shadow of the scaffold will cease to curse the earth. Poverty and crime will be childless. The withered hands of want will be stretched for alms. They will be dust. The whole world will be intelligent, virtuous and free.
>
> It is better to be free, to leave the forts and barricades of fear, to stand erect and face the future with a smile. It is far better to give yourself sometimes to negligence, to drift with wave and tide, with the blind forces of the world, to think and dream, to forget the chains and limitations of this breathing life, to forget purpose and object, to lounge in the picture gallery of the brain, to feel once more the clasp and kisses of the past, to bring life's morning back, to see again the forms and faces of the dead, to paint fair pictures for the coming years, to forget old gods, their promises, and threats, to feel within your vein life's joyous streams and hear the martial music, the rhythmic beating of your fearless heart. And then to rouse yourself to do all useful things, to reach with thought and deed the ideal in your brain, to give your fancies wing that they, like chemist bees, may find art's nectar in the weeds of common things; to look with trained and steady eyes for facts, to find the subtle threads that join the distant with the now, to increase knowledge, to take burdens from the weak, to develop the brain, to defend the right, to make a palace for the soul.

In these lines we observe how keenly is appreciated a degenerative tendency under existing comprehension. Intelligence must supplant passion, fancy and fortune. And how shall that be accomplished, is the great and absorbing question. Education along physical lines must be the most potent factor in effecting desired changes. This education will devolve on the medical profession largely, or at least primarily, until the principles are more perfectly comprehended in the home. The national government can and should do much in bringing about desired reforms, by sending literature, giving wholesome information into every home. Material industries are fostered and abetted by government investigation and experiment. Ignorance is often more at fault than perverseness or negligence, on matters pertaining to reproduction. Improper marriages between the weak mentally or physically, or the vicious and criminal classes, should be interdicted by law. With the marriage license should go the endorsement of competent medical authority, after being furnished with authentic family history.

With care in these directions, happiness would in no way be lessened, but insured as nearly as possible, other things being favorable. It may seem to many that such an arrangement is purely idealistic, and so it may be, bu capable of realization if sufficiently and properly agitated by the medical profession, whose members have a better opportunity of observing the needs of reform than any other class of citizens.

By care along these lines, actuated by honest conviction, shrinking not from public opinion, much can be accomplished for the welfare of people and nations. It will be truly said that already some states have moved along these lines, and in that much be it to their credit. The essential need is that such safeguards be widespread, numbering all the states and territories, making it impossible to step out of one domain into another, to commit an act which, in their own, is considered unlawful. Strength, force, morality and intelligence come only from good breeding.

A nation's durability, its dignity and position of influence, depend on her people and her institutions, all of which are the resultant force of proper regard in reproduction.

"Nature is revelation, and the light of truth shines everywhere in the world. The want of faith and refusal to reason of men, interposing, make the shadows. Man is blindfolded by himself."

This matter is not one of sentiment alone, but one of serious fact—a question which must, sooner or later, awaken a lively consideration. It is so far-reaching in its effects, with the pernicious results disseminated, that the superficial thinker might readily fail to observe its tendencies and ultimate results; like the wearing of the waters of Niagara upon the rock, slowly but certainly cutting into and destroying the original stability of society and government.

So long as such subjects as Mulligan McNulty, a four-term convict of Kansas, who slashed the throat of Deputy Warden Thomson, from simply a desire to cut some one, and without provocation, can, at some time when free, marry and probably be the father of a son, very likely to be born with perverse if not vicious passions, we can not hope to lessen our prisons and almshouses, or add to the safety of individuals or institutions.

This class of individuals, together with those of mental unsoundness, should be isolated and prevented from marrying, even though they might secure the flower of society. With a proper quarantine, vice and degeneracy could be stamped out, and in its place liberty, strength and happiness spring up, which would characterize such a condition as that of the millennium.

The restrictions and limitations which this paper would imply do not so much refer to the higher order of society, although even this class is not free from violations of such observations in mating as shall secure healthy sound offspring. The lower classes contain most of depravity, and disregard in the most flagrant manner all conscientious scruples, even carrying known communicable infirmities to the innocent. These the world over have been the most prolific in populating the world, and sowing the seeds that have occasioned the demand for prisons, almshouses and asylums. These classes have well-nigh taken the management of corporations out of the hands of the owners, and practically disfranchised the sober, thoughtful citizen. The prosperity of a country has never been found to depend on its great numbers, but on its intelligence, and its physical, mental and moral soundness.

The principle of expansion which now prevails is undoubtedly good, viewed from a commercial standpoint, but when we look beyond, we might reasonably speculate in regard to the resulting population generations hence. True, we might say that is a question so remote that we need spend no time in its consideration. But are we correct in discharging this question so peremptorily?

Let us look back a few years and observe what the feeling has been in regard to unrestricted immigration. A halt has been called, not from lack of domain, but from a lively realization of a too rapid increase of an undesirable element. And so we have every reason to expect what might be the result of an extensive aggregation of an inferior people marrying and intermarrying, without restriction or regulation.

Such has been the history of other countries, from which we should profit. Finally, not to be interminable, we are impelled to say that degeneracy is the result of fostering or permitting the perpetuation of weakness, moral, mental or physical, each generation growing weaker. *Shall we not awaken to the fact and check it?*

FAMILY DISEASES.*

BY WHARTON SINKLER, M.D.,

AND

F. SAVARY PEARCE, M.D.

PHILADELPHIA

The term "family diseases" includes a wide field in medicine as to generations and yet is perhaps more limited in number of actual cases existing than the monograph and text-book articles would lead us to believe at casual observation of these very interesting phenomena. The object of this contribution to the familial affections is to present all the cases that could be found within the direct and indirect observation of the authors. For it is only by such personal considerations that the true bearing of so difficult a problem can be elucidated in proper relation to the individual practitioner. We can perhaps best divide the subject, broadly, into the classes: 1. Hereditary maladies. 2. Family tendency to a certain disease in special generations without hereditary taint. Then subdivisions may be rightly made into the more general and hereditary, or not, affections, involving for example the cardiovascular or pulmonary systems or the nervous system with which we are chiefly concerned. The subject of anomalies does not concern us from the point of prophylaxis, on which we hope statistics may throw light. Of more specific beginning maladies, next may be mentioned such conditions as affections of the auditory—deaf mutes—and optic nerves—blindness. We have also the special family types of nervous disease, so-called Friedreich's disease, and Huntingdon's chorea, so well known to be hereditary in nature though so rare. It is to these latter and to diseases of family type, whether hereditary or not, also of organic disease of the nervous system, especially, that the investigation portends, and from which other maladies may be better studied.

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*Presented to the Section on Neurology and Medical Jurisprudence, at the Fiftieth Annual Meeting of the American Medical Association, held at Columbus, Ohio, June 6-9, 1899.

SOMATIC HEREDITY.

The subject of cardiac and pulmonary diseases is so well known to have a hereditary tendency in certain families that they are not here to be again detailed. The heredity as to tuberculosis is so flagrant, yet we feel that it needs constant reiteration; especially in its association with the neuropathic individual, if prophylaxis is to do the highest good.

By such better understanding too, of heredity of inheritance and tendency to disease, the future of the races is to be conserved. Regeneration is to be striven for even in the progeny of mild degenerates.

MUSCULAR DYSTROPHY.

The cases of progressive muscular atrophy have been reported in another place by Eshner. No case of heredity of this disease was discoverable among the cases at the Infirmary for Nervous Diseases. Out of the twenty-five cases, three were in the same family. Three died of phthisis. Roberts gives the percentage of heredity in this disease as 26.63, so that inheritance through other organic disease or predisposition plays perhaps as important a rôle in the vicious circle.

EYE AFFECTIONS.

The interesting series of cases to be published in the monograph by Dr. C. A. Oliver, on a form of hereditary optic atrophy, has been traced through six generations, dating back into 1700. The family "tree" here shows that the atrophy began in the female, but that in the progeny the affection has always passed to the male child through an unaffected female. Out of 153 persons, 22 of them are affected with this atrophic degeneration. The trouble begins about at adolescence as a rule; some cases have begun so late as at 35 to 40 years. One of the writers has had the privilege of observing and testing the gradually diminishing fields of vision in the half dozen of these cases. In "A Study of the Blind[1]," one of us has noted hereditary optic atrophy in several families of children. Hereditary choroiditis is another condition shown in the table, so that the field of heredity grows larger in ophthalmology as we investigate.

DEAFNESS.

One of the writers had under his care a deaf man, aged 40, one of nine children, and whose parents were normal. Five of this family were born deaf—atavism—but are bright in all other ways. The subject of hereditary deafness has been thoroughly discussed in a recent work[2]. These studies were made by the Volta Bureau with the aid of the U. S. Census Bureau. In regard to the same subject, Dr. A. L. E. Crowter, superintendent of the Pennsylvania Institution for the Deaf and Dumb, under date of June 1, writes as follows: "Replying to your inquiries relative to the number of pupils in this institution, born of deaf parents, also the number of pupils born deaf, I beg leave to say that out of 505 pupils now in attendance, I find fifteen were born of deaf parents, and that 150 (15 of deaf parents and 135 of hearing parents), almost 30 per cent., were born deaf." The atavistic tendency of deaf persons to be born of the hearing, and vice versa, again proves the exception to the rule. The only safe criterion for prevention of possible hereditary deafness would be the voluntary non-marriage of families where deafness is in the history. The same would hold good in other traceable diseases.

NERVOUS DISEASE HEREDITY—FROM THE INFIRMARY FOR NERVOUS DISEASE.

The cases here recorded are those where, in the histories, it is explicitly stated that heredity exists or that a number of cases of a certain disease coexist in one family. The immense number of tics and cases of migraine are, from meager data, excluded.

The literature of family types and of hereditary diseases is enormous. The writers make no special investigation therefore as to bibliographical data, but present, in the following study, a record of cases indirectly or directly observed, largely in neurologic lines, in the hope that such data will throw more light on this intricate problem. In going over 16,500 cases occurring at the clinics at the Orthopedic Hospital and Infirmary for Nervous Diseases, and in the wards and in private practice, the writers have endeavored to make a classification of those cases in which there seems to be a grouping of a number of disorders in one family, hence the title given this paper. That there can be no accurate classification of a number of individual cases, as far as we are able to study the history, is evident. This limitation of knowledge does not necessarily, however, disprove a latent heredity as being existent, e. g., in a large number of tics and cases of migraine. That the large majority of all diseases are not secondary to previous hereditary taint is upheld. But that the hereditary factor, while admitted, is not so clearly elucidated as might be is the contention made, and it is with the hope of determining this element in medicine that the study of the broad subject of hereditary disease is here undertaken through analysis of a fairly large number of cases. With a better understanding of transition or equivalent diseases throughout a particular class of individuals or families, will prophylaxis, pathogenesis, prognosis, treatment and pathology all be extended to the greatest good to humanity.

CORD DISEASES.

1. Primary lateral sclerosis is a very rare affection of the spinal cord and we have been unable among the cases analyzed to determine any case existent in successive generations. The essential nature of the case of M. McB., a female, beginning at her 19th year, shows a tendency to heredity in the fact of early age in this developmental type of system disease coming on without any known exciting cause whatever. Perhaps this is but an evidence of waning power in a generation with an undeterminable unstable nerve protoplasm. The frank syndrome of symptoms existing in spastic paraplegia from cerebral or in later adult lateral sclerosis does not exist in the primary affection mentioned. The muscles seem more flaccid, sensation less disturbed, extremities cold and clammy, and while the coarser movements of the extremities are very inco-ordinate, as with the fingers, yet the patient is still able to do fine work, such as sewing, with comparative ease. The prognosis as to prolongation of life, too, is singularly more favorable than in secondary sclerosis where also an incipient

tuberculosis is more apt to complicate, even if the sclerosis may happily become little or non-advancing—helpful knowledge for the physician.

Insular sclerosis of more distinct family type is shown in G's family, in which the father was a drunkard and most likely the subject of specific disease, who had violent maniacal outbursts and at middle life developed apoplexy, hemiplegia, epileptoid seizures, and progressive paretic dementia. The mother was a fairly robust woman until 65 years old, when she died of carcinoma uteri. Of twelve children, two died in early infancy. One daughter, at 4 years of age began to become spastic, and to develop nystagmus with bulbar symptoms. This has progressively increased with notable remissions, until the present time, her 31st year.* A younger brother, aged 25, has been afflicted with lateral and mixed sclerosis mostly affecting the lower extremities since 15 years of age. There are no eye symptoms in him; the knee-jerks are plus, and ankle-clonus is present; there is some head inco-ordination. The tendency to sclerosis in another boy developed at 7 years of age, along with feverish condition, and he remained so for several years. At 13 years of age, in 1896, it had entirely disappeared, he being quite well. This latter case seems to illustrate a possibility in restoration of functions and structure through better nutrition. The hereditary taint of faulty protoplasm came in major part through the paternal ancestry. This particular family has been under the observation of Dr. S. Weir Mitchell for a number of years.

The hereditary factor in idiocy and cerebrospastic paralysis does not bear so close a family-type relation as one might suppose, yet an instance of two imbeciles and an epileptic child has recently come under observation of one of the writers, the father being one of the lower class of alcoholics, the mother of feeble physique. The two imbecile children resemble the father in appearance, and the epileptic child much resembles the mother in this—both being of very refined natures and the girl particularly bright though subject to frequent attacks of petit mal.

Another clinic case of myxedema—cretinism—which has been reported by one of the writers, also demonstrates unstable nerve protoplasm through a brother who, after recently being subject to measles, developed peculiar stammering sequent to the infectious process, again showing weakened trophic state of his neurons.

One of the authors has endeavored to classify the hereditary element in 532[3] cases of mental impairment, but the histories were often so falsely stated that it was impossible to get the accurate information other than the generalities suggested here.

We give below tables of the actual number of family diseases recorded, as indicated in the 16,500 histories studied.

TABLE 1.—CORD DISEASE.

Hereditary spastic palsy: 12 children: one female developed the disease at 4, one male at 7 years.

G. family: father dissipated and hemiplegic: no further heredity.

M. McB.: no ancestral cord affection, but no doubt "developmental."

McC. family: 7 children, 3 affected with insidious palsy in one or other leg. Doubtful lead poisoning or infantile palsy.

A. J.:[4] aged 19 years, reported by Dr. J. K. Mitchell,[5] a case of periodic paralysis in three generations: maternal grandfather and his first cousin, mother and her two brothers—one brother, one attack only—then a first cousin, daughter of a brother, making seven cases in all.

Mrs. B.: reported by Dr. Wharton Sinkler;[6] asthenic bulbar paralysis; family type in that nystagmus exists in patient and two brothers; one son, aged 15, also nystagmic; babe 14 months old, also; father died of apoplexy; maternal grandmother blind for years.

Dr. C. A. Oliver's cases: some examined by one of the writers; six generations of hereditary primary optic atrophy in male element of family.

Private case of Mr. R.: aged 60 years; high myope, congenital choroiditis wherein lenses since eight years; two uncles and an aunt similarly affected.

Private case: at 5 had chorea; before marriage had sunstroke; died in later life of meningitis.

Huntingdon's chorea: case reported by Dr. J. K. Mitchell.

See also—tree—cases of Dr. A. J. Ostheimer of Kathcart Home, Devon, Pa.

TREE DENOTING TRANSMISSION OF HUNTINGDON'S CHOREA AS PER TABLE.

A. Father: Died at 73 years with chorea, chorea beginning at 58 years.

B.
- Daughter, died at 70 years, with chorea and dementia.
- Son, now 68 years, has no chorea.
- Mrs. Tine, *patient*, died at 82 years with chorea beginning at 62 years.
- Son, now 72 years, has chorea as patient had.
- Daughter, 75 years, has slight chorea.

C.
- Son, now 57 years, has had choreic movements for 12 years.
- Son aged 47 years, no chorea.
- Daughter, aged 60 years, no chorea.

D.
- Daughter, aged 31 years, no chorea.

One of the writers has also reported on hereditary chorea,[7] finding several instances where the disease existed in successive generations; not more than three being ascertained.

An example of singularities in the history of medicine is also shown here in relation to Huntingdon's disease, for while it was defined by Dunglison in 1841, and was described by J. W. Lyon in 1863, as chronic hereditary chorea, it was not distinctly recognized until Huntingdon wrote of it in 1872.

TABLE 2.—CASES OF FAMILY TYPE OF DISEASE, NOT DIRECTLY HEREDITARY AND NOT CONGENITAL.

S. T. C.: aged 35, male, single; infantile paralysis in right leg; a brother suffers from the same trouble.

C. S.: habit chorea; three children in family.

McD. family: seven children in family and three affected with muscular dystrophy.

Epilepsy: one case of idiopathic in a family and five of Sydenham's chorea in brothers and sisters.

Tending toward the ideal in the study of heredity and disease would be the determination of cases of family types of disease congenital and without direct hereditary history. Many cases of imbecility and cerebrospinal palsy must come under this category; those histories are most difficult to determine.

INFECTIOUS DISEASES WHERE IMMUNITY OR SUSCEPTIBILITY SEEMS TO BE GRANTED THOSE IN PROGENY RESEMBLING MOST THE PARENT THAT IS SUSCEPTIBLE OR NOT TO THE DISEASE, OR THROUGH VACCINATION INDUCED IMMUNITY.

In this category we are able to give the unique example recently quoted by Dr. Gump before the Medical Society of Pennsylvania, of several children in a family resembling the parent and not vaccinated against smallpox, taking the disease, while those resembling the vaccinated parent did not develop the disease. This we consider a very important observation as to heredity in disease, and its bearing on heredity of characteristics as pointed out by Lombroso and referred to above.

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*This woman has recently developed carcinoma of uterus also, as by examination to-day, showing heredity of Cohnheim.—Jan. 13, 1900.

TABLE 3.—CASES OF FAMILY TYPE OF DISEASE IN WHICH THERE IS DISTINCT HEREDITARY TRACING AND BEGINNING EARLY IN LIFE.

Of twenty cases of pseudohypertrophic paralysis of childhood recorded, [illegible] were traced back to previous dystrophy in ancestry. See [illegible] table on heredity.[9]

S.: family, progressive pernicious anemia existing in two daughters aged 16 and 20, beginning in father, however, at 40th year, death at 45 years; no autopsy; symptoms of posterior sclerosis during life. In this man the blood count averaged 2,700,000 and hemoglobin 27 per cent. There was no Argyll-Robertson pupil.

K.: family, locomotor ataxia; no injury nor specific disease in the patient seen, a male of 42 years; father died insane (melancholia); one brother had same trouble and shot himself.

M. H.: aged 18; constant choreiform motion of right arm, ceased one day suddenly after four months' continuance; mother formerly had epilepsy, especially with movements of arm, probably simulation.

Woman, aged 45, father and husband insane; she is melancholic—true and false.

M. M.: male, aged 60, tic douloureux began at 16; a niece at 30 also a sufferer since her 15th year. We saw these two cases. It is most difficult to obtain accurate histories.

TABLE 4.—CASES OF FAMILY TYPE OF DISEASE IN WHICH THERE IS NO DISTINCT HEREDITARY TRACING AND BEGINNING LATE IN LIFE.

M. A.: aged 50; male; single; hemiplegic; father and mother died of apoplexy; of eight maternal uncles two died of paralysis—apoplexy (?).

Three cases of rheumatoid arthritis in one family—one male and two females—beginning after 35 years of age and producing extreme deformities.

Case of muscular dystrophy beginning in late youth and in several of family—a case of elephantiasis—idiopathic (?)—in one adult.

TABLE 5.—CASES OF FAMILY TYPE OF DISEASE OF ATAVISTIC TYPE, I. E., WHERE THE FAMILY DISEASE IS A DISTINCT ENTITY FROM THE FAMILY DISEASE EXISTING IN THE ANCESTRY—SUBSTITUTION DISEASES.

Litter of cats at Lewes, Del.: some in litter are deaf, with dark irides, other pink eyes—albinos—amblyopia; hearing good.

Cases in practice of Dr. C. A. Harnish, Huntingdon, Pa.: three of parenchymatous nephritis, children of same family; no etiology traceable; no heredity known.

A. B.: family; parents no relation; ten children—five deaf and dumb, five normal; father and mother are Russian Jews; father hunch-backed from Pott's disease, as the only ancestral disease known at Pennsylvania Institution for Deaf and Dumb.

C. D.: family; parents healthy and no consanguinity; seven children—three females—died of diphtheria when each arrived at 2 years of age; three boys and a girl, healthy.

Case of boy who at 2d year had convulsions followed by convulsive tic at 7th year, and by chorea at 12th year, following an attack of scarlatina; heart complication; death from endocarditis; one brother had several attacks of chorea.

Case of Friedreich's disease in B. R., female; 18; seen with Dr. John M. Swan: has developed tuberculosis; a brother died of phthisis: an instance of exception to the rule in our experience of congenital nervous disease, being less liable to secondary tuberculosis, and probably due to the tubercular diathesis being existent in the family at the same time. Case reported. College of Physicians, Jan. 8, 1900.

TABLE 6.—CASES WITH OR WITHOUT KNOWN HEREDITARY TAINT WHERE ONE SET OF CHILDREN DEVELOP ONE TYPE OF DISEASE, ANOTHER SET DEVELOP ANOTHER TYPE OF DISEASE.

Progressive muscular atrophy; male; age 25; three brothers died of phthisis.

Private case: V.; family; of eight children, seven died of scarlet fever—three in one epidemic; others died in separate, at different good hygienic localities; one son now under treatment in rapid phthisis, aged 30 years; no tubercular ancestry known.

Those peculiar types of family disease without known cause, in which male or female alone seem to be affected, we have given several examples of in nervous disease. No doubt there are many more instances of the same not recorded for want of accurate history taking; and that many cases of hemophilia and tendency to bleeding in families escape our attention.

Neurasthenia is in many instances the progeny of a hereditary predisposition, plus the exciting cause; but our tabulation could not be accurately made as to this broad field among the histories submitted to examination. Likewise with the migraines, which demand understudy before we can lay down safe prophylaxis or cure in these prevalent affections of Americans.

TABLE 7.—MISCELLANEOUS CASES AND SUBSTITUTION DISEASES. MANY CASES OF SPECIFIC DISEASE CURED BUT LEAVING A NEURASTHENIC TENDENCY IN PROGENY. NOT GIVEN PLACE.

Exophthalmic goiter: Bessie K., aged 24; aunt had same in childhood; cured; patient improved under galvanism.

T.: family; father hypochondriac; color-blind for red and green; same in a daughter; the phenomena not constantly complete.

Idiopathic muscular atrophy: two brothers aged 15 and 20.

Private case:[10] A. B., aged 20; intracanalicular fibroma of mammary gland; patient's mother suffered from the same trouble; both cured by operation.

Private case:[11] Hebrew, multipara, aged 51; tumors—fibroadenoma of both breasts; operation; cure. Mother had tumors of both breasts.

Private case: J. P., aged 30; mother a neurasthenic for years; patient acquired neurasthenia at 25, after full business life.

Private case: Mrs. F., aged 55; slight apoplexy five years ago; always nervous; worse since sunstroke—emotional; son, aged 29, through environment, generally nervous for years.

M. L.: aged 51; female; exophthalmic goiter; cured; daughter, aged 15, several attacks of chorea.

R. S.: aged 51; myxedemoid; one child mentally feeble, subject to night terrors, and one child choreic.

Case 15326: intercostal neuralgia, persistent one generation; angina in several of succeeding generations.

J. H.: aged 42; passed six months tubercular pleurisy; younger brother died of diabetes mellitus.

A. C.: aged 54; chronic rheumatism; daughter suffers from hay-fever; patient when young, subject to tonsillitis—transition.[12]

Case of Mrs. M.: aged 35; neurasthenic syncope; becoming epileptic at 40 years.

Mrs. McB.: aged 45; epilepsy; infrequent attacks of grand mal; aura begins several hours before attack, by twitching of left great toe; woman congenital as to dwarfism.

H. cases: diabetes in a male of 35, whose father and two brothers also suffered from diabetes mellitus.

Case of R. L.: aged 18; male; anteparenchymatous nephritis; an aunt and several uncles died of Bright's disease.

K. and brother: aged 54 and 56; uric acid diathesis and albuminuria of uric acid angina causing death of one.

We have thus found over fifty distinct instances—i. e., family genealogies—of family types of disease, including over 200 cases, or about one-eightieth of the whole number of cases examined.

A continuation of the study in regard to circulatory[13] disturbances leads us to think that cardiac and vascular disease will bear close hereditary relation to the ancestors' cardiac-vascular abnormalities; especially when resident in the parents. Further study as to this is being carried out, and tabulated data will be presented later.

By reference to tables herewith compiled, a more detailed notice of those cases we have observed is set down. The tendency of certain diseases to run in groups in different families or of a single disease selecting a certain generation, or again where one disease is found to exist in but one person in each succeeding generation—all these bring into play vital phenomena which are nearly insurmountable for positive interpretation. But we can not point exactly to the close relation which often must obtain between blood relations, yet a number of examples of hereditary tendencies are brought out by meteorologic, climatologic, and bacteriologic exciting causes. We can at least stand on surer ground as to modifications of family disease in making statements about expectation of life in certain classes of them, where the vague predispositions can be better elucidated. This study teaches in a negative way the importance of the so-called individual element being given high place in sociologic considerations in health and disease. C. Lombroso has recently laid stress on "heredity of acquired characteristics," showing clearly such effects in health.

Then it will be in the line of truer consideration toward clearer elucidation of the subject of immunity, and poisons from within—toxins or metabolites—and from without—toxins, bacteria and other poisons—will be better understood as to their very full meaning to hygiene and disease. No surer thing is in medicine, which every physician of large experience will testify to, than that the vital element, almost beyond the limitations of human investigation for intricate details, adds a ponderous weight to the scales of living. If it can have been pointed out more forcibly in this paper to the advancing mind, that medical science can not go beyond a reasonable association with vital action, the endeavor will serve its intent. It is fitting, too, to bring the subject for discussion before one of the higher arts in medicine—neurology.

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DISCUSSION.

Dr. F. W. Langdon, Cincinnati, Ohio—I must confess that some of the conclusions appear to do violence to our preconceived notions. I noticed particularly the extremely small number of cases, only fifty in a total of 16,500, in which a disease could be traced as hereditary. It is quite possible that this small proportion of "hereditary disease" may be due chiefly to our refinements in nosology—rather than to any real lack of hereditary influence. In other words, it is a question of *name* not of *fact*. I am impressed with the great value of the paper, and the large amount of labor required to prepare it.

Dr. F. Savary Pearce, Philadelphia—It struck me just exactly as it struck Dr. Langdon, that in all this collection we were able to find so few cases in which a disease was handed down from one generation to another. The object of the research was to find out what number of instances in a large series of cases were really truly hereditary. A possible fallacy would be that the histories were not taken accurately, but at the Orthopedic Hospital and Infirmary for Nervous Diseases the case records are taken with considerable care and in great detail, and I believe they are nearly accurate in most respects. I hope the paper, when it is illustrated by details presented in the tables not read, may show something more valuable. It would seem from this investigation that in at least 1 to 75 or 1 to 80 cases of nervous disease heredity as to the same disease may be discoverable if properly searched for; while the proportion is vastly greater as to transmission of nervous predisposition to any form of neural malady in a lineage tinged with marked neuropathic diatheses. It should be stated here that hemicrania was not particularly dwelt on in tracing histories at the Infirmary for Nervous Diseases, except where it actually existed in the patient reporting for treatment; and this subject might be well worth careful statistical inquiry.

UNCOMMON PYOGENIC INFECTION OF THE MIDDLE EAR.*

BY ROBERT SATTLER, M.D.

CINCINNATI, OHIO.

It has long been recognized that cauterization of posterior and middle nasal hypertrophies, even if practiced with every caution in the selection of cases, method, and accompanied by every required antiseptic precaution, is not unattended by dangers. This warning is often not heeded until personal observation and experience have afforded convincing proof of its truth. Formerly, when the use of the galvano-cautery and other escharotic methods to effect the shrinkage of the hypertrophied areas of the mucous covering of the inferior turbinates was more general and their application more reckless, it not infrequently came to pass that acute pyogenic infection of the middle ear, of the ethmoidal cells, and even septic infection resulted as a complication in cases even where the operation was clearly indicated and necessary.

The destruction of posterior hypertrophy in particular is fraught with risk and danger. Fierce resentment on the part of the cauterized region, altogether out of proportion to the slight local injury inflicted, terminates in sphacelation and is followed or attended by destructive complication of the adjacent cavities and sinuses.

More recently, with careful selection of cases and greater circumspection in the choice of methods, with the use especially of the cold snare for the posterior thickening and the rigid avoidance of the thermo- and galvano-cautery, the frequency of occurrence of these often grave secondary complications has been markedly lessened.

It is true that in many cases the process which is excited as a result of the cauterization causes an acute purulent otitis media only, with perforation of the drum, but stops short of further destructive inflammation elsewhere. In a few cases, however, the pyogenic products which are present in the nose, wander or are forced into the middle ear along the Eustachian canal, and then is precipitated, with almost incredible rapidity and severity, a violent infection of the middle ear, antrum cells, and often even of the meninges and cerebellum.

The following case will illustrate: The patient was a young woman of frail physique, but in the best of health and with no history, antecedent or at the time, of any ear trouble. She had for several years been annoyed from time to time, by nasal stenosis, in consequence of hypertrophic rhinitis. There was present, both middle and posterior hypertrophy, more marked on the right side. At the suggestion of a specialist of distinction and experience, the latter removed the posterior thickening of the right side of the nose. Violent reaction with general septic infection followed this attempt and after a few days it was evident that complications of the right ear had been added. Together we made every effort to arrest the progress, only to have our fears realized, that an unusually severe otitis media had given way to acute empyema of the antrum and cells. On the twelfth day after the nasal operation, surgery, to meet every indication which might be disclosed, was practiced. Pus was found under the periosteum, the cortex was very vascular and succulent and even the outermost cells full of pus. When the antrum was reached a gush of pus occurred. Improvement in breathing and pulse was at once observed. The proportionately large amount of pus found here suggested to us at once, what was also discovered afterward through exposure of the tympanic attic, viz., perforation of the tegmen and a large extradural abscess.

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*Presented to the Section on Laryngology and Otology, at the Fiftieth Annual Meeting of the American Medical Association, held at Columbus, Ohio, June 6-9, 1899.

Fearing that complete escape of pus and drainage could not be secured, the middle fossa, in a locality most favorable to meet the desired indication, was opened, and it was fortunate that this was done, for it enabled us to evacuate a large accumulation of pus, which along the first channel, would well-nigh have been impossible. The most complete drainage was thereby secured, and in spite of the general septic infection, the patient recovered.

A PRELIMINARY INVESTIGATION OF THE THEORY OF THE INOCULATION OF MALARIAL FEVER THROUGH THE AGENCY OF MOSQUITOES.

BY ALBERT WOLDERT, M.D.
PHILADELPHIA.

(Concluded from Page 269.)

For some time past I have been studying the different species of mosquitoes collected in eastern and central Texas, eastern Pennsylvania, and the eastern coast of New Jersey. I learned that during the month of October the *Culex pungens* was the most common species which prevailed to the greatest extent in all of them. I have made sections of many of them and examined these microscopically. Probably 2000 sections have been made. The subject of entomology is a very important one in connection with this work, and in this department of science there is much room for improvement, such as the classification of mosquitoes.

NATURAL ORDER OF THE MOSQUITO.

The mosquito belongs to the natural order *Diptera*, sub-order *Nemocera*, and to the family *Culicidæ*. Two genera are most commonly known, namely, *Culex* and *Anopheles*. The word "mosquito" is derived from the Spanish and Portuguese *mosca* or the Latin *musca*, which means a gnat or fly. The name probably originated in the West Indies, where it is learned that the term "culex, mosquito" was first applied to a kind of gnat streaked with silvery white, the female members of which have a piercing and sucking proboscis and annoy man.

Mosquitoes are distinguished from *Chironomus*, which they resemble very much, from the fact that the former are provided with an elongated proboscis or biting apparatus, while in the *Chironomus* the proboscis is but poorly developed. The wing of the mosquito is covered with hair-like scales that often extend beyond the posterior margin. The *Chironomus* is often seen in swarms or clouds, which give rise to the impression that there is a deluge of mosquitoes in a certain locality. Some members of the family *Simuliidæ* are also called mosquitoes. All told, about 150 species of mosquitoes have been described. The natural food of this insect is probably the juice of plants, the sucking of blood being an *acquired taste*. They only forage for food within a short range of their natural habitat. How long the adult insect can live under the most favorable circumstances is not known. One writer says that the impregnated female may survive the winter, feeding in sheltered spots, such as barns, cellars and outhouses.

It is stated by authors on this subject that the eggs of the mosquito are deposited by the female in a delicate boat-shaped mass on the surface of the water. These are packed side by side with the smaller end uppermost, forming a concave mass that floats readily. They hatch within a few days, and within a period of from three to four weeks develop into the full-grown insect. Several broods are hatched each season, about 300 eggs being deposited. Frequently—but not always—the female dies after depositing the eggs. When the egg cell ruptures, the larval stage begins, and in the case of the *Culex pungens* or common mosquito the body of the larva becomes partly submerged and floats with head downward, but breathes through the pneumatic tube at the extremity of the tail. To these bodies the term "wigglers" or "wrigglers" is applied. The eggs of the *Culex pungens* may be deposited in buckets or pails around the house, and in stagnant water. This variety may be termed a "house mosquito." Not all mosquito larvæ are deposited in stagnant water, for the soil may also harbor them. It is said that this insect is found in the Rocky Mountains, where stagnant water is unknown. The male probably never bites man, owing to the nondevelopment of the mouth parts. He may be readily distinguished from the female from the fact that the former is provided with antennæ which are broadly feathered—bearded—or plumose, while in the latter the antennæ are slender and only have a few lateral bristles. (see Fig. 1.) · It has been stated that the male "rarely enters our dwellings and lives unnoticed in the woods," but I must dissent from this view.

GENUS ANOPHELES DISTINGUISHED FROM GENUS CULEX.

According to Ross, the larvæ of *Anopheles*, unlike those of *Culex*, do not swim with head downward, but lie flat on the surface, like sticks, due to absence of a breathing tube. The larvæ of *Anopheles* are not found in buckets of stagnant water around the house, in wells, cisterns, and drains, or in artificial collections of water, but are only found in *natural* ponds or puddles, such as persist after heavy rains. They have been found in puddles between rocks, in rice-fields and between the rows of growing grain. Fish devour the larvæ with avidity, hence they are seldom found in lakes or ponds where fish are present. The *Anopheles* is a distinctly rural mosquito. In searching for the adults, Ross usually found them around stables and cattle byres. The adult *Anopheles* may be distinguished from the *Culex* in that the former has spotted wings, the palpi are as long as the proboscis, and when the insect rests against the wall the body projects outward, while in the *Culex* the body hangs downward. In the *Anopheles* that I have seen, the legs are quite long and very much finer than in the *Culex*, and are not striped. It has been said that certain species of *Culex* have spotted wings. I can not speak for all species of the latter, but the following named species do not have spotted wings as the term implies in the case of the genus *Anopheles: Culex triseriatus, Culex impiger, Culex pungens, Culex stimulans, Culex posticus, Culex teniorhynchus, Culex fasciatus, Culex perturbans.* The following species of *Culex* have whitish transverse bands across the legs: *Culex teniorhynchus, Culex stimulans, Culex fasciatus and Culex excitans.*

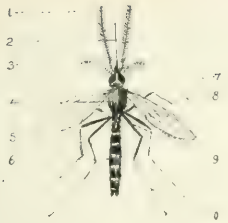
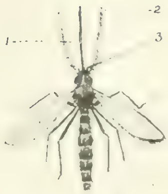


PLATE 1 MALE CULEX PUNGENS



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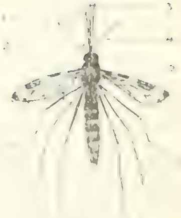

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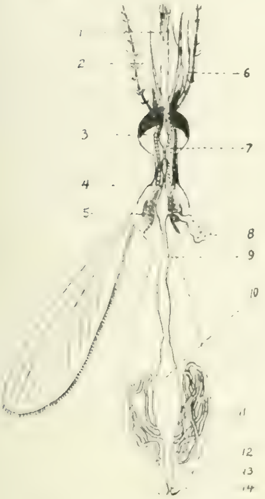
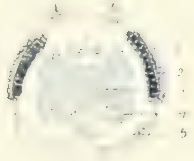


PLATE 5 [illegible] MOSQUITO



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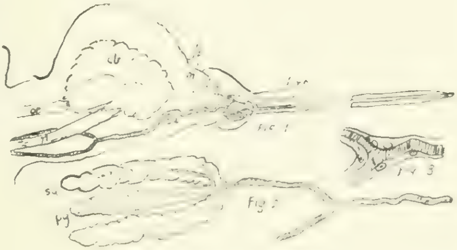

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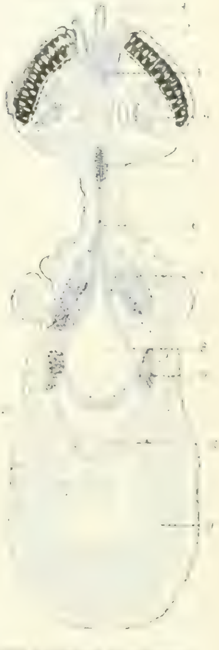

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INOCULATION OF MALARIAL FEVER THROUGH THE AGENCY OF MOSQUITOS --WOLDERT

JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION

TABLE OF GENERA OF CULICIDAE (WILLISTON).

1. Proboscis short, not longer than the head; metatarsi longer than the following joint: genus, *Corethra.*
Proboscis much elongated, longer than the head and thorax together: See No. 2 of this classification.

2. Proboscis strongly curved, palpi of the male very long, of the female very short: genus *Megarhinus.*
Proboscis straight: See No. 3 of this classification.

3. Palpi in both sexes, of equal length: See No. 4 of this classification.
Palpi in the male long, short in the female: genus *Culex.*

4. Palpi longer than the antennæ: genus*Anopheles.*
Palpi shorter than the antennæ: genus *Aedes.*

CHARACTERISTICS OF THE COMMON SPECIES OF MOSQUITOES.*

The most common species of mosquito found in the United States is the *Culex pungens.* It was the one found prevailing during October in the different sections of Texas, Pennsylvania and New Jersey, previously named. In my collection only one *Anopheles* has been caught. It was sent from central Texas—near the Brazos River—where a severe form of malarial fever was then prevailing. It belonged to the species *punctipennis* and was devoid of blood. Sections were made of it.

The following description may be made in regard to the *Culex pungens* or common—domestic—mosquito: This is of medium size, rather dark-brown body, with yellowish pubescens or fine hairs on the thorax; the legs are dark reddish, quite long; the proboscis slightly curved; and the abdomen very dark-brownish, with margins of segments whitish. The dorsal surface of the abdomen contains several circular, light or yellowish bands. The palpi in both male and female are rudimentary. (See Plates Nos. 1-3.)

Another common species of *Culex* is the *Culex triseriatus.* It is found mostly along the coast country, and is especially severe in New Jersey. It is of medium size; the body brownish in color, and on each side of the abdomen or tergum are seen several whitish triangular spots at the base of each segment; on each side of the thorax—pleura—two spots of whitish hairs are seen; the legs are very black in color.

Culex fasciatus is another common species. On macroscopic appearance it might be termed a "black mosquito." The legs are striped transversely, with whitish bands. It is of medium size, about the same as the *pipiens* of Europe. Across the proboscis three whitish bands are seen. The thorax is very black and contains a row of white spots along the dorsal line. It is found mostly in the tropics and along the coast country. Besides the above-named species, the following are also common: *Culex Consobrinus, Culex impiger, Culex stimulans* and *Culex teniorhynchus.* The *Psorophora ciliata* and *Megarhina rutila* are perhaps the largest mosquitoes.

GENERAL CHARACTERISTICS OF ANOPHELES.

I can only speak of *Anopheles quadrimaculatus* and *Anopheles punctipennis.* The three most distinguishing characteristics of these two species are: Presence of dark or brownish spots on the wings, due to a thicker growth of fine hairs in these regions; palpi as long as the proboscis; legs very long, delicate and of a solid dark-brown color. The body in both species is of a light brown color. According to Loew (1863) the *Anopheles claviger*—or *maculipennis*—occurs in North America. It must be rare. Mr. C. W. Johnson, curator of the Wagner Free Institute of Science, Philadelphia, has not been able to collect a single specimen. There is no specimen of this species at the Academy of Natural Sciences of Philadelphia, American Museum of Natural History of New York, and none obtained in North America in the collection of the National Museum at Washington. I have looked up the original reference of Loew[3]. In an address before the Society of Koenigsburg Naturalists, delivered in 1861, he said: "The comparison of the North American diptera with the European ones was rendered possible to me on a very extended scale through the study of the conclusions of Baron Osten Sacken. The comparison showed a surprisingly large number of species common to both continents. As such species common to both countries, I can name with certainty and from personal investigation the following: *Anopheles claviger* (Meigen); *Anopheles quadrimaculatus* (Say), or, according to Loew, termed *Anopheles pictus; Anopheles nigripes* (Staeg, etc.)."

The most common species of *Anopheles* found in North America are: *Anopheles quadrimaculatus* and *Anopheles punctipennis.* The *Anopheles quadrimaculatus* has been found in eight different localities of the United States, as follows: Texas, Florida, Maryland, District of Columbia, Illinois, Minnesota, New Hampshire and New York. The *Anopheles punctipennis* has been found in nine different sections of the United States, to-wit: Texas, District of Columbia, Maryland, Vermont, Massachusetts, Pennsylvania, New York, New Mexico and Illinois. Besides the above, the *Anopheles crucidus* and *Anopheles ferruginosus* have also been found in this country.

THE ANOPHELES QUADRIMACULATUS.

Plate 4 may be thus described: Body about the size or perhaps a little more slender than *Culex pungens;* body and wings dark brownish in color; four maculated brownish or dark spots on each wing, due to a thicker growth of short bristles or hairs in these areas. Three of these spots are found extending along one of the veins near the costal vein, while one is somewhat posterior to the last two spots (see Plate 4); legs very long and slender and of a solid dark-brown color somewhat lighter at the tip of the femora and tibia.

The *Anopheles punctipennis* is about the same size as the *quadrimaculatus,* but of a somewhat lighter brownish color than that of the latter. This species also has several dark or brownish spots on each wing, but these are differently distributed from those seen in the *quadrimaculatus.* In the *A. punctipennis* two of the spots are distributed along the costal vein, while there are several smaller spots irregularly placed posterior to these two larger ones; the legs are about the same length, size and color as in the latter species.

Mr. C. W. Johnson informs me that while on a collecting trip along the St. Johns River, Florida, he was severely bitten one night by the *Anopheles quadrimaculatus.* On his return to Philadelphia, two weeks later, malarial fever developed.

The *Anopheles claviger,* from the imperfect descriptions that have been given, seems to present the same general characteristics of the *quadrimaculatus* and *punctipennis,* but the dark or brownish spots on the wings are said to be four in number and distributed along the anterior nervure.

PERSONAL COLLECTION OF MOSQUITOES.

The following data regarding my collection of mosquitoes may be detailed: All that were caught in sleeping apartments, outhouses and cellars in Philadelphia during the last two weeks of September and October were the *Culex pungens.* The females predominated probably in the ratio of six of that sex to one male. Toward the latter part of October the males seemed to be more numerous. Mosquitoes caught under the bar of patients in eastern Texas, suffering from malarial fever, in the latter part of September, showed two males and five females; six were *Culex pungens* and one *Culex triseriatus.* Mosquitoes caught in east Texas, along a small ravine, at about the same date, showed ten females and two males, all being *Culex pungens.* Another lot gathered in the same territory, from wells, sleeping rooms, barns and outhouses, were all *Culex pungens.* Another collection gathered about one mile distant from this locality, but this time from the edge of an artificial lake fed by a spring, were of the same species. Specimens from central Texas, collected during the first week of October, exhibited nine mosquitoes; seven were female *pungens* and two male *fasciatus.* Another collection from the same locality, collected about the end of October, showed about twenty female *Culex pungens,* half a dozen males; and in addition about twenty specimens of *chironomus.* In this collection there was one female *Anopheles punctipennis,* which was devoid of blood. Many of the culex were filled with blood. Two mosquitoes, caught in southern Texas, from a sleeping apartment—first week of November—proved to be one male *fasciatus* and one female *pungens.* About one dozen specimens of mosquitoes from the eastern coast of New Jersey collected in the last week of October all proved to be female *Culex pungens.* Some of the latter were caught in the cellar of an old barn located about one hundred yards from a fresh water pond which never dries up; while the others were caught about one-eighth of a mile distant and on a bar hung in a sleeping room.

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*Plates Nos. 2 and 3

[3] Silliman's Journal of Science, vol. xxxvii, No. 37, p. 317, new series.

TO KEEP MOSQUITOES ALIVE.

In order to study the sporozooids—germinal threads—of the malarial parasite in the tissues of the mosquito it is essential that the insect should be kept alive for a number of days after the blood has been taken into its stomach. Creagh has stated that they thrive well on a mixture of equal parts of brown sugar and dry sherry wine, which should be renewed every two or three days. Bancroft has recommended that a banana—with rind partly removed—be suspended near them and renewed every four or five days. Following Bancroft's recommendation I placed a mosquito in a wide mouth bottle and covered it over with a thin gauze. In the bottle, about every two or three days was placed a small slice of banana, and the gauze was daily sprinkled with water. The mosquito died on the fifteenth day. Of another collection treated similarly one lived from October 28 to December 16 (or 50 days): while another one of the same collection lived until December 26 (or 60 days). The insect may frequently be seen to attack the fruit immediately upon its introduction.

THE MOUTH PARTS OF THE MOSQUITO.*

The proboscis, beak or oral armature, consists of an epipharynx or labrum—two mandibles for piercing tissues, two maxillæ or jaws and a hypopharynx. These mouth parts, when not in use, are enclosed within a scale-covered sheath called the labium. When placed together the mouth parts form a tube through which the insect sucks its food. Morphologically in man the epipharynx corresponds to the hard palate—pharynx—while the hypopharynx corresponds to the tongue, or floor of the mouth. The hypopharynx was so named by Savigny in 1816. Evidently it is an error to speak of the mosquito as "stinging" a person.

The mastax is a term applied to any masticating portion of the alimentary tract posterior to the mouth. The mosquito *Culex pungens* seems to be provided with such an organ. At least an aperture is seen forming the roof of the dilated portion of the esophagus below the pharynx (see Plate 8, Fig. 5), with radiating lines from the inner surfaces. This aperture is lined with yellow chitin, as is the outer integument—exoskeleton—of the mosquito and other surfaces derived from the ectodermal layer.

The pharynx (Plate 5, Fig. 3) in the mosquito is located near the under surface of the insect's head, and in the median line. It has an oblong or oval shape, slightly yellowish in color and lined with chitin.

The esophagus of the mosquito (see Plate 5, Fig. 9), soon after it is given off from the pharynx, dilates into a kind of pouch and then passes downward into the dilated portion of the alimentary tract, lying within the thorax. Below this point it forms a sinuous canal until the widely dilated pouch is formed lying within the abdomen (so-called stomach). The lumen of the esophagus, after entering the abdomen, has a star shape and contains granular material (Plate 10, Fig. 3).

THE VENOMO-SALIVARY GLAND.*

It seems probable that the venomo- or veneno-salivary gland in the mosquito varies somewhat in shape according to the different genera, although my experience in this matter is not sufficient to make an absolute statement, and such is subject to correction.

The venomo-salivary glands are two in number, one on each side of the insect's neck in the anterio-inferior portion of the prothorax.

Prof. G. Macloskie of Princeton University was probably the first to accurately describe this gland of the mosquito. If there be previous writers, their work has not fallen into my hands. Macloskie's specimen (see Plate 7) was dissected by Dumas Watkins, in 1888. It is thus described by the former writer: "Working backwards from the hypopharynx I found that the duct is not readily identified with a low-power microscope. It has the usual chitinous lining surrounded by the nucleated hypodermis. It is distinguished from the trachea by the comparative smallness and constancy of its diameter, and by the absence of ramifications. It runs back in the lower part of the head beneath the nerve commissure for two-fifths of a millimeter. In the throat it bifurcates into two branches, being each as long as the individual segment, and running on the right and left of the nerve cord into the prothorax, where they terminate in glands of a characteristic structure.

"The glands are in two sets, one on each side of the insect's neck in the antero-inferior region of the prothorax. Each set consists of three glands resembling in structure, but not proportionately so long as the single salivary gland on each side of the prothorax of the house fly. The third gland, that occupying the center of each set, is different, being evenly granular, and staining more deeply than the others. Its function is without doubt the secretion of the poison. Each gland is about one-third of a millimeter long and one twenty-fifth of a millimeter broad. The three are arranged like the leaves of a trefoil and each is traversed throughout by a fine ductule, the three ductlets uniting to form a common duct, which is like a pedicle of the trefoil and is one of the branches of the bifurcated venomo-salivary duct. Thus there are six glands, three on each side, two of them poisonous and four salivary, their secretion diluting the poison. I see muscles apparently inserted in the framework of this reservoir (Plate 7 *m*); but Dimmock seems to think that the hypopharynx is not furnished with muscles. However this may be, the pressure exerted on it by the surrounding parts when the mosquito inserts its piercing apparatus into the flesh or through the epidermis of a plant, being sufficient to propel the poison through the tubular axis of the hypopharynx into the wound, the reservoir must be furnished with a valve to prevent the reflux of the secretion. The poison is diluted by the secretion of the salivary lobes and the two efferent ducts, one from each set of glands, carry forward and commingle the venomo-salivary products in the main duct, and the stream is thus carried by the main duct to the reservoir at the base of the hypopharynx [tongue]." These observations were made on the *teniorhynchus* and a species of the allied genus *Anopheles*.

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*Plates Nos. 3, 5.

*Plates 7 and 8.

In my stained section (Plate 8, Fig. 7, and Plate 9, Fig. 3), it will be observed that the venomo-salivary glands of the *Culex pungens* have a different shape from that described by Macloskie, who worked with another species and another genus of mosquito. In his specimen the gland is described as being of a trefoil shape, while in Plates 8 and 9 the gland would appear to be pear-shaped, somewhat constricted in the middle. There appears not to be three lobes on each side of the insect's neck, but only one. The capsule of the gland takes a deep blue stain and contains scattered oval or round and dark nuclei. Within each gland the mucous spaces appear so arranged that the fluid is discharged into a depression in the center, and thence onward through ducts, one from each gland, they unite in front of the esophagus to form the main duct, which communicates with the mouth parts (hypopharynx). In certain areas the mucous spaces appear slightly granular, but are generally clear or glistening in aspect. Below the lobe of each gland, on either side of the esophagus, are seen (Plates 8 and 9) certain round glandular cells (gizzard) having a capsule similar to that of the salivary glands and with similar mucous spaces. They are seemingly joined to the outer wall of the esophagus, but I have been unable to trace any communication between them and the esophagus. Whether the shape or structure of the venomo-salivary gland in this insect could have any influence in storing up spores of micro-organisms I do not know. Reaumur, in the last century, believed that the function of the fluid from the venomo-salivary glands was to coagulate proteids and to promote the process of suction. It is known that the bite of the mosquito does not give rise to hemorrhage.

THE CROP.*

In dissecting the mosquito, especially in the area adjacent to the upper portion of the prothorax or pleura, there frequently comes into view a clear and glistening object composed of a delicate membrane containing air bubbles inspired during the brief interval preceding its death. Following up this body it is found to be attached to an enlarged portion of the esophagus in the thorax. This is the crop, an organ which acts as a reservoir for food. Before its relative position is disturbed, this pouch may sometimes be observed lying partly in the celom or abdominal cavity, and compressed against the anterior wall of the abdomen. In certain instances, on being drawn outward a rhythmic movement may be observed, probably due to the insertion of a small and oval-shaped muscle inserted in the neighborhood of its union with the esophagus. In one dissection this movement of the muscle was observed (low power lens), even after all the surrounding tissues including the head and neck had been removed. With each contraction of this small oval muscle a wavy undulation would be communicated to the esophagus. At intervals of about every ten or fifteen seconds the crop would contract visibly and the outer end would draw upward toward its attachment to the esophagus; finally this pouch began to make a series of quick jerks which lasted a considerable period. On detaching the esophagus the muscle still contracted, and on being dissected out was found to be attached to the tissues lying in the neighborhood of the venomo-salivary glands.

THE STOMACH OF THE MOSQUITO.*

The stomach of an insect is a term applied to a dilated glandular portion of the alimentary canal usually lying within the thorax. That which has been described as the stomach of the mosquito lies wholly within the abdomen. The esophagus, soon after it passes a point corresponding to the metanotum, begins to undergo a gradual dilatation into an oblong pouch forming the stomach. As in the case of the esophagus, the stomach is held in position by four strands of connective tissue extending from the outer surfaces in four directions and running outward through the fatty tissue toward the abdominal wall (Plate 10, Fig. 3). When the stomach is distended with blood, it occupies the whole abdominal area, and the outer abdominal wall, together with a very small amount of fatty tissue, alone remains as a protection. In this condition the Malpighian tubes are pressed downward in the median line, where they are observed to lie in bundles. In one of my sections, made through the central abdominal region—and through the stomach—the blood was found to be coagulated in a thick layer around the inner surface of the stomach, and remained a deep brownish color, while in the central cavity the degenerated products—hemoglobin, etc.—of the red cells were seen, many of which contained dark granules. In this area a few red corpuscles appeared to be normal and stained a faint bluish tint. This picture doubtless represents the products of digestion in this insect.

HISTOLOGIC APPEARANCE OF MOSQUITO'S STOMACH.*

Manson describes the histologic appearance of the stomach of the mosquito as follows: 1, an outer layer composed of ramifications of air vesicles of this insect; 2, two layers of muscular fibers, one longitudinal and the other circular; these cross each other at right angles, producing a sort of rectangular pattern; 3, beneath this a sort of structureless membrane, the mucous coat, which does not stain well—epithelial layer composed of several strata of cells.

The following description applies to the stained section (Plate 11, Fig. 2, and Plate 12) here presented: 1, an outer wall composed of a thin tunic of connective tissue containing a few deeply stained nuclei; 2, two rows of muscle cells with round nuclei; 3, a single layer of columnar epithelial cells with elliptic or rod-shaped nuclei; 4, an inner mucous (chitin) coat which does not stain well. In the third layer there appears to be more than a single layer of columnar epithelial cells, which is probably due to the folds or rugae of the stomach.

THE MALPIGHIAN TUBES.*

The Malpighian tubes of the mosquito (*Culex pun-*

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*Plate 5, Fig. 8.

*Plates 11 and 12. *Plate 5, Fig. 11.

[illegible] in my dissections, five in number. They have their origin in that portion of the stomach which joins the small intestine, and after being given off from this portion of the alimentary canal, curl upward, outward and then downward, forming various loops which are closely bound together, and finally terminate below in the region of the small intestine, in small canals the distal ends of which are closed. The Malpighian tubes were formerly regarded as hepatic or liver tubules, but Lowne thinks they go to form a hepatopancreas. By modern writers (Conklin and others) they are considered excretory organs—kidney tubules. In some instances their proximal extremity has a dark appearance due to the contained material. On cross section each tube is made up of an outer or connective tissue layer containing round, large and deeply staining nuclei, and an inner basement membrane which surrounds large cells—drain-pipe cells.

THE CIRCULATORY AND RESPIRATORY SYSTEMS OF THE MOSQUITO.

Insects have no system of arteries or veins, nor closed system of blood-vessels, and the blood flows freely among all the tissues. The circulatory system of insects is of a very primitive character, consisting of a dorsal vein open at both ends and divided into a variable number of cavities. It is situated on the dorsal surface, and in the median line of the thorax and abdomen. The dorsal vein performs the function of the heart in higher forms of life. With each pulsation of the dorsal vein, which begins at the posterior end, the blood is propelled forward into the head, and after passing backward freely among the muscles and other tissues, finally enters the body cavity—celom—and appendages. Within the abdomen the oxygenated blood circulates in close relationship with the air tubes, and in this way it becomes oxygenated while CO_2 is eliminated. No doubt there are smaller vessels by which the blood is again returned to the dorsal vein. The blood of the mosquito is colorless. I have not learned whether the circulatory system is the same in all varieties of mosquitoes, and do not know why the sporozooids of malarial fever should become stored up in one species of mosquito and not in another species.

The respiratory system of the mosquito consists for the most part of stigmata—tracheæ, spiracles or breathing tubes—the two larger of which pass downward from the mouth parts on either side of the anterior surface of the neck (Plate 5, Fig. 4), and probably have their external opening in the pleura or thorax (the forebody consisting of prothorax, mesothorax and metathorax). Ramifications of the air tubes are given off in all directions in the thorax. Spiracles are also present in the abdomen, and pass upward and communicate with the external air by oval shaped orifices, protected by muscles, placed beneath the dorsal segments or tergites.

The eggs of the mosquito are comparatively large in size, and of a round shape. They are generally found in masses and are held in position by a thin membrane almost transparent in color. They stain a deep purple with Delafield's hematoxylin solution. In certain instances karyokinetic figures were observed.

THE CELOM OR BODY CAVITY.*

The celom or body cavity of the mosquito is comparatively large. It extends from the upper limit of the esophagus above to the point where the Malpighian tubes have their origin in the lower portion of the stomach. Within the abdominal area it probably has no definite shape, depending on the amount of distention of the stomach. It is walled off from the fatty tissue about its edges by a thin but seemingly elastic membrane, from which strands of connective tissue radiate inward to become attached to the stomach. When the stomach is empty it appears to be suspended near the center of this cavity by means of these strands, and the tissue from the periphery presses inward, thus in part obliterating the celom. Within the thorax the celom is quite large. Plate 8, Fig. 8 represents a somewhat longitudinal section of the tissues about the celom.

NERVOUS SYSTEM OF INSECTS.

It has been said that insects have no true brain as the meaning implies in the case of man. Plate No. 6 (see plate) evidently shows that the mosquito possesses a cerebrum and cerebellum. Some insects seem devoid of sensation. For the most part the nervous system is made up of ganglia, the largest collection lying within the head parts. From the cephalic ganglia or brain is given off a double nerve-cord extending the entire length of the insect. From the ganglia or different segments, nerve-fibers are given off in all directions. In the higher insects the thoracic ganglia are well developed and control the vital functions.

METHOD OF DISSECTING A MOSQUITO.

There are no guides on this subject. The routine method which I followed in many dissections may be thus described: Only the fresh specimen was used. The apparatus and instruments consisted of a Zeiss dissecting microscope; a pair of forceps with extra-fine points; two extra-fine needles placed in wooden handles; normal salt solution; killing fluid, such as absolute alcohol, chloroform or hot 50 per cent. alcohol. It was found best to leave the head and neck attached to the body throughout the dissection. Several hours were consumed in each dissection. The mosquito, after being killed, was placed on the glass stage of the dissecting microscope, and a few drops of normal saline solution added, after which the wings and legs were removed close to the insect's body. To dissect out the venomosalivary gland see Macloskie's directions. A high-power lens should be used in this region. My dissections of these glands have not been entirely satisfactory. To find the esophagus, crop, stomach and Malpighian tubes is a comparatively easy task, patience only being required. Dissections should be made from above downward.

In removing the pharynx (Plate 5, Fig. 3) an incision was made in the median line of the head, cutting downward and from time to time adding normal saline solution in order to render the field clear. In searching for the crop and esophagus, the insect was caught by the remnants of the femora and the dissection was begun by laying open the upper portion of the prothorax on the dorsal surface, carrying the teasing process downward in the median line. Each individual fragment of tissue was removed, care being exercised not to exert too much force in its removal. From time to time normal saline solution was added to make the field clear of fatty particles, with which the insect was abundantly supplied. Working along the dorsal surface to a sufficient depth, a few strokes were made on the anterior surface of the thorax, when the clear and glistening crop would come into view, being recognized by its oblong or pear shape, glistening color and contained air bubbles. Following up its duct the esophagus was easily reached, being recognized by its tubular appearance, brownish color and elasticity. The esophagus was then followed downward, cutting through the scutellum. (Here some patience was required in order to prevent the head and thorax from becoming detached. As a precaution it was found best to keep the abdomen pushed well up toward the thorax so that overstretching would be prevented.) The abdominal wall was then nipped in a number of places, exercising care so as not to injure the Malpighian tubes, when the fatty whitish particles would escape in large quantity.

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*Plates [illegible] and 11

To remove the stomach and Malpighian tubes, the esophagus was followed downward by cutting through the abdominal wall and gently teasing the fragments away. From time to time, if the two outer edges of the abdominal wall were placed on the stretch, the stomach and Malpighian tubes could be recognized, the former by its oblong shape, the latter by their loops. Normal saline solution was frequently added, and by gentle teasing all the fatty particles were removed, leaving the other part enclosed within its somewhat elastic abdominal wall. To get a complete dissection, usually three mosquitoes were necessary; one for the pharynx, one for the esophagus, crop and stomach, and one for the Malpighian tubes and rectum.

Ross imbeds in celloidin. These sections were imbedded in paraffin, cut with a Minot microtome, and stained with Delafield's hematoxylin solution.

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Note.—After this paper had been compiled an interesting article by W. N. Berkeley appeared in the *New York Medical Record* for December 23, 1899, entitled "An Account of Some Personal Work on the Mosquito-Malaria Theory with Remarks upon the Present Status of the Investigation."

BIBLIOGRAPHY.

In the preparation of Part I of this article (see Journal) I have kept close to the words of Ross, Manson, Grassi and others, as printed in the *British Medical Journal* and London *Lancet*, and various abstracts of medical journals in this country, more especially to the article of W. B. James in the N. Y. *Medical Journal* for June 24, 1899. I regret that I am not more familiar with the extensive work of Koch in regard to this question. Some knowledge of the proper nomenclature of the younger forms of the sporozoa has been derived from the article by T. B. Futcher in the *Am. Jour. of The Med. Sci.*, September, 1899.

For Part II, a large list of books on entomology was consulted; but for the most part the article consists of original work, there being no guides on this subject. All the plates are from original drawings, except that of Macloskie.

Note.—Without the many courtesies extended me by Prof. E. G. Conklin of the Biologic Department of the University of Pennsylvania, this work could not have been done. My sincere thanks are also tendered to Mr. C. W. Johnson, curator of the Wagner Free Institute of Science, for his aid in classifying the mosquitoes and for correcting part of the manuscript. To the following named I am also under many obligations for favors shown: Drs. Alfred Stengel, T. C. Ely, W. L. Pyle and A. O. J. Kelly, of Philadelphia; W. J. [illegible], of New Jersey, and J. H. Sears, B. E. B. Bledsoe and Mr. J. W. Smiley, of Texas.

EXPLANATION OF PLATES.

Plate 1: Fig. 1, palpi. Fig. 2, proboscis. Fig. 3, antennæ. Fig. 4, thorax. Fig. 5, tibia. Fig. 6, abdomen. Fig. 7, foot claw. Fig. 8, front tarsus. Fig. 9, femora. Fig. 10, hind tarsus.

Plate 2: Fig. 1, proboscis. Fig. 2, antennæ. Fig. 3, palpi.

Plate 4: Fig. 1, palpi. Fig. 2, costa, or costal vein. Fig. 3, proboscis. Fig. 4, antennæ. Fig. 5, first longitudinal vein.

Plate 5: Fig. 1, labium. Fig. 2, mandible. Fig. 3, pharynx. Fig. 4, spiracle. Fig. 5, venomo-salivary gland. Fig. 6, maxilla. Fig. 7, duct of venomo-salivary gland. Fig. 8, crop. Fig. 9, esophagus at a point corresponding to the scutellum or projecting hard part of the thorax (the metanotum is the space just below the scutellum, which separates the thorax and abdomen). Fig. 10, stomach. Fig. 11, Malpighian tubes. Fig. 12, small intestine. Fig. 13, colon. Fig. 14, rectum.

Plate 6: Fig. 1, simple eye of mosquito. Fig. 2, compound eye. Fig. 3, central portion of cephalic ganglia or cerebrum of mosquito. Fig. 4, ganglion cells. Fig. 5, cerebellum.

Plate 7: Anatomy of venomo-salivary gland and surrounding parts. Macloskie's dissection (*American Naturalist*, October, 1888). Fig. 1, *du*, venomo-salivary duct with its insertion in *hy* hypopharynx; [illegible] ing [illegible]; *m*, muscle; *n*, nerve commissure, other parts removed. Fig. 2 is the venomo-salivary duct showing its bifurcation, and the three glands on one of its branches; *pg*, poisonous gland; *sg*, upper of the two salivary glands. Fig. 3 is the bifurcation of the duct, with its nucleated hypodermis.

Plate 8: Fig. 1, longitudinal section through base of labium. Fig. 2, section through palpi. Fig. 3, roof of pharynx. Fig. 4, part of cephalic ganglia. Fig. 5, mustax. Fig. 6, longitudinal section through upper portion of esophagus. Fig. 7, venomo-salivary gland. Fig. 8, celom or body cavity anterior to esophagus. Fig. 9, glandular bodies, probably gizzard. Fig. 10, longitudinal section through dorsal [illegible].

Plate 9: Part of Plate 8, greatly magnified. Fig. 1, duct of venomo-salivary gland. Fig. 2, longitudinal section through esophagus. [illegible] gizzard (?). Fig. 5, celom or body cavity.

Plate 10: Fig. 1, adipose tissue. Fig. 2, dorsal vein. Fig. 3 esophagus. Fig. 4, celom.

Plate 11: Fig. 1, [illegible] so-called stomach, showing arrangement of columnar epithelial cells with elliptic nuclei; owing to the folds of stomach it appears that more than a single row of these cells are present. Fig. 3, celom. Fig. 4, adipose tissue.

Plate 12: Part of Plate 11, greatly magnified; in this section the double row of muscle cells is near the periphery, and toward the cavity of stomach the columnar epithelial cells are depicted. Fig. 1, nuclei of muscle cell. Fig. 2, elliptic nuclei of columnar epithelial cells. Fig. 3, longitudinal section through a loop of a Malpighian tubule showing large round nuclei. The lumen of the tubule is also shown.

CLINICAL AND PATHOLOGIC NOTES ON SYMPATHETIC OPHTHALMIA.*

BY H. GIFFORD, M.D.

OMAHA, NEB.

Of the six cases of sympathetic ophthalmia which I have had the opportunity to observe in progress, only three have had features unusual enough to warrant my giving their histories.

Case 1.—F. W., aged 27, came to me Feb. 6, 1896, stating that while at work in a machine-shop, that morning, he was struck in the left eye by a piece of steel. I found the right eye normal, with vision 20/20 +; the left eye had a very small perforating wound of the cornea and lens, with the latter so opaque as to entirely obscure the fundus. Vision was equal to fingers at two feet. As there was nothing to indicate the location of the piece of steel, and the giant magnet produced no effect, it was decided to wait until the lens became entirely opaque and then extract, with the hope of being able to see the fundus. The extraction was done after about ten days, through an incision in the upper limbus. So much lens matter remained behind, however, and the process of absorption was so slow, that no view was ever obtained of the fundus. A moderate reaction followed this operation, but as the congestion was subsiding and the light sense and projection of the eye were first-class, the man was allowed to go to his home in a neighboring town, returning every two or three days for observation. On March 16 the right eye was normal in every respect; the vision, 20/15. The next afternoon, without any warning in the way of pain or irritation, he noticed that the sight of his good eye was a little foggy. He came to me on the morning of the 18th, and I found the right eye to have a very slight ciliary injection, very fine opacities, visible only with transmitted light and + 20 D., on the anterior surface of the lens; the optic disc slightly hyperemic; and a small patch of faint whitish exudate in the retina close to the temporal side of the nerve, near the horizontal meridian. There was also a small patch of exudate at the inner margin of the disc. Vision =—20/30.

Nothing unusual had occurred in the injured eye, whose congestion had been slowly but steadily lessening with good light sense and projection. The eye was at once enucleated, but in spite of this—[illegible]tions and atropin, to which the pupils responded promptly at first—the inflammation continued to increase slowly. The aqueous became so turbid and deposits on the lens so dense that no careful examination of the fundus could be made after the first day; numerous peripheral synechiæ developed, and the vision, within a week, was reduced to fingers at 5 to 6 feet. Then as the eye was steadily getting worse, the inunctions were stopped and 150 grains of salicylate given every day for three days. After this there was no change for nearly a week, whereupon the salicylate was renewed, 150 grains being given on four or five days in each week with hot applications. An improvement now set in and continued steadily until, on April 12, vision equalled 18/200. The salicylate was now stopped for several days and less atropin used, but the inflammation got decidedly worse, improving again when the salicylate was recommenced. On April 22 the vision was 20/50, and continued to improve under the same treatment until, on June 6, 1896, it was + 20/20 with the refraction corrected; and this vision has been maintained up to the present time without any relapse of the inflammation. As the inflammation decreased, the number of days in the week on which the large doses of salicylate were given was decreased; but 150 grains were taken on at least one day in each week for several weeks after the last signs of active inflammation had disappeared. On May 4, 1896, when this patient's vitreous had cleared up sufficiently to allow the fundus to be seen, a patch of retinochoroidal exudate with a small retinal hemorrhage could be seen at the nasal side of the nerve, with some new vessels in the retina, the nerve being blurred at its inner margin. Near the equator, down and out, there were a number of small, roundish, well-defined foci of choroidal atrophy, with slight rings of pigment; and other round whitish areas appearing like exudate in the retina. As the case progressed the exudate near the nerve cleared up entirely, leaving only the roundish patches of choroidal atrophy and some slight deposits on the anterior capsule to indicate the great danger through which the eye had passed.

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*Presented to the Section on Ophthalmology, at the Fiftieth Annual Meeting of the American Medical Association, held at Columbus, Ohio, June 6-9, 1899.

Case 2.—A. S., a boy of 17 years, on April 6, 1896, while trying to capture a wounded sand-hill crane, was pecked in the right eye. When seen by me on the evening of the next day, there was a large wound of the inner limbus, filled with shreds of iris and choroid, with the anterior chamber filled with blood. The chemosis was so extreme that the wound could not be examined well, and as there were strong indications of beginning panophthalmitis, the eye was simply cleansed and bandaged. The next day, under chloroform, the shreds of iris and choroid were cleared away, the bandage was renewed and full doses of salicylate were given. The improvement was quite rapid, the chemosis disappearing, the congestion lessening and the blood in the anterior chamber clearing up; so by April 22 it could be seen that the iris was nearly or completely missing; vision then being 10/200; vitreous opacities preventing a clear view of the fundus. A day or two after this he went out, got wet and caught cold. At this the eye became very much worse, the vision decreasing to fingers at six inches; with increased congestion and turbid aqueous. On April 30 the vision of the left eye, which had not been previously tested, was found to be 20/30, a little minus, and there was a very faint redness of the conjunctiva or episcleral tissue. This congestion was not a deep ciliary congestion, and as the eye was objectively normal in every other respect I unfortunately waited until the next day, when the patient for the first time noticed that his vision was a little cloudy, though the test showed the same vision as the day before; but the diffused congestion was more pronounced and a strong glass showed fine deposits on the anterior surface of the lens—not on Descemet's membrane—the nerve was perhaps a little hyperemic, but nothing decidedly abnormal could be seen in the fundus. The boy said that the night before he had severe headache. The right eye was now enucleated, and atropin and full doses of salicylate given. The membrane in the center of the pupilary space thickened, so that on May 4 the vision was only 6/200. There was considerable pain at night in the front and back of the head. May 6, 150 grains of salicylate a day having been given, the congestion was somewhat less, but soon after it became worse and the pupil slowly got smaller in spite of atropin and hot applications. This increase in the inflammation continued until about May 16, the vision being reduced to counting fingers at 1 to 2 feet. For a day or two before this the ordinary hot applications had made the eye feel worse, so flaxseed poultices were used, changed every few minutes for an hour at a time three times a day. At the same time the dose of salicylate was increased to 180 grains in the twenty-four hours. This produced a prompt and decided improvement, which continued steadily until May 28 when, after going without the salicylate for three days, taking pilocarpin sweats instead, the eye became painful and congestion again increased, whereupon the large dose of salicylate was used again on three or four days in each week and the inflammation gradually decreased until, on June 17, the eye was free from inflammation externally, vision was 8/200, a large opacity in the vitreous preventing a view of the fundus. He left the hospital in July, with the eye quiet and vision 20/70, the vitreous being still quite turbid. He has had no return of the inflammation, but when seen again after nearly a year, it was found that the lens had become quite opaque and the vision was reduced to counting fingers at 6 to 8 feet He was last seen on April 18, 1899, when the opacity of the lens was found to have increased slightly, but he could still find his way about readily; the pupil was about 6 mm. in diameter, its edges firmly adherent to the lens. An attempted iridectomy removed only the anterior layers of the segment of iris seized. It is quite possible that he may still have his vision considerably improved.

Case 3.—Mrs. E. E., aged 59, came to me May 13, 1898, with immature cataracts. The right lens was needled slightly, this being followed by considerable swelling of the lens, the upper part of the iris being pushed forward so that when the lens was extracted, the incision button-holed the iris, leaving fragments which were hard to remove completely from the angles of the wound. A very small one of these healed in at the inner angle, but when she left the city, on June 17, with vision 20/50, this seemed to be entirely covered with conjunctival epithelium, and did not project at all above the surface; the neighboring sclera, however, was slightly congested. A month later, with more accurate correction, her vision was 20/30— with the operated eye. She returned Dec. 28, 1898, stating that the right eye had been a little inflamed for a few weeks after she reached home, but since then had given her no trouble, except now and then to feel as though something were in it. About the 1st of September she got much heated and exhausted crossing a rough field and, within a few weeks thereafter, noticed that the sight of the right eye was getting poor; this was followed by decrease in the sight of the left eye, which at the time of her visit to me had had vision of —20/100. This decrease in vision has continued, although she has had no discomfort, nor to her knowledge any inflammation in either eye. I found the right eye to have a few large vessels in the neighborhood of the entangled bit of iris, but the eye was otherwise free from congestion; the pupil was freely movable and showed no signs of iritis; the vitreous, however, was full of fine opacities, and the vision with correction was only 3—5/200. The left eye showed the merest trace of deep ciliary injection below—ordinarily I should not have considered this abnormal, and am not certain that it was so. The corneal surface was slightly stippled below, with an extensive deposit of fine dots on its posterior surface. The pupil was small, nearly secluded by firm synechiæ on which atropin had no effect. Vision was equal to fingers at two feet; projection good. A sweat cure produced a slight improvement in the vision of the right eye, but there were no new developments until this spring, when, on May 6, 1899, she returned, stating that the left eye had been badly inflamed for about two weeks. I found the operated eye unchanged, but the left eye was deeply congested as far back as could be seen. Salicylate promptly relieved this, and as the tension was found to be a little high, an iridectomy was made four days before this writing. This was followed by a very little reaction, and as the sight of the eye is good considering the opacity of the lens, there is some chance that if the inflammation can be kept from returning she will eventually get useful sight in the eye.

Any one who has not seen this last case might question the diagnosis of sympathetic ophthalmia here, but I have no doubt whatever that it is one of the mild forms of this disease, and that the bit of iris in the angle of the wound of the operated eye was the starting point.

I have not completed the microscopic examination of the enucleated eyes from the first two cases. The main conditions of importance thus far found are practically identical in both; the ciliary body is densely infiltrated with leucocytes, this infiltration extending back into the choroid and suprachoroidal space, becoming more pronounced toward the posterior pole of the eye, where the posterior third of the choroid is so spread out by inflammatory products as to be five or six times as thick as normal. The evidences of inflammation, as shown by an increase in the number of leucocytes and in the connective tissue cells, is marked along the vessels and nerves penetrating the sclera from the limbus to the posterior pole of the eye, and to a slight extent in the peripheral extremity of the intervaginal space of the optic nerve. There is also a slight increase in the number of leucocytes in the vitreous, this being most marked in the ciliary region and in front of the optic nerve, the physiologic excavation of which is full of them. On the other hand, farther back in the nerve, there are no very decided evidences of inflammation along the central vessels, as my previously published experiments on rabbits would lead one to expect. In the optic nerve trunks there may be some increase in the nuclei along the trabeculæ; but this is certainly not marked enough to indicate that any germs passed this way. At one point the infiltration of leucocytes seems to have broken through the wall of one of the vorticose veins on its passage through the sclera. The retina is slightly infiltrated with leucocytes through about the anterior tenth and at several points between this and the optic nerve. Aside from this it is apparently normal. In the eye of Case 1 nothing was found of the piece of steel which originally injured the eye, and as the rather peripheral wound which was made to extract the lens was filled with a mass of leucocytes and broken up iris tissue, it is probable that the cause of the sympathetic ophthalmia was the operation wound rather than the original injury.

All of these cases indicate three points of importance; the first is the entire absence of the premonitory symptoms, such as photophobia, ciliary injection, and asthenopia, which most books still give as the warning of danger from sympathetic ophthalmia. None of these patients, nor of any of the others whom I have seen with genuine sympathetic ophthalmia, had anything of the sort. The uninjured eye felt entirely well up to the time when the appearance of inflammatory products showed that the inflammation was there and, as the event proved, in such a way as to progress steadily in spite of prompt enucleation in most of them. The second point is the importance of daily tests of vision, especially in cases which are not under the constant observation of an oculist, since in the cases in which the entire course of the disease could be watched, the failure of vision was the symptom which would first have attracted the attention of a non-expert. The third point is the value of large doses of salicylate of sodium after the disease has broken out. I had treated my other cases with atropin, hot applications and mercurial inunctions without any effect that I could determine, but the influence of the salicylate in these later cases was so marked and its result on the whole so favorable that I do not hesitate to recommend it as the most important remedy that I know for the disease. It should be noted, however, that the amount used was so large as possibly to be thought excessive by some; 180 grains in the twenty-four hours had to be given in Case 2, before the disease was checked. This was given in 15-grain doses in a teaspoonful of brandy, and the patient kept in bed while the salicylate was being taken. As the boy's weight was not over 130 lbs., a full-sized man would require at least 200 grains as a proportionate dose. Perhaps it is also worth mentioning that in Case 2, and in one other which I have seen, heat applied in the ordinary way—i. e., moderate-sized pieces of cloth or cotton wet with hot waater and changed every half minute—seemed to act unfavorably, while the greater body of heat furnished by poultices, changed frequently, seemed to do much more good. The explanation for this may be that in these cases much of the inflammation was seated so far back in the eye that the milder heat reached the deep-seated inflammation only in such a degree as to stimulate rather than to check it. I have had a similar experience in deep-seated affctions of the mastoid.

With regard to the bearing of these cases on the theory of sympathetic ophthalmia, the entire absence of the symptoms of sympathetic irritation certainly speaks against the influence of the ciliary nerves as an important factor. While the pathologic conditions, in spite of the fact that I have, as yet, found no germs in the eyes, show plainly the existence of an infectious inflammation, strongly pronounced in the posterior as well as the anterior region of the eye; passing out of the globe along [illegible] routes which might lead to the other eye; or, as indicated by the condition of one of the vorticose veins, into the general circulation. The presence of inflammatory products in the anterior chamber, simultaneously with the occurrence of retinitis at the posterior pole of the second eye, in Case 1, and before the occurrence of marked ophthalmoscopic changes at the pressure pole, in Case 2, are about what the anatomic [illegible] would lead us to expect if the disease had spread down from the cranial cavity through the intervaginal space; since from the peripheral extremity of the latter the short distance to the retina and to the optic disc is probably compensated for by the freer communication with the iris and ciliary body through the suprachoroidal space. Without pretending to have looked up the point thoroughly, I do not remember that fresh retinal exudate had previously been observed in sympathetic ophthalmia. The roundish patches of choroidal atrophy visible in the later stages, in Case 1, were exactly like those previously described by Hirschberg, Haab and others; and are simply one more indication that sympathetic ophthalmia is a diffused inflammation of the choroid as well as of the ciliary body and iris.

Whether the inflammation reaches the second eye through the optic nerve trunks via the chiasma, as first suggested by Alt or possibly by Mackenzie—the latter's language is ambiguous on this point—or through the intervaginal and subdural spaces, according to Leber and Deutschmann, or along the vessels penetrating the eye and passing through the orbit to the cranial cavity, as first suggested by me and considerably later by Gayet, or through the general circulation as suggested by Berlin, may be considered an open question. I am inclined to think that any one of these paths may at times be taken, but I firmly believe that sympathetic ophthalmia is an infectious disease caused by germs which are yet to be determined on. The main objection to the germ theory of sympathetic ophthalmia is that germs have so seldom been discovered in enucleated eyes; and none but Deutschmann has been able to produce anything like sympathetic ophthalmia in animals. Since the latter of these objections applies equally to any other theory, it need not be considered. Against the other objection may be urged: 1, that many of the eyes examined with negative results have been enucleated not for real sympathetic ophthalmia but for sympathetic irritation; 2, that the difficulty of identifying germs in the tissues with the microscope, unless they are extremely numerous, is so great that the failure to detect them is of very little value as a proof of their absence. Perhaps the most striking example of the difficulty of the microscopic determination of well-known germs in the tissues is given by the tubercle bacillus, which, in the less virulent forms of tuberculosis, is rarely discovered with the microscope, but is generally proved to exist only by inoculating the lower animals. Now, the eyes which cause sympathetic ophthalmia are generally the seat of a slow inflammation such as we should expect to be caused by a comparatively small quantity of germs and, until we have some test for them as reliable as the inoculation test for tuberculosis, it need not surprise us greatly if the germs of sympathetic ophthalmia elude our search. Furthermore, if the negative results of microscopic examinations be allowed important weight against the germ theory of sympathetic ophthalmia, they prove too much, for they could then be urged with equal justice against the germ theory of plastic inflammation in general: that is to say, if, after a wound of the eye in which no foreign body nor chemical irritant is left behind, we have a progressive plastic inflammation such as the microscope showed to have taken place in Case 2, we find no germs with the microscope, we can not urge this against the germ theory of sympathetic ophthalmia without implying that germs had nothing to do with the inflammatory sequelae of the original wound; a proposition which I think would be scouted by any modern pathologist. It seems to me that we may assume the infectious nature of sympathetic ophthalmia with the same confidence that we may assume that of syphilis or smallpox. The clinical history and the pathologic conditions are such as we have every reason, from analogy, to believe are caused only by living germs; and the fact that we have not found them simply points to the necessity for further research, without invalidating the theory.

Finally, with regard to the theory of Schmidt-Rimpler, which combines the germ and ciliary-nerve theories, and assumes that on account of the vasomotor disturbance occasioned in the well eye by the irritation in the injured one, germs which may have entered the circulation from any part of the body find a suitable environment for their development in the well eye, I must say that this is opposed to a vast amount of important clinical testimony. If sympathetic ophthalmia depended merely on the coincidence of ciliary irritation and the accidental presence of germs in the circulation, why should we never hear of sympathetic ophthalmia in the tedious ciliary irritation existing with the numerous cases of one-sided keratitis, whether of trachomatous herpes, phlyctenular or other origin? This seems to me a fatal objection to the theory, unless we add still another theoretic assumption, namely that if the germs reach the second eye through the circulation, they must come from the injured eye; either because, from the start, they were especially adapted for growth in the eye, or because through a process of natural selection in the course of their growth in the first eye, the survivors have become especially fitted to attack eye tissues in general. I do not pretend that I have any great confidence in the theory as thus elaborated, but it seems to me that without such an addition the theory of Schmidt-Rimpler will not stand the test of clinical experience.

DISCUSSION.

Dr. S. D. Risley, Philadelphia—I would like to inquire whether any member of the Section has seen a case of migratory or secondary ophthalmia where the primarily-affected eye had not been opened either by accident or disease or by operation? I have not seen such a case, a fact which seems to me to suggest that the primarily-injured eye must have contained germs which have migrated to the secondarily-involved eye. The last case reported in the paper recalls the history of one I reported to this Section several years ago. A hernia of the iris, following an injury, was immediately excised. The eye recovered without marked reaction, but in a few weeks became the subject of acute, non-suppurative iridocyclitis. The vision sunk to the ability to count fingers, but under treatment slowly improved to 20/30. Then came the onset of trouble with the fellow eye, characterized by hyperemia of the disc, followed by general fluffiness of the fundus and later by the deposition of exudate in the vitreous and on the posterior surface of the cornea. Vision failed rapidly to the ability to count fingers with difficulty, but, as the vision was so good in the primarily-injured eye, 20/30, it was not removed. The secondarily affected eye also slowly recovered normal sharpness-vision under treatment which was maintained for ten years, when the patient returned with sympathetic irritation and a cyst of the iris at the site of the primary injury, with well-marked iridocyclitis. The eye was excised.

Dr. C. W. Hawley, Chicago—I am interested in this because at the present time I have a case of sympathetic ophthalmia. Some two months ago I attempted to remove a calcareous lens from the right eye. On attempting the iridectomy the iris was found to be so degenerated that it was impossible to make one. I tried several times, and then my assistant tried. In these attempts we lost all the fluid vitreous and the eye completely collapsed. We bound up the eye until the next day, when to our surprise it had refilled, and it seemed to do nicely for some time, when she suddenly complained of loss of vision in the sound eye. I told her we must remove the old eye at once, but she did not give consent until the next morning, when we were allowed to remove it. At this time there was no apparent inflammation in the left eye and vision soon returned to 6/6. The day after the enucleation the irritation had entirely gone, but the next day it appeared again and the eye went through the various degrees of sympathetic ophthalmia. I adopted the plan which Dr. Gifford has suggested, of giving large doses of salicylate of sodium, and improvement began immediately, so that when I left home more than two-thirds of the vision had returned.

DR. D. S. REYNOLDS, Louisville, Ky.—I was somewhat surprised to hear my distinguished colleague from Philadelphia say that sympathetic ophthalmia does not occur unless the injured eye has been penetrated.

THE PRESIDENT—Dr. Risley simply asked whether any one had seen such a case.

DR. REYNOLDS—I am glad to be corrected. I am certain I have seen in rheumatic and gouty people many forms of traumatism involving the ciliary region of the eye, without perforation of the globe, in which sight gradually faded from the injured eye; and, before the completion of which ciliary irritation with increasing dimness of sight, unattended by increase of ocular tension, appeared in the fellow eye. I have seen well-characterized sympathetic irritation produce complete blindness in persons free from rheumatic or gouty taint, and in whom the injured eye was not perforated.

As to the treatment of sympathetic ophthalmia, whether irritative or infectious, wide discrimination in the choice of remedies must be exercised. In the infectious type I am sure nothing short of enucleation can offer any reasonable hope of relief to the fellow eye. In the irritative type I am sure the salicylate of sodium, and sometimes the muriate of pilocarpin, are most precious, and often efficient remedies.

As to the use of poultices and hot applications, so strongly advocated by the late Dr. Williams, of Cincinnati, and still practiced by his worthy successor, Professor Ayres, I have only to say that they have uniformly disappointed me, and I have long since abandoned them.

I have seen sympathetic irritation come on years after the removal of the fellow eye. In a patient I have in mind, a woman 26 years of age, whose eye had been removed seven years previously, and in whom there was constantly present morbid sensibility of the tissues in the orbit from which the eye had been enucleated, there were periodic attacks of irritation, with morbid sensibility to light in the fellow eye. Examination of the patient led me to suspect neuroma, such as surgeons describe as amputation neuroma. I proceeded to dissect out and remove the fused mass of tissue, and had the satisfaction of observing prompt and permanent disappearance of the sympathetic irritation in the fellow eye. Mr. George Lawson reported a case of sympathetic irritation coming on more than forty years after the injury, and in which removal of the blind eye failed to arrest the progress of the disease in the fellow eye. Other cases have been reported where persons have gone in safety for more than forty years before sympathetic irritation appeared.

DR. C. F. CLARK, Columbus, Ohio—I would like to add my testimony to what Dr. Reynolds has said concerning sympathetic ophthalmia without a break in the globe. I once was consulted in a case in which a contusion was produced by a sling-shot, and a few weeks later the child was brought to me with papillitis and iritis. This was ten or twelve years ago. I removed the injured eye and the secondary trouble subsided, leaving the patient with good vision.

DR. C. H. WILLIAMS, Boston—I would like to ask Dr. Gifford whether he has ever tried, in the early stages of sympathetic irritation, the application of the aqueous solution of suprarenal capsule? I lately had a case where it seemed as if that reduced the irritation and congestion and there was no subsequent return. It was used in the strength of about 2 grains to the dram, applied three times daily and made fresh at the time of each application. A single case does not count for much.

DR. H. GIFFORD, Omaha, Neb.—Was it sympathetic ophthalmia?

DR. WILLIAMS—Well, that is an open question. It seemed to be.

DR. S. D. RISLEY, Philadelphia—In which eye?

DR. WILLIAMS—In the eye in which the irritation developed; not the injured eye.

DR. G. E. DESCHWEINITZ, Philadelphia—In discussing this subject we should be certain whether we are discussing sympathetic ophthalmia or sympathetic irritation, for they are quite different. I have had the pleasure of making such microscopic examinations as Dr. Gifford has pointed out, and they were identical with his. I could not find evidence of the passage of microbes from one eye to the other, in any of the cases, but as Dr. Gifford has pointed out, that does not invalidate the microbic theory.

DR. MARPLE—Dr. Knapp presented a case in New York as a text for the treatment of prolapse of the iris. It caused considerable discussion and was made the special subject of discussion for one evening, as to the wisdom of pursuing the expectant plan. This past winter I had the opportunity of making the examination on the eye of a patient of Dr. Gruening, the wound absolutely limited to the cornea. The child was struck with a piece of glass which produced a transverse wound 4 mm. long on the cornea, reaching nearly to the limbus, but not wounding the ciliary region. When the child was brought in, the mother would not consent to the freeing of the iris from the wound, and it was our privilege to watch the sympathetic trouble develop in the other eye until the mother finally gave consent to have the eye enucleated. This seems to suggest that in these cases of recent prolapse of the iris it is the part of wisdom to remove it instead of allowing it to remain entangled in the wound.

DR. J. A. LIPPINCOTT, Pittsburg, Pa.—I have seen a good many cases of sympathetic ophthalmia, and my experience is not very pleasant with regard to the prognosis. I have seen some good results from the subconjunctival injections of bichlorid in physiologic salt solution. I have not used the salicylate of sodium, but shall certainly try it in a case I am observing at present.

DR. A. B. HALE, Chicago—It is not fair for us to accept any statement as to non-penetrating wound of the eye until we have very positive proof that there was no entrance of germs. I think that in all injuries of the eye, either by blunt instruments, or where there has been some abrasion of the epithelium, we should try some staining method to determine whether the epithelium is intact. I am not an adherent of the germ theory of sympathetic ophthalmia, but we should prove every step of our argument, either for or against any theory.

DR. EDWARD JACKSON, Denver, Colo.—I have had the opportunity of watching four cases of sympathetic ophthalmia, and all were from penetrating wounds. Two I saw before the appearance of inflammation in the sympathizing eye, and one within a few days after the appearance of the symptoms. In the last case the media was somewhat cloudy, but when first seen there was a very marked papillitis. In the others there was no clear evidence of trouble in the back part of the eye before the media became hazy. Three of the four cases recovered good vision. Dr. Gifford said that in none of his cases were there any of the premonitory symptoms as described in the text-books, and the same is true of mine. It is almost certain that the older descriptions of sympathetic ophthalmias have confused irritation with inflammation.

DR. C. A. VEASEY, Philadelphia—Concerning the employment of subconjunctival injections of [illegible] in [illegible] or any other affection, the experiments of deSchweinitz, reported to this Section a few years ago, proved conclusively that in almost every instance their use resulted in permanent injury to the integrity of the eyeball. In regard to the subconjunctival injections of mercuric chlorid, it has been my privilege to study [illegible] in only one case of sympathetic ophthalmia, and in this case I am quite sure no benefit was obtained from its use.

DR. H. GIFFORD, Omaha, Neb.—As to Dr. Williams' question regarding the suprarenal extract, I have not used it in these cases, but I have been disappointed with it in other deep-seated inflammation. In regard to [illegible] the [illegible] question [illegible]

If I saw a case of sympathetic ophthalmia I would not remove the first eye if it had useful vision. On the other hand, if the injured eye has no vision, or it is very low, it is wise to enucleate at once, since statistics plainly show that enucleation increases the chance of vision, even when it is done late.

THE VALUE OF CYCLOPLEGIA IN OPTOMETRIC EXAMINATION.[*]

BY C. M. CULVER, M.D.

ALBANY, N. Y.

This paper is, at least in part, deduced from a review of the records of examination of 1000 eyes of my own patients, in private practice, in which artificial cycloplegia has been purposely produced for the sake of optometric examination. The case records of 5257 of my first private patients have been required in order to have the desired data concerning 1000 eyes. Of the cases in which cycloplegia had been produced for the purpose of optometric examination, 19.7 per cent. were unfit for use in the preparation of this paper, because of the incompleteness of my novitiate records, which incompleteness prevented the desired comparison of the seeming static refraction, before cycloplegia, and that found during cycloplegia. The number of eyes, the records of whose examination are trustworthy—1000—was chosen partly because of the facility of computing percentages from that number and partly because time for reviewing a greater number was not found. The usual effect of cycloplegia, showing itself as an increase in the discoverable amount of hyperopia or decrease in the strength of a concave lens necessary to enable the myopic eye to see well, has, in this paper, been called a gain. In some cases the opposite effects were obtained; that is, the hyperopia has appeared less or the myopia more, during cycloplegia, than before it was produced; such eyes have been accounted as furnishing a "loss." Of the 1000 eyes, 89.9 per cent. furnish gain, 4.5 per cent. furnish loss and 5.6 per cent. neither gain nor loss. These percentages may have been affected by the fact that the examiner is apt to use a deal of effort and patience to bring the manifest hyperopia as nearly as possible to the total before having recourse to artificial cycloplegia. A gain of any amount of corrigible astigmatism has been estimated at half that amount, numerically, since a unit of gain, at right angles to the cylinder-axis, seemed to need to be averaged with the zero in the direction of the axis; which average seemed fairly stated as one-half the sum of the two. The rays entering an eye are proportionately more refracted as they are farther from the line of vision. This is partially or wholly explanatory of the 4.5 per cent. of cases in which cycloplegia resulted in what has here been called loss. It has been sought to eliminate the influence of existing fundus inflammation, in the cases reviewed, since the effect of no cycloplegic drug can neutralize the effect of such inflammation. Acting on the instruction of Dr. Edward Jackson and the corroborative testimony of Dr. Florence Mayo's investigations, it was assumed by me, years ago, that the instillation of a 2.5 per cent. solution of the hydrobromate of homatropin, in an eye, six times, at intervals of five minutes, will produce cycloplegia within an hour from the time of the first instillation. Such cycloplegia has not always resulted. In a few cases the instillation of the cycloplegic solution needed to be continued. In 14 cases of the 1000 eyes under consideration, the eye whose cycloplegia had been so sought could read Jæger's No. 2, at 24 cm., an hour after the time of the first instillation. In some of such cases the incompleteness of the cycloplegia may, perhaps, be explained by the carelessness of the person who made the instillations, although the attendants who have been entrusted with the use of the cycloplegic have usually been carefully taught, by the examiner or some experienced attendant, in the method of its use.

The total gain in the 1000 eyes was 640, 732 diopters; the total loss was 13,875 diopters; total, 626,857 diopters. Hence, average gain was .6268 diopter. There were 799 of the eyes which furnished gain, 44 loss, and 157 neither gain nor loss; 299 eyes furnished a gain of .5 D. or less; 218 gain of more than .5 D., but less than 1 D.; 96 a gain of more than 1, but less than 1.5 D.; 45 a gain of more than 1.5 D., but less than 2 D., and 17 a gain of more than 2 D., but less than 2.5 D.; 14 furnished a gain of more than 2.5 D., but less than 3 D.; 7 a gain of more than 3 D., but less than 3.5 D., and 2 a gain of more than 3.5 D., but less than 4 D. None of the eyes furnished a gain between 4 and 5 D.

One eye furnished a gain of 5.5 D. It was the *right* eye of a girl with slight convergent strabismus, whose *left* eye furnished a gain of 3.5 D. She was 11 years old when examined, in 1894; the use of Dr. Casey A. Wood's ophthalmic discs, No. 342, one hour, raised the hyperopia of the right eye from 2.5 to 8 D., that of the left from 2.5 to 6 D.; each eye was astigmatic, the right by .75, the left by 2.25 D.; this amount of astigmatism was common to each eye before and during the cycloplegia. It seems worthy of note that, in each of these eyes, the obtainable acuteness of vision was greater during than before cycloplegia; that of the right was increased from less than 6/9 to 6/6 of Snellen's standard, and that of the left from less than 6/21 to 6/12 of Snellen's standard, by the cycloplegia, or, at least, during it.

Forty eyes furnished a loss of .5 D., or less; 2 a loss of more than .5, but less than 1 D.; 2 a loss of more than 1, but less than 1.5 D., and none of the eyes furnished a loss greater than 1.5 D. None were those of persons less than 5 years old; 31 eyes of persons from 5 to 10 years old gave an average gain of 1.05 D.; 92 eyes of persons from 10 to 15 years old gave an average gain of 0.75 D.; 225, of persons from 15 to 20 years old, gave an average gain of 0.56 D.; 228, of persons from 20 to 25 years old, gave an average gain of 1.219 D.; 160, of persons from 25 to 30, gave an average gain of 0.58 D.; 128, of persons from 30 to 35, gave an average gain of 0.664 D.; 101, of persons from 35 to 40, gave an average gain of 1.05 D.; 25, of persons from 40 to 45, an average gain of 0.54 D.; 7 were those of persons between 45 and 50 years old, and gave an average gain of 0.446 D.; 3 were those of persons between 50 and 55, and gave an average gain of 0.125 D.

In a few cases I have found more hyperopia evident some time after cycloplegia than before or during it. Case 5231, a woman, 23 years old, had 100 per cent. of visual acuity, according to Jackson's standard, with each eye, without a glass or with convex, spheric .75 D., the ciliary muscle being normally contractile, on Sept. 10, 1895. On October 2, 2.5 per cent. solution of hydrobromate of homatropin was instilled in each eye, as described above. Seventy-three minutes after the first instillation, each eye had the same visual acuity—100 per cent. Jackson—with each convex, spheric 1.25. On May 26, 1899, each eye had the same visual acuity as on the former dates just given, with each convex, spheric 1.75. How this is to be explained, since no disease was found in either eye at any of the examinations, is a question I ask—not answer. Another similar experience is somewhere recorded in my case records, but the time to seek its history has not been found.

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[*] Presented to the Section on Ophthalmology, at the Fiftieth Annual Meeting of the American Medical Association, held at Columbus, Ohio, June 6-9, 1899.

Experience with the 1000 eyes in question has helped lead to the conclusions:

1. A solution of 2.5 per cent. of homatropin hydrobromate, instilled six times, at intervals of five minutes, provides trustworthy cycloplegia in the average, healthy human eye, in from one to three hours from the time of the first instillation; usually in an hour or ninety minutes.

2. As a rule the protracted use of a 1 per cent. solution of the sulphate of atropin is no more effective, as a cycloplegic, than is the 1:40 solution of the alkaloid above mentioned.

3. In 10 per cent. of patients consulting an ophthalmic surgeon, it is desirable to produce artificial cycloplegia. In such cases the production of cycloplegia is inevitable, if the examiner will provide refractive correctives that shall afford the patient the *best* service.

DISCUSSION.

Dr. Edward Jackson, Denver, Colo.—My experience with homatropia is that it is as reliable as any other mydriatic. I have used it for fifteen years, chiefly for private practice; and the other mydriatics in hospital work. So I have been able to compare the results obtained, and testimony of that sort is worth more than single failures of the drug to produce mydriasis. There is no mydriatic that has not failed me at times, but it has happened just as rarely with homatropia as with any other. With reference to cyclopegics, the idea that they are chiefly valuable in revealing hypermetropia is a mistake. The assistance they give in measuring the astigmatism and in showing the exact amount of anisometropia is their greatest value. Any of you will find, if you study your cases of hypermetropia carefully, that the amount which is latent is not constant in any case. It is not constant for a week, perhaps not even an hour, and if you are testing the two eyes without a mydriatic, you may get all the hypermetropia manifest in one eye and fail to get it manifest in the other, so that you are constantly liable to make a mistake between the two eyes. In the cases I have seen, where the correction has been made without a mydriatic, and I have afterward reviewed it with a mydriatic, the greatest fault often has been in the inequality of the amount of hyperopia left uncorrected; I am sure a low anisometropia of that sort gives quite as much trouble as a low anisometropia that has always existed.

Dr. E. J. Bernstein, Baltimore, Md.—I have been using homatropin for six years, and just this year I have had a number of instances of poisoning, or rather of constitutional effects. I have used only a 1 per cent. solution of Merck's salt, and use a drop in each eye every ten minutes until full mydriasis occurs.

Dr. Cassius D. Westcott, Chicago—One of the chief advantages of atropin over homatropin is in the fact that when we use atropin we make repeated examinations on different days. I quite endorse all that Dr. Jackson has said and especially that it is not so important to bring out all the hypermetropia as it is to estimate the astigmatism accurately, and to find out the difference between the two eyes. I too have observed the constitutional symptoms from homatropin more during the past year than ever before.

Dr. W. T. Bacon, Hartford, Conn.—I can not see why Dr. Bernstein should have toxic symptoms with his homatropin if he uses it correctly, and by that I mean allowing the drop to flow slowly over the cornea, instead of putting it in the lower cul-de-sac, and directing the patient to hold the finger over the lacrimal sac. I have had constitutional symptoms but once in the last twelve months. I think the Doctor has struck a lot of cases that probably had an idiosyncrasy against mydriatics. I have had a case where 1 drop of duboisin produced fainting inside of a minute and a half after it was used, and the patient was a powerful young man. I was not sure it was the duboisin at first, and tried it the second time, but I have no desire to try it a third.

Dr. H. Moulton, Fort Smith, Ark.—I wish to call attention to scopolamin, which is a most valuable compromise between atropin and homatropin, and I believe it is a reliable remedy. I have been using it in the strength of 1/10 of 1 per cent., repeated every ten minutes. At the end of an hour the examination may be made. I have found that in cases in which I had used homatropin thoroughly I was able to bring out a still higher degree of refractive error by the use of scopolamin.

Dr. W. L. Pyle, Philadelphia—Cases of poisoning from homatropin are certainly rare, and I have never seen a case except in a series that occurred to me, and in that instance I found I was not using the pure drug. I would suggest that likely such was the trouble in Dr. Bernstein's cases, as I understood him to say that they all occurred in one series.

Dr. Geo. F. Keiper, Lafayette, Ind.—In regard to the use of scopolamin, the chemists have decided that that drug is nothing more than an impure atropin.

Dr. B. A. Randall, Philadelphia—There is one point in regard to the use of mydriatics that has not been brought out, though urged by some of us for many years, and that is the superior value of hyoscyamin for many cases. It obtains its full power in less time than atropin, and retains it some seventy hours after the last instillation, with a thoroughness and completeness that is not equalled, and then has only some fifty hours of the trying stage of returning accommodation.

Dr. H. M. Starkey, Chicago—It has been a great pleasure to me to hear Dr. Culver's paper. There has been so much pernicious writing by certain ones in high authority, against the necessity of the use of cycloplegia in these examinations, that it is a distinct advantage to have a clear exposition of some reasons why those writings are pernicious. Each passing year with me but increases my distrust of optometric examinations made without cycloplegia. Twenty years ago, cycloplegia did not seem one-half the importance it does to-day.

I am also glad to hear of Dr Moulton's experience with scopolamin, since a drug that will produce certain results with a minimum of inconvenience to patient and physician, should be welcome. Scopolamin has been in daily use in my practice, both private and dispensary, for more than four years. For optometric examinations, it is employed half a dozen times where all other cycloplegics are used once, and because it is reputed to have less tendency than atropin to induce glaucoma, it is chosen in many cases of iritis in elderly people, and when for any cause there is fear of increasing the tension of the eyeball. In the many hundreds of cases, in which my associate, Dr. Mann, and myself have used this drug, we have seen no serious nor even annoying symptoms produced. There is rarely a little flushing following its application, but that is the extent of the unpleasant action observed. The advantages in its use, that have appealed to us, are its safety, its certainty, its convenience and its cheapness.

As to safety, after using scopolamin for so long a time and in so many cases, we feel as safe in its use as we can in any remedy whatever. While at least one case has been reported where its exhibition was quickly followed by an attack of glaucoma, we have not in any case noted any tendency on its part to cause increased tension. It is not conceivable, however, that any drug which dilates the pupil can be entirely free from such tendency. As several observers have reported unpleasant and even alarming symptoms after using scopolamin for cycloplegia, it may be of interest to note just how it is used by us. The strength of the solution employed is 1 grain to the ounce—1/5 of 1 per cent. solution—this being sufficiently strong for all purposes. We experimented with weaker solutions, but did not find the results uniform. This solution should be reasonably fresh, as it seems to deteriorate when exposed frequently to the air. We get an ounce of the solution at a time, which lasts several weeks, but we take from this bottle, into another smaller bottle, sufficient for a few days, and the larger bottle is opened but once in three or four days. The dropper used has a small tip so that it gives off a minute drop. One of these small drops is instilled into each eye, the punctum being everted for a few seconds to promote absorption and to prevent washing into the nose with the tears. While still standing before the patient, another drop is usually instilled into each eye, [illegible] is allowed to go at his pleasure, returning any time after [illegible].

[illegible] we have come to regard scopolamin, used in [illegible] as producing a certain and complete cycloplegia in [illegible] as will [illegible] last two days. We have had a few [illegible] was incomplete when using weaker [illegible] the examination was [illegible] on two [illegible] about the same time from such [illegible]. But with a fresh solution of 1-5 of 1 per cent. [illegible] I do not think we have had more than three or four [illegible] in these [illegible] further use of the drug completed the cycloplegia. It is well known that in certain cases atropin must be continued longer than two days to completely paralyze the accommodation. It is much more certain than homatropia which, while usually reliable, will fail to produce complete relaxation in from 2 to 4 per cent. of all cases.

As to convenience, nothing could be more simple for the ophthalmologist than this single instillation, and it is also a great convenience to be able to make a preliminary examination and then one hour later to complete the examination with full paralysis of accommodation. To the patient also the assurance that the eyes can be used again in two or three days, instead of being at rest for a week or two, as with atropin, is frequently a determining factor in allowing cycloplegia to be induced. The effect of scopolamin will always have passed by the third day, frequently by the second, and rarely on the next day the patient can read again.

The cost of cycloplegia with scopolamin is insignificant, one gram costing about 35 cents, and being sufficient for two or three hundred patients.

Dr. A. R. Baker, Cleveland, Ohio—Since our worthy Chairman first introduced the use of ophthalmic discs, I have had no trouble with poisoning or unreliable drugs, and we are very much indebted to him for this addition to our armamentarium.

Dr. C. M. Culver, Albany, N. Y.—I have not had any toxic effects from homatropin. That may be partly due to the fact that I follow Dr. Risley's suggestion, made five years ago, that any person using a cycloplegic should press the finger on the canaliculi to prevent or to lessen general absorption. I do not see why we need a compromise. If homatropin will do the work, and the patient can return to his duties within forty-eight hours, there is no necessity for a compromise.

CONTRIBUTIONS OF THE MEDICAL PROFESSION TO GENERAL LITERATURE AND COLLATERAL SCIENCES.*

BY GEORGE R. HIGHSMITH, M.D.

CARROLLTON, MO.

(Concluded from p. 280.)

Coming down to this day and generation, we have marked wealth of material.

Oliver Wendell Holmes was beyond a doubt the foremost contributor to literature and science from the ranks of the medical profession, during the past fifty years. He combined high scientific attainment with the greatest versatility and the rarest literary genius. He was equally at home among the dry bones of anatomy, within the glow of the crucible, or amid the revelations of the microscope; as a biographer, romancer, novelist, philosopher and poet, he takes high rank. Dr. Holmes' works are known and read of all men, consequently further reference is unnecessary.

Thomas Henry Huxley, 1825-1895, graduated from the medical school at Charing Cross Hospital in 1845, was appointed assistant-surgeon on H. M. ship *Victory;* then served as assistant-surgeon on the ship *Rattlesnake*. In 1851 he was elected a Fellow of the Royal Society. In 1860 he began his lectures on the "Relation of Man to the Lower Animals," in which he adopted Darwin's theory of evolution. He is too well known to require an extended notice.

Sir John Kirk, born in 1833, received his degree of M.D. from the University of Edinburgh, served on the civil medical staff during the Crimean War, and was medical officer and naturalist for the second expedition of Dr. Livingstone. Dr. Kirk wrote a "Report of Geological Discoveries in East Africa," and was knighted in 1881.

Samuel Kneeland, born in 1821, practiced until the beginning of the Civil War, then served as surgeon in the U. S. Army until 1865. In 1866 he was made professor of zoölogy in the Massachusetts Institute of Technology. Dr. Kneeland wrote "An American in Iceland," and "Wonders of the Yosemite."

Joseph Leconte, born in 1823, graduated from the College of Physicians, in New York, in 1845. He practiced medicine in Macon, Ga., until 1850, when he went to Cambridge and studied under Agassiz. Since 1859 he has been professor of natural history in the University of California. His works are "Mutual Relations of Science and Religion," "Sight," "Elements of Geology," "The Agency of the Gulf Stream in the Formation of the Peninsula of Florida," "The Correlation of Vital with Chemical and Physical Forces," "The Great Lava Floods of the Northwest," "Structure and Age of the Cascade Mountains," etc.

Joseph Leidy, 1823-1891, graduated at the University of Pennsylvania in 1844. He practiced medicine and taught anatomy, serving through the Civil War as an army surgeon. In 1871 he became professor of natural history in Swartmouth College. Dr. Leidy wrote more than a hundred papers on biology and kindred subjects.

Henry Morley, 1822-1894, graduated at King's College, London. In 1844, he located at Madley, Shropshire, where he practiced until 1848. He is the author of two volumes of "Fairy Tales," and "English Writers before Chaucer," etc.

John S. Newberry, 1822-1892, graduated at Cleveland (Ohio) Medical College, in 1848. He practiced medicine in Cleveland until 1855, when he was appointed assistant-surgeon to the U. S. Survey of Northern California. During the Civil War he was connected with the U. S. Sanitary Commission. After the war he became professor of geology in Columbia College, New York City. In 1869 he was appointed state geologist of Ohio. He contributed many papers on natural history and geology, the most of which are to be found among government reports and reports of New Jersey and Ohio.

Robert G. Latham, 1812-1888, studied medicine and became assistant physician at Middlesex Hospital. He lectured on forensic medicine and materia medica. His works are "Norway and Norwegians," "Varieties of Man," "The English Language," "Nationalities of Europe," "A New Edition of Johnson's Dictionary," and "Russian and Turk from a Geographical, Ethnological and Historic Point of View."

Herman August Hagen, 1817-1893, graduated in medicine in Koenigsberg, and practiced medicine for several years in his native land. In 1867 he came to Cambridge as assistant to Professor Agassiz. In 1870 he was made professor of entomology at Harvard. He is the author of several works on entomology.

Herman Helmholtz, 1821-1894, graduated in medicine at Berlin and was attached to one of the hospitals. He afterward served as surgeon in the German army. Among his works are "Preservation of Force," "Theory of Impression of Sound," "Sensation of Tone as a Physiological Basis for the Theory of Music" and "Popular Lectures on Scientific Subjects."

Sir Joseph Dalton Hooker, 1817-1892, was assistant-surgeon to the expedition of Sir James Ross, fitted out by the English government to investigate terrestrial magnetism in the circumpolar seas. As a result of his researches during this voyage he published several volumes on "The Botany of the Auckland Island, New Zealand and Tasmania." In 1847 he went to India to investigate the plants of tropical countries. In 1851 he published the result of this expedition in two interesting volumes on "The Botany of India." In 1868 he delivered several popular addresses indorsing the Darwin theory of evolution. In 1877 he was created "Knight Commander of the Star of India." In that year he visited the United States and was cordially received by scientific circles in this country.

Benjamin Franklin Hough, 1822-1885, practiced medicine for many years in Sommerville and Albany, N. Y. In 1862 he entered the U. S. Army, as surgeon. At the close of the Civil War he was attached to the forestry division of the U. S. Department of Agriculture. The most of his literary work is found in reports of this Department, the most important being "The Influence of Forests on Climate and Rain-fall."

John Percy, 1817-1889, was a pupil of Sir Charles Bell. He practiced medicine for several years at Birmingham, England. In 1851 he was appointed professor of metallurgy in the Royal School of Mines. He is the author of "The Art of Extracting Metals from their Ores, and Adapting them to the Various Purposes of Manufacture." In 1877 he received the "Bessemer Medal" for his works on iron and steel.

Sir Benjamin Richardson, 1829-189 , received several gold medals for essays on medical subjects. He is the author of a novel, besides other contributions to general literature. He was knighted in 1893.

Samuel Smiles was born in 1813, at Haddington, Scotland, and practiced medicine in his native town for several years. He retired from practice to become editor of the *Leeds Times*. "Self Help," by Samuel Smiles, is well known. He has been a frequent contributor to the *Quarterly Review*.

John Aston Warder, 1812-1883, graduated at Jefferson Medical College, Philadelphia, in 1836. He located at Cincinnati, Ohio, in 1837, and practiced his profession until 1855, when his literary work compelled him to give up his practice. He gave much attention to educational matters; he was a member of the Board of Education of Cincinnati, and served on the State Board of Agriculture, and did much to develop an interest in landscape gardening. From 1850 to 1854 he published *The Western Horticultural Review*, and after that, for several years, *The Botanic and Horticultural Review*. He contributed extensively to periodicals, and published several works pertaining to medical, agricultural and horticultural sciences. In 1873 he prepared the official report for the United States Government, on "Forest and Forestry," for the "World's Fair" at Vienna.

George Engelman, 1809-1884, was born at Frankfurt-on-the-Main, and died in St. Louis, Mo., in 1884. Many members of this Association enjoyed his personal acquaintance. He entered the Univerity of Heidelberg, in 1827, and pursued his studies there for one year. He then went to Berlin, where he stayed two years; then to the University of Wurzburg, where he took the degree of Doctor of Medicine in 1831. His inaugural dissertation for the medical degree related to philosophic botany, mainly to the structure of monstrosities and aberrant forms of plants. Although produced so early in his career, it is still held to be one of the most philosophic works of its kind. It was published in 1832, under the title of "Antholysi Prodomus," and was much admired by the poet-philosopher, Goethe. The spring and summer of 1832 was spent in Paris, where he had Braun and Agassiz for companions. According to Engelman's statement, in reference to the time, they "led a glorious life in scientific union." In the winter of 1832 he came to America, and for three years was engaged in looking after some business interests for some relatives in Germany. In 1835 he established himself in the practice of medicine in St. Louis. In 1840 he formed the acquaintance of Dr. Asa Gray, then the most distinguished botanist in the United States, and a friendship was begun which was only broken by death. Dr. Engelman was successful both professionally and financially, as a physician, and during his latter days he was able to examine the living floras of the mountain regions of North Carolina and Tennessee, the Lake Superior region, the Rocky Mountain region and the adjacent plain, and the Pacific Coast. He was one of the principal movers in the inauguration of the National Academy of Science, his name appearing first on the roll. He was the originator of the movement to form the St. Louis Academy of Science, and naturally became its first president. The membership showed their appreciation of his scientific work by electing him president no less than sixteen times, the last but a few months before his death. In 1887, his published works were collected and published in one quarto volume of 508 pages, and 103 full-page plates, with the title, "Botanical Works of George Engleman, Edited by Wm. Trelease and Asa Gray." Dr. Engleman's associates, and also his published writings, testify to his acuteness in observation, indomitable perseverance in investigation, his critical judgment, and a rare openness of mind, which prompted him to continually revise his old conclusions in the light of new facts or ideas. As a physician, Dr. Engelman had a large patronage, and was a very busy practitioner almost to the end of his life, yet he accomplished more in the field of botany during his leisure moments and occasional vacations than many who have devoted the whole of their lives to the work.

Jose Rizal, who died in 1896, a physician, scholar, novelist and poet, was born in Manila, P. I., of native parents, graduated at the University of Madrid as Doctor of Medicine and Philosophy, and afterward studied in Paris, Heidelberg, Leipsic and Berlin. He then returned to Manila, where he published a novel which dealt so severely with the corruption of the church on the Islands that he was banished by the Spanish government. After visiting the United States, Rizal went to London, where he devoted himself to further study and published another novel. He then practiced in Hongkong for some time, and finally went to Borneo, intending to found a colony of Filipinos. Returning to Manila to recruit for his colony, he was seized and imprisoned on the Island of Dapitan. After he had been four years on the island, all the time under surveillance of his Spanish guards, another insurrection broke out in the Philippines. He was taken to Manila, charged with inciting the uprising and condemned to be shot. Many humane Spaniards and Spanish newspapers protested against the shooting of Rizal. One hour before his death he married his betrothed, a beautiful Irish girl. As an illustration of the refinement of Spanish cruelty, his own countrymen were compelled to do the shooting. Back of the row of Filipinos stood Spanish soldiers ready to cut them down if they faltered in their cruel work. "Never," said an eye-witness, "never shall I forget that awful morning, nor the horror-thrill that came with the report of the cracking rifles, as his man-

[illegible] lady [illegible] in the public promenade, amid the jeers of Spaniards and natives." The day before his death Rizal wrote a poem which was his dying message to his native land, one stanza of which I quote:

> Farewell, adored Fatherland, our Eden lost,
> Farewell, O sun-adored region; Pearl of the Eastern sea;
> Gladly I die for thy dear sake. Yea, thou knowest well
> Were my sad life more radiant far than mortal tongue could tell,
> Yet would I give it gladly, joyously for thee.

In France and Germany he lived among the peasants for months at a time, for the purpose of studying their characteristics. He came to the conclusion, at last, that all the human races are different in their outward habits and their build, but not in their psychology. White, brown, yellow and black feel and are controlled by the same passions and emotions. He repudiated the doctrine that there are races of limited capabilities, that can never rise to the level of the Europeans. His execution was on Dec. 30, 1896.

I have refrained so far from referring to those who have been educated for physicians and taken a degree in medicine, but have never engaged in active practice for any great length of time, yet have gained reputation in other pursuits, especially in literature and science. Among these I mention Tobias Smollett, George Crabbe, John Locke, Oliver Goldsmith, J. G. Holland, Ernst Haeckel, Hayden, John Keats, Asa Gray, and others too numerous to mention.

Among those who are now living and active contributors, I may mention A. Conan Doyle and S. Weir Mitchell; their names have not yet passed into history, but their fame is secure.

The medical profession has not only gained a conspicuous place in literature and science by original work and investigation, but has won such a place in general esteem as to attract the admiration of the professional literati. Some of the most lovely and lovable characters introduced into recent fiction are physicians, viz., Dr. Lydgate in "Middlemarch," Dr. Jekyll in "Dr. Jekyll and Mr. Hyde," and Dr. MacLure in "Beside the Bonnie Briar Bush."

Besides filling no inconsiderable niche in general literature, the fields of mental and moral sciences, chemistry, botany, zoölogy, physiology and natural history have been especially enriched by contributions from physicians. The facts on which Darwin's theory of evolution is based would be very meager indeed without the contributions furnished by the medical profession. That poetry and the natural sciences should be especially attractive is not to be wondered at, when we remember that the physician's professional work brings him face to face with Nature. The physician who has been engaged in the practice of medicine for several years, especially in the country, who does not love blue skies, green fields and running brooks, gorgeous sunsets, mellow twilights and fair dawns; the song of birds, the hum of bees and the prattle of children; who is not able to appreciate Nature in all her moods, and as the poet expresses it, find "songs in trees, sermons in stones, books in running brooks, and good in everything," has lived but to little purpose.

Cocain in Herpes Zoster.

Bleuler writes to the *Neurol. Cbl.* of Nov. 15, 1899, that he has treated and cured 23 cases of herpes zoster with a 1 per cent. salve of cocain in equal parts lanolin and vaselin. The pain and spread of the disease are arrested at once, and the cure is complete in eight to ten days.

Clinical Report.

FOREIGN BODY IN URETHRA.

BY L. M. GREENE, M.D.

BETHEL, VT.

On Aug. 3, 1898, I was called to a neighboring town to operate on a man, 43 years of age, suffering from a foreign body in the urethra. Nine days previously, while manipulating the inside of his penis with a lead pencil, it escaped into the urethra. After five days, being unable to urinate, and suffering severely from pain, his physician was called, and attempted to pass a catheter, which was arrested at the proximal extremity of the pendulous urethra. I found an enormously swollen scrotum, with extensive extravasation of urine throughout the perineal and pubic regions, extending to Poupart's ligament. There was a constant dribbling of urine from the penis, none having been passed naturally during the nine days. The man was suffering extremely, temperature 103, pulse 120. With the assistance of the attending physician, Dr. F. E. Steele, and Drs. C. C. Smith and O. D. Greene, under ether and in the lithotomy position, an incision was made from one inch anterior to the anus well into the median raphe of the scrotum. A large quantity of offensive-smelling, decomposed urine, pus and blood followed the knife. The point of the pencil was found two inches anterior to the anus. It was a large-sized lead pencil with a metallic head; 6½ inches in length. It had been introduced head first, passing the length of the pendulous urethra where it ulcerated through into the ischiorectal fossa of the left side.

A large metallic catheter was then passed into the bladder through the penis, and a quart or more of decomposing offensive urine removed. The bladder and wound were thoroughly irrigated with bichlorid solution, 1 to 4000, the metallic catheter changed for a gutta-percha one, and the lacerated, ulcerated urethra trimmed and sutured over it with chromicised catgut. After-treatment consisted of a daily washing of the wound and bladder, and packing of the wound with iodoform gauze. The wound was left open throughout its extent. After two weeks the catheter was removed from the bladder and a soft rubber one introduced daily, for irrigation. At this time the urine mostly passed naturally, only a slight leakage occurring in the wound. At the end of eight weeks the perineal and scrotal wound had healed. A metallic sound, No. 26 French, was passed daily. No urine escaped through the perineal wound after the end of six weeks. A sound was passed for three months, from once a week to once in two and three weeks. At the present time the man is in perfect health, with his habit of masturbation probably cured.

Therapeutic Application of Clabbered Milk.

The *Archives Orientales*, December, 1899, contains a communication from Dr. Paschayan describing the fine results obtained in gastro intestinal affections by the exclusive use of sour milk. The Kurds give it exclusively in acute enteritis, curing the patient in three or four days without other medication, and our Turkish confrère has been using it since 1888 with remarkable success in many cases. One young man affected with "putrid dyspepsia" for over a year had consulted numerous physicians and tried all kinds of food and medication, but was unable to digest or retain anything on his stomach. "Instructed to eat nothing but clabber, his vomiting ceased from the first day and he rapidly recovered, until by the end of two months he could eat and digest apparently normally." Paschayan also gives it as a drink to typhoid patients.

Therapeutics.

Treatment of Diphtheria.

Dr. H. B. Sheffield, in the *N. Y. Med. Jour.*, says *Merck's Archives*, recommends the following procedure in the treatment of this disease:

1. Endeavor to subdue the hyperemia and excessive exudation in the throat in order to avoid respiratory obstruction.
2. Destroy at the earliest moment the diphtheria bacilli at the point of entrance in order to prevent the excessive formation and inmediate absorption of the diphtheria toxin.
3. Increase the power of resistance of the patient, and administer such remedies as will combat or neutralize the toxic substances, thus preventing their dissemination in the internal organs of the body.
4. Promote the action of the lymphatic system, kidneys and bowels in order to eliminate rapidly the poisonous products.

In following Nos. 1 and 2, germicides must be used, but care must be exercised that they do not act simultaneously as active escharotics. The author applies to the throats of his patients, by means of a cotton swab, a combination of carbolic acid and camphor dissolved in alcohol and glycerin, together with papain as a solvent for the membrane. Eight grains each of the carbolic acid and camphor are used in a two-ounce solution. The throat is painted with this every two hours and a new swab used every time. For the nose the author uses the following:

℞. Hydrogen peroxid	ʒiv
Sodii boratis	ʒii
Glycerini	℥ii
Aquæ rosæ, q. s. ft.	℥iv

M. Sig. One tablespoonful to be instilled into the nose every two hours in the presence of diphtheritic membranes in the nares, and every four hours in their absence.

The third and fourth indications must be met with good nourishment, iron preparations, nerve and heart stimulants, diuretics, and laxatives. In giving stimulants he never waits for cardiac debility to set in, but always anticipates its possibility from the very start. Where food can not be administered by the mouth, nutrient enemata should be resorted to. The author is in the habit of prescribing the following:

℞. Tinct. ferri chloridi	
Tinct. myrrhæ, āā	ʒii
Glycerini	℥ii
Syrupi zingib. q. s., ad	℥iii

M. Sig. One teaspoonful to be given every three hours to a child 3 years old.

℞. Strychninæ sulph	gr. 1 4
Liq. ferri et ammon. acet	℥iii

M. Sig. One teaspoonful to be given every six hours to a child 3 years old.

The author rarely uses antipyretics, but finds that small doses of any of the stimulating synthetic products answer well to reduce temperature and relieve pain. A laxative administered once a day is useful. In marked irritability of the child, sodium bromid, combined at times with a small dose of chloral, is very serviceable.

In laryngeal diphtheria, if any deposit is visible along the fauces, he uses the first mixture given and he always orders cleansing the nose with the second. In severe cases intubation should be practiced, to avoid resorting to tracheotomy. The internal remedies enumerated are of undoubted value in this form. After intubation no liquids must be given by the mouth; strychnin should be administered hypodermically.

For the reduction of the swelling of the submaxillary glands, iodin ointment—10 per cent. of ichthyol—is an excellent remedy. The author now uses antitoxin in all cases of laryngeal diphtheria, stating that he has had good results from its use in combination with the other treatment, but is not prepared to say how much of the benefit is due to the antitoxin and how much to the other remedies.

Treatment of a Cold.

Max Nassauer, writing in the *Cincinnati Lancet-Clinic*, aborts an incipient cold, i. e., when sneezing, tickling, and increased secretion announce the onset of an attack, by thoroughly irrigating each nostril with a weak—pale pink—solution of potassium permanganate, the fluid being allowed to run through the other nostril and the mouth. Each nostril is then wiped out with cotton on the finger. A small dry plug of cotton is then pushed well up into each nostril, and the nostrils are filled with the weak solution, the cotton being allowed to absorb it. The plug is left for an hour, when it can be expelled by blowing the nose. While agreeing with Dr. Nassauer that the permanganate irrigation may exert a specific action on the germs of coryza, the filling of the nostrils with cotton soaked in the solution appears to us objectionable, since it certainly must irritate an already inflamed mucous membrane, and also because the permanganate having expended its oxidizing powers on the cotton—organic matter—would be practically without germicidal action.

Dr. A. S. Barnes, in an article in the *Interstate Medical Journal*, gives the following method to cure a cold quickly: He produces profuse sweating by a tub bath as hot as can be borne for five minutes, then rolling the patient in a warmed blanket, putting him to bed and heaping on covers. He also gives ⅛ gr. pilocarpin hydrochlorate in half a glass of warm water—less pilocarpin if the patient is weak and thin. After three-quarters of an hour's sweating give 1/100 gr. atropin in water. Fifteen minutes after this, mop—do not use friction—with warm towels. Then place on him a warmed nightrobe, put him between warmed sheets with his ordinary covering over him, and give the following prescription:

℞. Phenacetin	gr. xviii
Salol	gr. xxxvi
Caffeinæ citratis	gr. iv

M. Ft. in caps. No. xii Sig. One every two hours.

Be sure to tell the patient that dribbling from the mouth is caused by the medicine and will soon disappear. It is claimed that this method will cure a cold more quickly than any other.

Treatment of Hemorrhoids.

We quote from the Paris letter by Dr. A. R. Turner, in the *Therapeutic Gazette*, the following:

When excoriations exist on hemorrhoids, or when there is slight loss of blood, suppositories can be administered:

℞. Chrysarobin	08
Iodoform	02
Ext. of belladonna	01
Cacao butter	2

M. For one suppository. Sig. Two or three daily.

The following ointment may also be used:

℞. Chrysarobin	8
Iodoform	3
Ext. of belladonna	6
Vaselin	10

M. Sig. Use locally several times a day.

When small tumors exist, local applications of the following solution are very useful:

℞. Iodid of potassium	2
Iodin	2
Glycerin	35

In case of hemorrhage, no preparation seems better than hamamelis virginica, a teaspoonful of the fluid extract thrice daily in a half tumblerful of water.

Administration of Bromoform.

Wilbur L. Scoville suggests the following formula for administering bromoform:

R. Bromoformi	ʒss
Tinct. tolutanæ	ʒi
Mucilaginis acaciæ	ʒii
Syrupi	ʒiv
Aquæ menthæ viridis, q. s., ad	℥ii

M. Ft. emulsion.

Each teaspoonful contains m. ii of bromoform. The quantity of bromoform may be varied at will. The mixture is to be shaken before taking.

Advantages claimed: Minimum amount of alcohol, accurate dosage, other medicaments may be added, very palatable.—*Pediatrics*, January 15.

A Local Aphrodisiac.

J. Coplin Stinson, of San Francisco, writing in the *N. Y. Med. Jour.*, recommends echinacea angustifolia as a local aphrodisiac. He uses Lloyd's echinacea, s. t., applied freely to the glans penis and corona, using from 20 to 60 drops. He claims that it immediately produces a mild, pleasantly tingling, penetrating keeping [illegible] position, and then in from 2 to 15 minutes erection ensues. He also states that the interval between erections is shortened. All forms of impotence, functional as well as organic, can be benefited, but he advises of course, treating the general cause at the same time. If these claims bear the test of general experience, treatment is bound to become a popular one.

Treatment of Scorpion Bite.

Readers of THE JOURNAL in the tropics may be interested in the treatment advocated by F. J. Romero, in the *Cronica Med. Mexicana* of January 1, with which he has been successful in all but 3 out of 19 cases. The intoxication was very severe in 10. He first examines the spot bitten and seeks the exact point where the poison entered, by testing the skin with a quill toothpick until he locates the least sensitive point, which he then examines with a magnifying glass—a livid spot surrounded by a darker zone. Here he makes an incision and applies a cupping glass, withdrawing a few grams of blood, then cleanses and cauterizes the spot and applies a ligature between it and the heart when possible. He prescribes the following:

R.	Canellæ et jaborandi infus.	℥xxx	120
	Tinct. iodini	gtt. xx	1
	Potassii iodidi	gr. xx	1
	Ammonii acetatis	ʒiss	6
	Ext. guaco	gr. xv	1
	Syrupus simplicis	ʒiv	15

M. Sig. A tablespoonful every twenty minutes. For children under 6 years a half teaspoonful.

The warmth of the body must be kept up and the extremities frictioned, with inhalations of ether or chloroform. In case the trismus renders it impossible to admisister the medicine per os, he administers it diluted in small enemata. As the patient recovers the intervals between the doses are lengthened.

Strontium Bromid in Epilepsy.

J. V. Laborde announces that, with all the advantages of potassium bromid, a similar elective action on the excitomotor cells, and the same therapeutic and physiologic activity, strontium bromid is a substance far better tolerated by the organism than any other bromid, and the dose can be rapidly increased to the effective amount without inconvenience of any kind and will conquer epileptic seizures of functional origin and nature, no matter how inveterate or frequent. It can be substituted for the maximum dose of potassium bromid from the start, and thus easily and rapidly arrest the seizures and terminate the manifestations of the disease. He commences with 4 gm., increasing progressively to 10 or 12, fractioned by 2 to 4 gm. for the adult. The effective dose for a child is 2, 6, or 8 gm. He states (*Bull. de l'Acad. de Méd.*, Dec. 5, 1899) that he has an experience of five cases permanently cured and tested by time, and many others in which he arrested in a week an epilepsy with eighteen to twenty seizures a day.

Chloral Hydrate in Nervous Dyspepsia.

This drug is highly recommended by Rosenbach as a gastric sedative in this disease, says *Merck's Archives*. In all instances where there was no actual organic disease, the drug proved most effectual in relieving the many gastric symptoms of which neurotic individuals are prone to complain. Especially was this true of the headache, dyspepsia, flatus, cardiac palpitation and oppressive sensation of fulness coming on immediately after eating, and also of the still more trying manifestations several hours after meals, particularly if mental or physical exertion intervened, in which, in addition to the more strictly localized symptoms, there are added great fatigue combined with obstinate insomnia. In such cases chloral hydrate may be administered in doses of from 1½ to 3 grains, well diluted, and given from one to two hours after meals, to be repeated or increased if needed. The same amounts given two or three times a day were found effectual in replacing the bromids in a great variety of disorders of neuropathic etiology.

Glutol As an Antiseptic.

Dr. Augustin Henry concludes an interesting paper, in the *Therap. Monatsh.*, on his observations as follows:

1. In the presence of living tissues, glutol, by its gradual decomposition, yields a continuous supply of formaldehyde, thus possessing the antiseptic properties of this agent.

2. It is odorless, non toxic and non caustic, producing neither the inflammatory nor other undesirable symptoms attending the application of formalin in solution.

3. In the dressing of wounds, suppurating areas, and burns, it is superior to antiseptics such as salol, bismuth subnitrate, and iodoform.

4. Its use presents especial advantages in instances where the irritating and toxic properties of other substances make a harmless antiseptic desirable.

5. Where the tissues are necrotic, the action of glutol may be increased by the additional application of a hydrochloric acid pepsin solution.

Palatable Castor-Oil.

The following useful formula is published in *Merck's Report*:

R.	Saccharin	gr. xii
	Olei gaultheriæ (or menthæ pip)	m. xx
	Alcohol	ʒiv
	Olei ricini	Oi

The addition of saccharin, aromatic oil, and alcohol has been used by us in making cod liver oil palatable and is very successful.

Sodium Sozoiodolate in Soft Chancre.

Grivzoff *(Berl. Klin. Woch.; Brit. Med. Jour.)* rejects dermatol and xeroform in the treatment of soft sore. On the other hand, he prefers europhen to iodoform, believing that the former is a more active specific. But he finds the sodium sozoiodolate, already much used in washing out the bladder, a better specific even than europhen. It is quite free from smell, and is not poisonous. At first it should be mixed with some inert powder, as it is apt to cause a smart burning pain when applied, but after a few days the affected part grows less sensitive, and the pure preparation may be freely applied.

Spermin in Neurasthenia.

Max Salomon, of Berlin, reported, in the *Berl. Klin. Woch.*, two severe cases of neurasthenia occurring in women aged 48 and 54 years respectively, who, having been unsuccessfully treated by various nerve tonics, and other remedial measures, were promptly cured by spermin. The drug was administered hypodermically, the injections being made at first daily in the back, near the spinal column, and as the symptoms improved and the patients gained in strength, every other day, or even less frequently. For the injections a 2 per cent. sterilized solution was used in doses of 1 c.c.

For Chaps, Etc.

The *Jour. de Méd. de Paris* for Dec. 3, 1899, attributes the following to Vigièr:

R.	Tannic acid	gr. viiss
	Glycerin at 30	ʒv
	Hydrolate of roses	ʒxxv

M. Dissolve. The hands are to be rubbed morning and evening with a few drops of this solution to render the skin supple and disperse the chaps. It is useful for chapped lips.

Intractable Aphthae.

The following formula appears in the *Louisville Medical Monthly*:

R.	Acidi salicylici	gr. xxx
	Alcohol	m. cxxx
	Glycerini, q. s., ad	℥i

M.

Treatment of Syphilis.

A new combination for hypodermatic injection in syphilis is the following:

R.	Hydrarg. chlor. mit.	gr. lxviiss
	Orthoform	gr. xii
	Ol. petrolat	ʒiiss

M. Sig. 15 to 30 drops can be injected; securing the analgesic effect of the orthoform.—*Loza.*

A Prescription for Gravel.

R.	Sodii bicarbonatis	ʒiss
	Acidi benzoici	gr. xxx
	Sodii phosphatis	ʒii
	Aquæ bullientes	℥iv
	Dissolve, filter and add aquæ cinnamomi	℥vi

M. Sig. Two tablespoonfuls of this mixture may be given three times a day in cases of uric acid gravel.—*Jour. des Praticiens.*

Current Medical Literature.

Titles marked with an asterisk (*) are noted below.

Philadelphia Medical Journal, January 27.

1.— Selections from the Lane Lectures: Cardiac Physics. Thomas Clifford Allbutt.

2.—*Case of Multilocular Pseudomucinous Cystadenoma of Right Ovary, Associated with Pronounced Symptoms of Diabetes, Operation with Recovery, Followed by Disappearance of Sugar from Urine and Diabetic Symptoms. Henry D. Beyea.

3.—*Athetosis and Kindred Affections. Frank Fischer.

4.—*Medical Societies in this Country Founded Prior to the Year 1787. Francis R. Packard.

5.—*Diet as a Method of Diagnosis. C. D. Spivak.

6.— New Staining Forceps. F. J. Kalteyer.

Medical News (N. Y.), January 27.

7.—*Pruritus Ani. J. P. Tuttle.

8.—*The Great Drainage Canal at Chicago. J. A. Stewart.

9.— Experimental Researches on Effects of Increased Barometric Pressure and Foreign Bodies in the Pharynx, Esophagus, Trachea and Larynx. Geo. W. Crile.

New York Medical Journal, January 27.

10.—*Flexion or Bent-Knee Marching. E. H. Bradford.

11.—*Remarks on Intranasal Operations. Walter F. Chappell.

12.— Study of Inhibition. J. Y. Gonzalez.

13.—*Antitoxin Results and Diphtheria Definitions. A. Rupp.

14.—*Pony, Montana, as a Resort for Cases of Pulmonary Tuberculosis. John C. Schapps.

15.—*Staphylitis and Elongated Uvula. Theron W. Kilmer.

16.— Clinical Memoranda on Otitis Media Suppurativa Chronica. John F. Oaks.

17.—*Treatment for Acute Serous Synovitis Permitting of Joint Functions. Phil. Hoffmann.

Medical Record (N. Y.), January 27.

18.—*Leprosy in Hawaii. E. S. Goodhue.

19.—*Sanatorium Treatment at Home for Patients Suffering from Tuberculosis. S. A. Knopf.

20.—*Criticism on a New Method of Preparing the Skin for Vaccination by Denudation with Caustic Potash Solution. Frank S. Fielder.

Boston Medical and Surgical Journal, January 25.

21.—*A Rhode Island Philosopher—Elisha Bartlett. (*Concluded.*) William Osler.

22.—*Sixteen Years' Experience in Food and Drug Inspection. Samuel W. Abbott.

23.—*Value of X-Ray Examinations in the Less Frequent Diseases of the Chest, Illustrated by Their Use in Those Cases Where the Aneurysm is Present or Suspected. (*Concluded.*) Francis H. Williams.

24.—*Sterilizer and Equipment for Confinement Cases. Frank A. Higgins.

25.—*High Operation for Disease Within the Scrotum. J. G. Mumford.

26.— Case of Ptomain Poisoning. W. P. Coues.

Medical Review (St. Louis, Mo.), January 27.

27.— Some Remarks on the Report of the St. Louis Insane Asylum for 1897-98. Edward C. Runge.

Cincinnati Lancet-Clinic, January 27.

28.— Arabic Medicine. J. S. Tunison.

29.— Disease of Rectum and Anus. Geo. J. Monroe.

Northwestern Lancet (St. Paul, Minn.), January 15.

30.— Empyema. E. J. Abbott.

31.— Nature and Treatment of Acute Infections of Genital Tract in Women. J. L Rothrock.

32.— Medical Legislation T. J. Reid.

33.— Echinococcus Cysts of Liver. F. H. Odendahl.

34.— New Preparation for Treating Lithemia. G. C. Barton.

Medical Fortnightly (St. Louis, Mo.), January 15.

35.— Prophylaxis of Typhoid Fever. J. H. Miller.

36.—*Some Interesting Cases of Acquired Syphilis of the Nose and Throat. Wm. D. H. Brown.

37.—*Physiology. A. L. Benedict.

Virginia Medical Semi-Monthly (Richmond), January 12.

38.— Treatment of Club-foot with Report of Six Cases. A. R. Shands.

39 — Case of Epithelioma of Tongue. Llewellyn Eliot.

40.—*Gastrostomy for Traumatic Stricture of Esophagus: Report of Case. George Ben Johnston.

41.— Remarks on Ovarian Tumor with Twisted Pedicle, with Report of Eight Cases. Maurice H. Richardson.

Railway Surgeon (Chicago), January 23.

42 — Principles vs. Methods in Railway Surgery. A. I. Bouffleur.

43.— Report of Case of Compound Dislocation of Elbow, with Compound Fracture of Radius. W. E. Vest.

44.— Compound Fractures. A. O. Williams.

American Practitioner and News (Louisville, Ky.), Dec. 15, 1899.

45.— Hygiene of the Nose. W. Cheatham.

46.— Gall-Stones in the Common Duct: Their Diagnosis and Treatment. F. Warren Samuel.

47.—*Guaiacol in Treatment of Malaria; with a Presentation of Four Cases. Charles J. Whalen.

Medical Age (Detroit, Mich.), January 10.

48.— Visit to the Sabathu Leper Asylum. N. S. Rudolf.

49.— Poliomyelitis Anterior Acuta. Charles Mason.

50.— Errors of Refraction and Blepharitis Marginalis. William Cheatham.

51.— Vital Statistics and Health Laws. A. F. Fuchs.

Bulletin of the Johns Hopkins Hospital (Baltimore), December, 1899.

52.—*Recognition of the Poisonous Serpents of North America. Howard A. Kelly.

53.— Chemistry, Toxicology and Therapy of Snake-Poisoning. Thomas R. Brown.

Annals of Surgery (Philadelphia), January.

54.—*Employment of Local Anesthesia in Radical Cure of Certain Cases of Hernia, with a Note on the Nervous Anatomy of the Inguinal Region. Harvey Cushing.

55.—*Interscapulo-Thoracic Amputation. Russell S. Fowler.

56.—*Note on Mortality after Operation for Large Incarcerated Hernia. Henry Orlando Marcy.

57.— Surgical Aspects of Modern Small-Bore Projectiles. August Schachner.

58.— Mammoth Ovarian Tumors. James B. Bullitt.

59.— Vesico-Urethro-Vaginal Fistula. J. Shelton Horsley.

Journal of Nervous and Mental Disease (N. Y.), January.

60.—*Progressive Ankylotic Rigidity of the Spine. B. Sachs and J. Fraenkel.

61.—*Meralgia Paresthetica (Roth), with Report of Ten Cases. J. H. Musser and Joseph Sailer.

62.— Unity of the Acute Psychoses. Philip Coomes Knapp.

63.— Two Cases of Muscular Dystrophy with Necropsy. Wm. G. Spiller.

American Journal of Obstetrics (N. Y.), January.

64.—*Relation of Insanity to Pelvic and Other Lesions. A. T. Hobbs.

65.—*New Operation for Persistent Inversion of Uterus. Barton Cooke Hirst.

66.—*Frequency and Mortality of Abnormal Pelves. Edward P. Davis.

67.—*Cystic Distension of Appendix Vermiformis with a Review of the Literature of the Subject. James C. Wood.

68.— Case of Twisted Ovarian Cyst. A. Lapthorn Smith.

69.— Tubular Adenoma of Rectum (Papillary Adenoma Tubulare Polyposa). John B. Shober.

70.— Labor Complicated by Contracted Pelvis, Large Fibroma of Uterus and Eclampsia. Edwin K. Ballard.

71.—*Cause and Cure of Convulsions after Labor. A. K. Bond.

72.— Three Cases of Ectopic Gestation. Henry J. Kreutzman and Lois Nelson.

73.— Ovarian Cystoma Complicating Pregnancy. William S. Stone.

74.— Obstetric and Gynecologic Treasures of the Army Medical Museum. Thomas C. Smith.

Occidental Medical Times (San Francisco), January 1.

75.— Diagnosis of Aneurysm of Aortic Arch. William Fitch Cheney.

76.— Surgical Treatment of Aneurysm of Aortic Arch. Julius Rosenstirn.

77.— Prevention and Treatment of Acute General Peritonitis. Wallace A. Briggs.

78.— Practical Points in Obstetrics. Charlotte B. Brown.

Laryngoscope (St. Louis, Mo.), January.

79.—*Appropriate Treatment of Certain Varieties of Nasal Deflections and Redundancy. D. Braden Kyle.

80.—*Therapeutic Effects of Vibratory Massage in Chronic Deafness. Professor Ostmann.

81.— Case of Mastoiditis—Cerebral Tubercle—Death—Autopsy. Burnett C. Collins.

Medical Times (Philadelphia), January.

82.— Principle of Fixation in Fracture Treatment. Edward A. Tracy.

Canadian Practitioner and Review (Toronto), January.

83.— Report of Case of Brain Tumor. R. W. Bruce Smith.

84.— Septicemia. Chas. A. Page.

85.—*Interne Service in Modern Hospitals: Comparison of the Canadian and American Systems. T. Leonard Vaux.

86.— Chemical Rays of Solar Spectrum as a Remedial Agent. Graham Chambers.

Chicago Clinic, January.

87.— Report of Case of Cerebellar Tumor; Operation; Death; Autopsy. D. A. K. Steele.

88.— Essentials of Success in Abdominal Surgery. Florus F. Lawrence.

89.— Diagnosis and Treatment of Hemorrhage into Peritoneal Cavity. A. S. Waiss

90.— Anatomic Reflections on Pelvic Outlet. W. T. Eckley.

91.— Postpartum Hemorrhage. Gustav Kolischer.

92.— Principles Relating to Static Machine Construction. R. V. Wagner.

Merck's Archives (N. Y.), January.

93.—*Therapeutic Value of Calcium Sulphid. Samuel E. Earp.

94.—*Treatment of Acute Croupous Pneumonia. J. M. French.

95.—*Ichthalbin as a Substitute for Ichthyol. Samuel Wolfe.

96.— Specific Treatment for Typhoid Fever. C. D. Miller.

Medical Bulletin (Philadelphia), January.

97.— Some Cardiac and Gastric Diseases. J. M. Anders.

98.—*Diet in Lithemia. A. B. Conklin.

Medical and Surgical Monitor (Indianapolis, Ind.), January 15.

99.—*Some Suggestions Concerning the Microscopic Examinations of Blood Stains in Medicolegal Cases. Frank B. Wynn.

100.— Notes of European Travel. A. J. Banker.

101.— Indiana State Medical Society. F. C. Heath.

Alabama Medical and Surgical Age (Birmingham), January.

102.— State Care of Epileptics, with Demonstrations of Methods in Use at Craig Colony, Sonyea, N. Y. Wm. P. Spratling.

103 — Fracture of Skull with Hemorrhage; Operation; Recovery. W. D. Gaines.

104.— Poison Emergencies. H. P. Pressly.

Ft. Wayne Medical Journal-Magazine, December, 1899.

105.— General Remarks on Diagnosis and Treatment of Serious Eye Diseases. A. E. Bulson, Jr.

106.— Conservative Surgery of Ovary. H. A. Duemling.

American Medical Compend (Toledo, Ohio), January.

107.— Etiology and Pathology of Tuberculosis. M. H. Bowman.
108.— Prevention of Tuberculosis. W. A. Dickey.
109.— Stages and Symptoms of Pulmonary Tuberculosis. J. H. Jacobson.
110.— Prognosis and Treatment of Pulmonary Tuberculosis. John North.

Texas Medical Journal (Austin), January.

111.— Death Rate from Nephritis in 110 Cities in the United States, for 1898. C. H. Wilkinson.
112.— Urinalysis. W. R. Neville.
113.— The Baby's First Week. H. W. Cummings.
114.— Erysipelas. M. L. Lackford.
115.— First Stage of Labor. Wm. Taylor.

Hot Springs Medical Journal, January.

116.—*Most Important Point to be Considered in Treatment of Appendicitis. A. J. Ochsner.

Journal of Scientific Medicine (Chicago), December, 1899.

117.— Intubation. Edwin Rosenthal.
118.— Occipito Posterior Positions of the Vertex in Labor. R. C. Rockmore.
119.— Reflections of General Practitioner: 1 "How We Waste Our Money." Gustavus M. Blech.
120.— Sanguiferrin in Typhoid Fever. Isaac H. Cadwallader.
121.— Value of Feeding in Acute Diseases. Milton P. Creel.

Kansas City Medical Record, January.

122.—*A Modified Hartley-Krause Operation for Persistent Facial Neuralgia. J. D. Griffith.
123.— Some of the Complications, Accidents and Dangers in Connection with Fractures. Andrew L. Fulton.
124.— Septic Ulcer, Hysteria and Delirium Tremens. J. D. Griffith.

Medical Summary (Philadelphia), January.

125.— Cutaneous Diseases which Commonly Attack the Ear. J. Abbott Cantrell.
126.— Michievous Mutilation of Women. S. L. Kilmer.
127.— Report of Case of Necrotic Sore of Face. Jas. S. Cobb.
128.— Warfare against Antitoxin. J. A. DeArmand.
129.— Typhoid Infection. C. E. Belcher.
130.— Pneumonia. Wm. H. Russell.
131.— Fatal Needle. J. G. A. Davies.
132.— Treatment of Pneumonia. J. M. Hamilton.
133.—*Diet in Lithemia. A. B. Conklin.

Medical Council (Philadelphia), January.

134.— The Eye: How it Sees; Its Defects and Their Cure with Glasses. A. H. P. Leuf.
135.— Buisson Treatment of Hydrophobia. Benj. Edson.
136.— Extensive Burn, with Peculiar Course. Charles L. Lang.
137.— Case of Labor Complicated with Pelvic Abscess. A. L. Blesh.

New England Medical Monthly (Danbury, Conn.), January.

138.— Observations on Mechanical Treatment of Hernia and Its Adjuvants. J. Coplin Stinson.
139.— Some Reasons Why a Hepatic Stimulant and the Uric Acid Solvent are Essential in Treatment of Gout. William Hooker Vail.
140.—*Mental Element in Treatment of Headache. Philip Zenner.
141.— Advantages of Spray in Pseudomembranes of Pharynx. D. C. Brown.
142.— Lithemic Cystitis and its Treatment. G. Wight.
143.— Clinical Lecture Delivered in the Medico-Chirurgical Hospital. William L. Rodman.
144.— Alopecia. L. Duncan Bulkley.

AMERICAN.

2. **Congenital Disease and Diabetes.**—After reporting a case noticed in the title, Beyea discusses the probable pathology of this and similar cases, and concludes that in some cases of disease of the female organs, diabetic symptoms apparently dependent on the same are present, and there are also cases where the excretion of a large amount of sugar by the kidneys, without diabetic symptoms, appears to have a similar relation. Since this does not always occur in such disorders, it is probable that there must be in these some special lesions or abnormal secretion, or affection of other organs, or some special predisposing condition in the body. Such cases as are here described, and those which Tait and Lecorche have called climacteric diabetes, may be cured by the induction of the climacterium, the removal of gross diseases which prevent it, or by a normal progress of the change. He calls attention to the subject as worthy of consideration.

3. **Athetosis.**—Fischer concludes his argument for the reflex sensory nature of athetosis and similar conditions. The principal things which point to this in his judgment are that when a lesion has been found it has been in the posterior limb of the internal capsule or the adjacent thalamus. These lesions could not produce the symptoms by direct irritation of the neighboring motor tract, for if they did the abnormal movements would be more common in the lower than in the upper extremities. Chorea is frequently caused by emotions, which are impressions on the sensory and psychic centers. It is not reasonable to think that the cause of these nerve derangements should leave these centers untouched and leave impressions only on the more remote portions of the nervous system. Chronic chorea has frequently disappeared after removal of the peripheral irritation. In post-hemiplegic chorea and athetosis there is focal disease of the optic thalamus or posterior parts of the capsule. Cocainization of the motor areas prevents the occurrence of localized convulsions from their irritation (Prus). The primary point of irritation in a convulsion is sensory. In a large proportion of epileptics the initial symptom of the attack is a sensory aura. How can a lesion of the motor tract cause such an initial symptom? Many cases of epilepsy are admitted to be of reflex origin, and in many of these the disease has disappeared after the removal of the supposed exciting cause.

4. **Early Medical Societies.**—Packard reviews the data of the early medical societies in this country, and finds that such existed in the first half of the eighteenth century in Boston and New York. In the latter half was found the oldest one now existing, the Medical Society of New Jersey, organized in 1766. Several short-lived ones were begun about this time. The Massachusetts Medical Society was founded in 1781 and with the Medical Society of New Haven, founded in 1874, is still flourishing. The fourth in order of date is the College of Physicians of Philadelphia.

5. **Diet as a Method of Diagnosis.**—Spivak speaks on the necessity for detective ability, *a la* Sherlock Holmes, in the physician, expecially as regards the diet. He concludes as follows: 1. Every patient suffering from gastrointestinal troubles should be interrogated in the minutiæ of his diet, and its probable relation to the disease. 2. Since, as a rule, the answers are not satisfactory, therefore diet tests should be instituted for as long a period as it will be necessary to elicit all the required data. 3. Impress on your patient the fact that it is impossible to make a snap diagnosis. You may, at the first visit, suppose, guess, surmise, suspect and presume as to the nature of the malady, but it will be for his benefit to wait patiently until you have ascertained the cause of his trouble.

7. **Pruritus Ani.**—This condition, which is a very formidable one in certain cases, is described by Tuttle, who thinks that it is largely due to uric acid toxemia. It is only a symptom. He thinks all cases of the severe forms can be traced to rheumatism, uremic or catarrhal disease. As regards treatment, he has learned to largely rely for local applications on a combination of 10 to 20 per cent. carbolic acid, 2 to 10 per cent. salicylic acid, and 50 per cent. boric acid, with glycerin or cold cream to complete the percentage to 100. He has tried ichthyol with great benefit, and when there is pain at stool, conium and cocain have been of service. Since he has treated it on the pathologic theory given above, he has not failed to obtain complete or more or less permanent relief in every case without surgical interference.

8. **Chicago's Drainage Canal.**—Stewart describes the Chicago Drainage Canal, and appears to believe that the dangers of infection there and elsewhere will be greatly diminished by it.

10. **Flexion or Bent-Knee Marching.**—In this paper the author discusses and illustrates the different forms of gait adopted in training and practice. The ordinary city gait, or straight leg parade marching causes more muscular effort and is less suitable for long distances than the flexion method which is used by savages and is being introduced to some extent in modern armies. The pictures and remarks are instructive.

11. **Intranasal Operations.**—Chappell publishes his method of operating intranasally, and gives pictures of his annular knife, splint retainer and splints. His remarks are chiefly confined to operations on the septum, where the conditions requiring surgical interference are spurs, deviations and thickenings. The former of these if small and also localized thickening of the septum, can be treated by his annular knives, while the larger spurs, he believes, are best treated by the saw, and he prefers Mial's cross-cut instrument, working both ways, for this purpose. The treatment of septal wounds most in favor is leaving them unprotected and relying on cleansing and free drainage for good results, but this has the disadvantage of permitting exuberance of the tissues and possible hemorrhage. He therefore describes his technique and the use of splints for the purpose of preventing this inconvenience.

13. **Antitoxin in Diphtheria.**—Rupp is skeptical of the benefits of antitoxin in diphtheria. He apparently does not consider it established, that the Klebs-Loeffler bacillus is essential to the disease, nor does he put faith in the statistics of antitoxin. He offers nothing, however, new or valuable on the subject.

14. **Montana for Tuberculosis.**—Cases are reported by Schapps where the climate of Montana proved beneficial to patients after failure to receive help in Colorado and the Adirondacks, and he offers the proposition as an axiom that the place where the patient contracted tuberculosis is where he must not reside. He should place the greatest practicable distance between himself and the infected locality. To move only a short distance or for a limited time is simply trifling with a deadly disease. He notices the fashion as regards sanatoriums, and suggests that the treatment of consumption should be made a national affair and places of residence remote from the large centers of population be selected.

15. **Staphylitis and Elongated Uvula.**—The condition of staphylitis caused originally by colds, quinsy, etc., though apparently a slight affection, is described by Kilmer, who also gives the treatment for elongated uvula, which is its result. While local applications are generally ineffective, he has had success in some cases with the use of tincture of chlorid of iron, but in well-marked cases amputation is the sole resource. He performs the operation himself by first using a swabbing with 4 per cent. solution of cocain, both for allaying sensibility and its moral effect, then grasps the tip of the uvula with a thumb forceps and snips it off with curved scissors. Hemorrhage is generally slight, but in a few cases persistent bleeding occurs, either from too high cutting or the hemorrhagic diathesis, which should be looked after before the operation. The after-treatment usually consists in giving liquid food for twenty-four hours.

17. **Acute Serous Synovitis.**—Hoffmann calls attention to a method of treating serous synovitis of the knee and other joints, described by him several years ago, and gives a case illustrating its success. "The method might be called the compression treatment. In his hands it has proved far more satisfactory than the old ones of rest and immobilization, hot or cold packs, evaporating lotions, etc. Its application is quite simple, though considerable care and judgment should be exercised. The principle is to fill all depressions about the joint with cotton, and then to apply strips of rubber adhesive plaster in such a way as to entirely encircle the joint and several inches of the limb above and below it, so as to make firm and equable compression. The joint in which it has been found to be of the greatest value, and in which the results both immediate and permanent are truly remarkable, is the knee. This, moreover, is the joint by far most commonly affected by acute serous synovitis, whether produced by injury, exposure to wet or cold, overexertion, or some indefinite cause." The advantages of this dressing are its light weight, the immediate relief from pain, and the permission it gives for using the joint when necessary.

18. **Leprosy in Hawaii.**—The history of leprosy in Hawaii is detailed by Goodhue, who thinks that the chance of infection to the foreigner is less than it would be in this country, as he is on the lookout for it and takes the easy needful precautions. He suggests that we should look out for lepers throughout the United States, where they can go and mingle with the public without suspicion, and quotes an authority on diseases of the skin, who says that one of the most distinguished clergymen in the United States has been a leper for years, as an illustration of its occurrence. He suggests that removal of all our home lepers to the Hawaiian leper colony would be advisable.

19. **Home Treatment of Tuberculosis.**—Knopf describes various instruments for the care and disinfection of tuberculous sputum, and the regimen he would advise for consumptives treated at home. He thinks that the constant medical supervision of sanatoriums will also be beneficial in home treatment. Marriage of consumptives should be restricted as far as possible, and the production of children avoided, as far as it can be done legitimately.

20. **Vaccination.**—Fielder reports experiments with the method first reported in THE JOURNAL, by Dr. Hutchins, of preparing the skin for vaccination by denudation with caustic potash instead of scarification. He thinks it is less likely to be successful than scarification, on account of the formation of an eschar, which makes the denuded surface like parchment. The action of the caustic potash on the skin was studied, at his request, by Dr. Williams, of the New York City Health Department, on a calf. He finds that the remaining portion of the skin, after denudation, was covered with a layer of necrosed tissue, and that this might be an obstacle, either on account of its thickness or its alkalinity, to the entrance of the vaccin virus. He thinks the advantages of the method are that it is less painful and less terrifying to the patient and that it does not draw blood. The disadvantages are: 1. It takes more time. 2. It requires more skill. 3. It is difficult by this method to denude an area small enough; the vesicles are likely to be too large if the virus is very active. 4. It is less certain than scarification, no matter how skilfully done, because of the formation of an eschar which interferes with the absorption. Finally, the writer believes that the disadvantages named, together with the fact that a rather elaborate equipment is required, make the KOH method impracticable for use in wholesale vaccinations such as are performed by public vaccinators. As to its value in private practice, if it is deemed important in any particular case, such as that of a very nervous child, to avoid terrifying him, or to spare him the slight pain caused by scarification, this method may very well be tried; but unless the physician is skilled in the use of the method, or unless the virus is so active that it will "take" no matter how it is applied, he must not be surprised if failure is the result.

21. **Elisha Bartlett.**—Dr. Osler here concludes his appreciative notice of Dr. Elisha Bartlett, giving a review of his principal works and a history of the latter portion of his life. (See last week's JOURNAL, ¶ 13, p. 285.)

22. **Food and Drug Inspection.**—Abbott reports the experience of sixteen years' food and drug inspection by the State Board of Health of Massachusetts and enumerates what he considers the essentials necessary for carrying out such a system correctly. They are: 1. Sufficient appropriations. 2. A well equipped laboratory, both chemical and microscopic, with all the necessary apparatus, including that for photographing. 3. A responsible general director, who may or may not be connected with the health board. 4. An experienced food chemist and analyst, who, besides being an expert in his profession, should be able to give testimony with clearness and decision, when called on in court. 5. A collector who should watch the markets, keep track of apparent frauds, and though not necessarily an analyst, should be an expert judge of the quality of articles of food for sale, and familiar with the laws relating to fraud, so that he may have the requisite knowledge and skill to make complaints, examine witnesses, and prosecute cases before district or municipal judges. The advantages of such a system of food inspection are the protection of the public and the superior quality of food articles supplied them.

23. **X-Ray Examinations in Chest Diseases.**—Williams sums up as follows: X-ray examinations should be made both with the fluorescent screen and the X-ray photograph. Normal outlines in the upper part of the chest give us the best assurance that an aneurysm of the aorta is not present, though symptoms may obtain which lead the physician to suspect it. Outlines suggestive of aneurysm may be caused by a new growth, for example. To make a definite diagnosis of aneurysm by the usual physical examination, we may be obliged to wait for the development of marked signs, and this delay defers treatment. Before operating on an aneurysm near the thoracic aorta, the latter should be examined by the X-rays, for if an aortic aneurysm exists, operation would be unadvisable. X-ray examinations enable us to determine the extent of the aneurysm, whether or not it is increasing, and in some cases to make a diagnosis before there are physical signs.

24. **An Obstetric Sterilizer.**—Higgins describes and illustrates an obstetric sterilizer and lamp which will fit an ordinary obstetric bag, and describes the outfit, which he recommends.

25. **High Operation for Diseases of Scrotum.**—The disadvantages of operation on the scrotum are the difficulty of disinfecting, the shrinkage of the skin, especially after it has been under tension, and the great difficulty of securing an antiseptic field. The operation here recommended consists in

simply making a small incision in the groin similar to that made in the ordinary Alexander operation for shortening the round ligaments. The incision exposes all the contents of the scrotum so they can be operated with perfect ease. The field can be made perfectly clean and kept so, and a buried silver suture ensures a rapid healing. There is no wounded scrotum to support and protect, no slipping of bandages, and no fouling with urine. It is surprising, he says, to see how considerable a mass may be delivered in this way, and if this is found impossible, a slight prolongation of the incision into the scrotal tissues will readily solve the problem.

46. **Syphilis of Nose and Throat.** Brown reports four cases of nose and throat syphilis which are of interest, in his opinion, from the fact that the inflammatory condition and ulceration occurred some time after the constitutional disease had apparently run its course, and this tendency of such symptoms to make their appearance after the disease seems in abeyance, that is, without cutaneous phenomena, is worthy of note, as, if it were not for the characteristic appearance, a wrong diagnosis might be the result.

47. **Nerve Physiology.** In this chapter of his series on physiology, Benedict considers nerve fibers, nerve cells, the spinal nerves and the cranial.

49. This paper has previously appeared elsewhere; see THE JOURNAL of January 13, title 38, p. 96.

51. **Guaiacol in Malaria.** Whalen reports four cases of malaria contracted in Cuba and successfully treated with guaiacol, beginning with 5 to 10 minims three times a day and gradually increasing the dose. He says: "As a result of my experience with guaiacol, I have arrived at the conclusion that, though I am unable to state positively that it is a specific in malarial fever, we possess in guaiacol a therapeutic agent of great value in many cases which have resisted the ordinary methods of treatment." In all the cases presented, quinin and other remedies were unable to control the chills and fever.

52. See abstract in THE JOURNAL of Dec. 9, 1899, p. 1494.

54. **Local Anesthesia in Radical Cure of Hernia.**—The subject of local anesthesia for the radical cure of hernia is fully discussed by Cushing, who reports a large number of cases and describes the anatomy of the nerve-supply of the parts involved. He uses Schleich's solution No. 2, which has served his purpose best. For the anesthetization of individual nerve trunks, he has used from .5 to 1 per cent. sterilized solution of eucain B. or cocain injected directly into the nerve. Individuals advanced in years are usually kept in bed for a day or two prior to the operation, to test their ability to endure recumbency and to train them to void their urine in this position. It has been customary to administer, hypodermically, 1/10 to ⅛ gr. of morphin three-quarters of an hour before the operation, and repeat it again just before. It should be used with caution, however, as in old people it may cause confinement of the bowels and lead to distension. The operation is described in detail. Its advantages are: no post-etherization sequelæ, less liability to urinary disturbances, no backache, and comparative safety. The disadvantages seem trivial in comparison. More time is consumed, but this is about all.

55. **Interscapulo-Thoracic Amputation.**—Fowler points out the indications for this operation and the method, its complications and dangers, with a list of recorded cases.

56. **Mortality After Operation for Incarcerated Hernia.**—Two cases are reported by Marcy, both fatal, in which he attributes the issue to a sudden marked increase of intra-abdominal pressure, unduly limiting the function of the diaphragmatic muscles. No author has made reference to the danger which may occur from this cause, and he suggests that when any very considerable portion of the abdominal contents have been for a long time displaced, it is advisable to keep the patient in bed for quite a period, with a limited diet and moderate purgation. The advantage of this will be the less quantity of hernial contents to be returned and greater thinning and relaxation of the abdominal wall. The circulatory equilibrium will become more nearly normal by a gradual spontaneous reduction and diminution of the hernial tumor during the treatment.

60. **Progressive Rigidity of Spine.**—Sachs and Fraenkel discuss the two conditions of spinal rigidity, one described by Bechterew and the other the Struempell-Marie type. The former is characterized by chronic rigidity, often limited to the cervical region, other joints free. Root symptoms predominate. The anatomic findings are chronic leptomeningitis with root and spinal cord changes; the vertebral joints not being affected. In the Struempell-Marie type we have chronic rigidity of the spine with involvement of the shoulder and hip joints; no root symptoms. The anatomic findings are ossification of the ligaments, hypertrophy and ankylosis of the joints. Several cases are described, and the authors conclude that we can not consider the Bechterew type as a distinct clinic entity. As regards the other form, it has a certain resemblance to rheumatic affections, but its progressive course, and its limitation chiefly to males are marked differences. The resemblance to arthritis deformans is somewhat closer and they conclude that the changes are more in degree and localization than in kind, from this and from ordinary rheumatism. From a clinical standpoint, however, this last form deserves careful attention.

61. **Meralgia Paresthetica.**—Under this title Bernhardt has described a curious form of nervous trouble on a small surface of the outer aspect of the thigh. While a number of cases have since been reported, it is not a common disease, and the ten here added are a contribution to the subject. The diagnosis, course, etc., are fully discussed, and the authors conclude that there is considerable difficulty in classing it with either neuralgias or neuritides. It differs from the former in that pain is usually a subordinate symptom and not always present, while paresthesias are of paramount importance. It differs from neuritis in the fact that the symptoms are usually persistent and rarely progressive or retrogressive. Trophic changes never occur and the nerve is rarely tender, excepting occasionally at one point. If it were permissible to speak of a neurosis of the nerve, it would be the most fitting definition. The external cutaneous nerve of the thigh appears to be alone involved, and the authors suggest, as a definition, "a disturbance or deviation of the external surface of the thigh, characterized by various forms of paresthesia, associated with dissociation and more or less diminution of sensation." From a clinical standpoint they consider it a distinct morbid entity.

64.—See abstract in THE JOURNAL of Dec. 2, 1899, p. 1425.

65. **Uterine Inversion.**—The method described for the reduction of uterine inversion is the dividing of the cervix in the median line posteriorly, the incision being carried higher on the internal than on the external surface, the ring muscle being thus almost, if not completely, severed without opening the peritoneal cavity. Then comparatively light pressure with one finger tip on the lower uterine segment, just above the inner angle of the wound, easily reinverts the uterus. The cervix is then joined again by sutures, the whole operation requiring scarcely fifteen minutes. The case described made an afebrile recovery, and the uterus remains in good position.

66. **Abnormal Pelves.**—Davis' paper, resulting from an analysis of some 1224 patients of all races inhabiting the United States, excepting the Chinese and Indian, concludes as follows: 1. Among the child-bearing women in the United States, of the white and negro races, 25 per cent. have pelves smaller than the average and 7 per cent. have pelves larger than the average. 2. Four-fifths of the patients having abnormal pelves delivered themselves spontaneously. The operations most suitable for well-marked pelvic contraction and most successful for mother and child are the induction of labor, symphyseotomy, and Cesarean section when the mother is uninfected and the child is in good condition, and embryotomy when the mother is infected and in bad condition and when the child is dead or likely to soon die. 3. The general and the septic mortality rates of all classes of labor and of labor in abnormal pelves compare favorably with the results obtained by modern medicine and surgery when obstetric practice is conducted in accordance with modern scientific knowledge of the subject.

67. **Distension of Appendix.**—After noticing the literature, Wood concludes: 1. In nearly every case of cystic distension of the vermiform appendix recorded, there was no subjective phenomena arising from the condition and in the majority of cases it was discovered accidentally. 2. When the cyst finds its way into the inguinal canal there is danger of causing its rupture by taxis, as actually happened in Van Hook's case. 3.

The possibility of mistaking a large cyst of the appendix for a floating kidney must be borne in mind. In a thinner patient such a mistake might easily have been made in the case passing under his observation. He reports a case, and analyzes those reported by others.

71. **Convulsions After Labor.**—After giving the report of a case in which he considers the convulsions due to an acute stercoremia superimposed on the nerve exhaustion of a severe, protracted instrumental labor, Bond discusses the causes and treatment of the condition. He attributes much importance to fecal poisoning in this case, and is determined in future, whenever he has reason to believe the patient to be on the verge of labor, to advise her to take a good dose of castor-oil, followed by such other simple measures as will insure a thorough cleaning out of the large bowel. The possible bringing on of labor at this time by the purge would be no disadvantage, and the additional security against complications of intestinal origin would compensate for the nastiness of the dose. Especially is this desirable in cases where, for the daily stool, it has been deemed necessary to take one of the milder aperient pills at bedtime each night.

79. **Nasal Deflections.**—Kyle describes several varieties of nasal deflection and their treatment, viz.: the split cartilaginous septum, dislocation of the columnar cartilage, simple deflections with very thin cartilage, the letter S deflection, that involving the bony septum, those due to splitting of the cartilage, with bulging on one side only, and those with redundancy of the tissues, overlapping the septum and extending close to the floor of the nose. He notices these according to their causes: disease, traumatic, and congenital. As regards treatment, each has its own peculiarity. With the very thin and flexible form, he has used a flexible, or rather malleable tube, shaped first to fit the deformity, and then gradually widened, producing gradual pressure with slow inflammatory process. The tube should never be allowed to remain in sufficiently long to produce ulceration, and the gradual pressure will thicken the septum, increasing its strength. Wearing it from four to twelve hours a day for two or three weeks is generally sufficient. In the regular letter S curvature, surgical interference is called for. In simple curvature with redundant tissue, with thick and firm septum, if the curve extends to the floor of the nostril a cut should be made on the opposite side close to the base and extending through the mucous membrane to the cartilage. Then, by means of a nasal saw, the cartilage should be cut to about one-third of the thickness. If the curvature does not extend to the floor, this incision should be omitted. The patient should be anesthetized, and by the use of the forceps the cartilaginous septum is fractured and crushed, permitting it to be folded into the desired shape and position, when it can be retained there by means of the tubes described. Details of the after-treatment are given. If the swelling is not marked, the tube may be left in position. While the tube is in place, the nostrils should be flushed every two to four hours, with a tepid solution of boric acid, 10 grains, and carbolic acid 2 drops, to an ounce of warm water. Until the fifth or sixth day, if the swelling is considerable, the tube should be removed daily and left out eight or ten hours, to avoid ulceration. Should the curvature extend back of the bony framework, the same method should be employed, except that in order to control the line of fracture of the septum, the bone should be sawed by means of a curved saw, at least one-third its thickness. If the deflection is a vertical one, of the V-shaped variety, before crushing, two incisions should be made two-thirds of the entire perpendicular length, dividing it into equal thirds. As a rule, there will be found enlarged turbinates with thick mucous membranes in the large nostril. These should be removed before the septum is straightened, otherwise they will produce obstruction. In that variety of the deflection in which there seems to be splitting of the two halves, with bulging only on one side, all that is necessary is a semicircular incision from the under portion of the projection, dissecting the mucous membrane and [illegible] the projection. Care should be taken to avoid penetrating the septum or injuring the mucous membrane or blood-supply of the opposite side. When there is redundant tissue the mucous membrane should be dissected up and the V-shaped portion of the cartilaginous septum removed, the amount depending on the extent of the redundance. The paper is illustrated so as to materially aid in the description of the operations. Each deflection requires its modification, and one method alone can not constantly be followed.

80. **Vibratory Massage in Chest Diseases.**—Ostmann reports four cases treated by vibratory massage, with the results. He offers them simply as the beginning of a study of the subject and this method of treatment. He says vibratory massage is contraindicated: 1. In all the acute inflammatory conditions of the sound-conducting apparatus. 2. In all diseases of the sound-perceiving apparatus with normal sound conduction. However, if rigidity of the ossicles exists it would be well to try the massage. 3. It would seem, from its mode of operation, that vibratory massage is of little benefit in middle ear disease attended with retraction of the ossicles, simple chronic middle ear catarrh, or when there is extensive atrophy of the membrane, or adhesions of the same. Further experiments are necessary to determine its place in these cases. Two weeks of treatment in all cases is necessary to form a fair estimate of possible benefits.

85. **Canadian and American Internes.**—Vaux makes a comparison between the hospital training facilities and systems in the United States and those in Canada. While the instruction is fully equal to the American, in the Canadian colleges, the later opportunities of the young physician are far from being what they should be, and very inferior as compared with those in the United States, according to his showing.

93. **Calcium Sulphid in Therapeutics.**—Earp finds calcium sulphid gives good results in conditions of the glandular system tending to suppuration, and in cases of indurated glands not reaching this point but discharging a thin, watery fluid. If there is a scrofulous tendency, the statement is especially worthy of emphasis. Boils are diminished in severity and frequency, and the pus becomes healthy and diminished. He reports several cases showing the benefit of the drug in different conditions. He does not use it in powder or tablet form, but prefers the gelatin-coated pills, and always examines them to ascertain whether they are reliable.

94. **Acute Croupous Pneumonia.**—French gives a synopsis of the answers to twelve questions sent out to the members of a local medical association, asking as to their treatment of acute croupous pneumonia. The majority did not believe in aborting the disease. Nearly all use local applications, 26 out of 27 using cotton or woolen jackets and 22 counterirritants in some form or other. The diet favored by the majority was a light or liquid one. Strychnin was almost universally used to sustain the heart; next to this, digitalis. Expectorants were not in favor. A small minority have used bleeding and a majority advised opiates, but the general tendency was to a sparing but judicial use of opiates, not as a routine practice. Alcoholics were not largely used, though freely by some. Cold applications were used by only a few. Several of the answers preferred the alkaloidal treatment, and four used oxygen by inhalations when respiration was embarrassed.

95. **Ichthalbin.**—From an analysis of the reports of this drug, Wolfe says: "1. Ichthalbin is non-toxic and non-irritant to the stomach, admitting, on this account, practically unlimited dosage. 2. It is an intestinal antiseptic, a stomach tonic, and an aid to constructive metabolism. 3. It has no odor and almost no taste, properties which make it easy of administration without combination or disguise."

98.—This paper has appeared elsewhere as an original, several times—see THE JOURNAL of February 3, 1900, p. 287; also title 133, p. 354.

99. **Blood Stains.**—Wynn notes the peculiarities of blood stains, and concludes that with the microscope, while it may give data for saying that certain samples are not from this or that particular animal, it is impossible to say positively that any sample is human blood. He offers a method here which he has found successful in examining suspected blood clots found on leaves, grass blades and thin paper, where the usual methods were unavailing to show the corpuscles: Fragments of the clot were hardened in Mueller's fluid, embedded and sectioned, the same as in examining tissues. The sections were stained in hematoxylin and eosin in the usual manner. This rendered the demonstration of both red and white blood cells easy. The white were readily recognized by their nuclei. The red were easily distinguishable, but too much hampered and deformed in

the meshes of the tissue to permit of satisfactory measurements. The latter end was received in the very thin portion turned on the paper. This was clipped out, hardened in equal parts of absolute alcohol and ether, stained in eosin, dehydrated in alcohol, clarified for a considerable time in bergamot oil and mounted in balsam. The effect of the oil on the paper was to render it translucent. Sufficient light was transmitted to render the stained red cells clearly visible in the meshes of the paper. The paper, so to speak, was converted into a cover glass, on which a thin blood smear had been made. The measurement of the corpuscles was then a simple matter.

116. **Appendicitis.**—Ochsner points out that the omentum naturally protects the appendix and, with the small intestines, can practically isolate it from the general peritoneal cavity, in case of inflammation. If undisturbed, and the case is only a simple catarrhal one, it will subside and the patient recover. If, however, it is a perforative or gangrenous case thus surrounded, it will form a harmless circumscribed abscess. If, on the other hand, it is disturbed, the trouble may be distributed throughout the peritoneal cavity with the worst result. He points out that in these cases we should do what we can to procure absolute rest for the parts, and prevent any interference with this protection. Especially should we avoid the giving of food, or anything that will start the peristalsis. The patient can be nourished by rectal feeding, but nothing but hot water should be given by the mouth. Following this plan, we avoid the two causes of pain, namely, pressure from gas and friction of inflamed intestinal surfaces due to peristalsis. He has used this method in a large number of cases since 1892, and in operating later has found only perforated or gangrenous appendix in a circumscribed abscess. Many of his friends have also used this method, and have greatly reduced their death-rate. There are only two conditions where the method will fail. In very emaciated patients, the omentum may be insufficient to protect the appendix, and in such a case operation should be done immediately. In patients where the attack commences directly after an unusually large and indigestible meal, peristalsis may be continued and give rise to disturbances. In such cases the stomach should be thoroughly irrigated to remove the food still remaining and any that may be regurgitated from the small intestines. He would give the rectal feeding for at least four days after the patient is apparently well.

122. **Modified Hartley-Krause Operation for Neuralgia.**—The case reported in the practice of Dr. Griffith is one of obstinate neuralgia, in which the nerve had been previously divided with only slight relief. The operation was performed, but instead of excising the Gasserian ganglion the two lower branches were excised for about one-half or three-eighths of an inch at their exit from the skull, the distal ends being pushed out. He calls attention to certain details and points suggested: 1. It may be impossible to avoid the temporal artery in the first incision; hence more profuse hemorrhage, possibly necessitating ligation. 2. Had the middle meningeal artery been enclosed in a bony sheath or canal, as is frequently the case, it could not have escaped injury sufficient to require ligation. 3. Skulls, even at this, the thinnest point, vary in thickness, requiring more chiseling if thick, but greater care to avoid injury to underlying structures if thin. 4. Excessive hemorrhage from the diploe and the subsequent loss of the bone flap argue in favor of trephine and rongeur forceps instead of the chisel. 5. Varying inequalities at the base of the middle fossa render the location of the ganglion more difficult in some skulls than in others. 6. Elevation of the lobe did not give rise to the stertorous breathing, progressively diminished respiratory effort, nor other symptoms of compression, but probably produced the hemorrhage which proved so troublesome at the close of operation.

[illegible]—See ¶ 98 above.

140.—This paper has been printed elsewhere and was abstracted in THE JOURNAL of Aug. 26, 1899, ¶127, p. 537.

FOREIGN.

British Medical Journal, January 20.

Bromid Sleep. A New Departure in Treatment of Acute Mania. NEIL MACLEOD.—The method recommended in acute mania, by Macleod, and which he calls induction of the "bromid sleep," consists in giving large quantities of bromid, say 2 drams, in half a tumbler of water every two hours until an ounce is given, the first day, and a similar amount in the same way the following day. The results of this heroic treatment are absolute stupor lasting four or five days or longer. He has used it in nine cases, the last two of which he reports. In the last, death occurred in the stupor on the sixth day, which he attributes to a septic poisoning starting in the condition of the mouth, which had been overlooked.

Australasian Medical Gazette, Dec. 20, 1899.

Excretion of Urine and Urea by Diminished Kidney Weight. JOHN B. NASH.—The subject matter of this paper was suggested by a lecture on the pathology of the kidney, by Prof. John Rose Bradford, and Nash, having three patients who had been operated on and one kidney or a part of one removed, made a series of experiments, testing the amount of urine and urea for periods of about fifty days, in two cases, two or three years after the operation, and in one, where the left kidney was removed, immediately afterward. The following conclusions appear to him to be justified: 1. If the kidney be removed, then three years subsequently the healthy kidney *in situ* will excrete more than the average quantity of urine produced by two normal kidneys. 2. This same kidney will excrete, per fluid ounce of urine and per diem, the average amount of urea that would be produced by two healthy kidneys. 3. If one-half of one kidney be removed, then two years afterward the urine voided will be the same in quantity as if two healthy kidneys were present. 4. The loss of the half of one kidney will cause no increase or diminution in the percentage or total amount of urea excreted. 5. If one kidney be removed, then the quantity of urinary water excreted by the other during the seven weeks immediately succeeding the operation will be below the average daily amount. 6. The urea produced by this one kidney will be less than the average proportion usually seen as the result of the work of two healthy kidneys, but probably not below the average excreted by two healthy ones from an individual recovering from a serious operation. The general trend of his observations is in the same direction as that of Professor Bradford, that one-third of the total kidney weight in the human being would be as capable of sustaining prolonged life, as he has found to be the case in a dog. The paper has the advantage of being a contribution to the pathology of the kidney from perfectly legitimate experimental observations on the human subject.

Bulletin de l'Academie de Medecine (Paris), Dec. 26, 1899 and Jan. 9.

Polyarthritis Deformans in Infants. MONCORVO.—Forty-eight cases are on record of polyarthritis deformans in children from three months to fourteen years of age, including twenty-nine girls. Moncorvo has recently observed it commencing in a two-months infant with heredosyphilitic stigmata. The mother also had polyarthritis deformans during her pregnancy. In over half the cases it developed between the age of 7 and puberty. The fixity of the arthropathic manifestations, their symmetric and progressive invasion, and restriction to the periarticular tissues and synovial fringes, indicate the diagnosis, and iodin and electricity are still the most certain therapeutic measures for polyarthritis in infancy.

Ultimate Results of Perineal Urethrostomy. A. PONCET.—In case of certain absolutely incurable strictures, Poncet opens up the urethra and divides it, usually just above the stricture. The bladder end is then dissected out and brought down to an opening in the perineum, where it is sutured to the skin. The penile end is merely sutured across or left to take care of itself. Twenty-three patients have been thus operated on; a number over seven years ago; others five and three. The results are extremely satisfactory. The subjects have complete control of micturition and experience only slight inconvenience from the feminine method of urination, which is alone possible. None have been willing to undergo a second operation to restore the use of the old meatus, expressing entire content with their present condition. The chief drawback is that fecundation is impossible, although the genital function is otherwise unimpaired. In a few cases Poncet was able to remedy this by refraining from completely severing the urethra, and suturing the edges of the incision in the inferior wall directly to the skin, thus allowing the passage of part of the semen and urine by this orifice as well as by the new meatus.

Treatment of Arrested Growth. SPRINGER.—Among the measures to stimulate the development of the body, Swedish gymnastics, continuous aëration night and day, saline medication, and hydrotherapy, etc., "the most effective is local stimulation of the epiphyseal cartilage of the lower end of the femur." The physiologic activity of this organ can be aroused and its building-up function be energetically stimulated by local excitations applied at this point: frictions, massage, compresses moistened with saline solution, etc., but chief in importance is electricity, in any form. The most rapid results are attained by combining static electricity with faradization of the surrounding muscles; the resulting circulatory and trophic hyperactivity is transmitted to the subjacent tissues. Muscles, periosteum and bone constitute a physiologic unity, tributaries of the same centers and receive their nourishment in common. This local action can be obtained as long as the ossification of the cartilage is not complete. General medication should also be applied to individual cases to obtain the maximum effect. The growth of this epiphyseal cartilage progresses intermittently, stopping and continuing after a period of rest. Springer also called attention to the favorable effect on the growth of the decoctions of cereals which he has been recommending for some time as a beverage.

Presse Medicale (Paris), January 3 and 10.

Passage of Serum from Blood-Vessels Into Tissues and Exudates. H. Van de Velde.—The tests reported were made by injecting horse serum into rabbits. The antileucocytic property of the horse serum, which is absent in normal rabbit serum and fluids, passed almost immediately into the exudates and edema fluids of the rabbits, demonstrating conclusively that the tissues rapidly take up substances introduced into the blood by intravenous injections.

Cardiac Troubles in Convalescence from Typhoid Fever. J. Mollard.—In four-fifths of the cases of typhoid convalescence that have come under Mollard's observation, he has noted heart disturbances, and in about one-half the cases these disturbances, by their association in the same individual, constituted an actual syndrome with the following elements: 1. Disappearance or attenuation of the apex-beat; slight displacement of the apex of the heart when it could be distinguished. 2. Disturbances in the rhythm: tachycardia, embryocardia, arrhythmia. 3. Alteration in the sounds of the heart; mediocardiac systolic murmur; *bruit de galop;* attenuation of the first sound or of both sounds at once. All the patients had been convalescent a month at least. It is evident that the typhoid fever creates lesions in the heart muscle, and the troubles noted so frequently during convalescence are the connecting link between the initial cardiac accident and the slowly evolving myocarditis which does not become manifest for long years afterward.

Revue Hebd. de Laryngologie (Bordeaux), January 13.

Chorea of the Larynx. A. Onodi.—In this monograph Onodi states that the observations published under this heading have led to much confusion, and the term chorea of the larynx should be abandoned once for all. The observations were merely of different forms of nervous, reflex cough of various etiology and manifestations. When chorea accompanies the cough, the term "general minor chorea" includes the throat affection, and when there is a choreic agitation of the vocal cords alone, "choreiform movements of the vocal cords," as opposed to rhythmic, monotonous movements, is a good descriptive title. Under the heading, "chorea of the larynx," respiratory and chronic spasms of the glottis have been described, with a rise and fall of the larynx, due to the presence of an aneurysm. The epidemics described by Szego are cases of hysteric cough, from suggestion, phenomena of imitation, habit spasms, with nothing in common with chorea. In the observation published by Preysz, the symptomatic cough preceded a severe fatal affection of the central nervous system.

Berliner Klinische Wochenschrift, January 1 and 8.

New Names and New Conceptions in Pathology. R. Virchow.—The practice of bestowing new names on diseases, etc., that have long been known, is inexcusable, according to Virchow. New names are only justified when a new conception is advanced, and then should be selected to conform to the rules of language, not some hybrid monstrosity. He refers with satisfaction to the words he has introduced into medical science: leucemia, thrombosis, embolism, myoma, glioma and myxoma, and then calls attention to the fact that when Glisson first described rhachitis he spelled it without the first h, thus forming a new word, although he evidently meant to connect the disease, rickets, with scoliosis of the *rhachis*, as shown by his illustrations. Virchow is not so positive in regard to this connection and proclaimed, in Vol. v. of his *Archiv.*, that the softening of the bones, which is the essence of rhachitis, does not affect the fully-developed bones but merely the cartilaginous or connective tissue. "But the medical world still clings to the delusion that the decalcification of fully-developed bones is the essence of what is in reality a disease of the cartilages rather than of the bones, and has little or nothing to do with the rhachis."

Fibroma in Mesentery and Extensive Resection of Small Intestine. E. Lexer.—Two meters were resected and the intestines sutured with lateral anastomosis; no drainage. The fibroma weighed 5 lbs. and was 25 cm. in diameter. Begouin has collected 29 observations of mesenterial tumors, with 14 cured, which includes Terrillon's 8 cases, one a lipoma weighing 57 lbs. Harris and Herzog report 10 cured in 18, and Shepherd has related another successful removal of myxofibroma weighing 10.5 lbs. and resection of 2.34 m. of the small intestine. Ruggi resected 3.30 m. in a boy of 8 years, healthy two years later.

Psoriasis and Glycosuria. F. Nagelschmidt.—In 25 cases of psoriasis, alimentary glycosuria could be readily induced in 8, while in numbers of cases of other cutaneous affections it proved impossible to induce the glycosuria. Nagelschmidt reviews the observations of coexisting diabetes and psoriasis in literature and describes a case of Senator's in detail: a woman of 32, with psoriasis—patches noted occasionally since childhood—who died in diabetic coma. "The conclusion seems inevitable that there is some connection between diabetes and psoriasis under certain circumstances."

New Method of Treating Syphilis by Inhalation. R. Kutner.—This communication recalls Lamb's description of the "origin of roast pig" and the great discovery that it was not necessary to burn down the house to obtain roast pork. The secret of the success of mercurial inunctions and pillow-slip and other methods of mercurial treatment is being ascribed more and more to the inhalation of the fumes and Kutner now discards everything except the direct inhalation of the mercury, which is rubbed into a specially constructed, air-tight box, heated or not, and the subject merely inhales the fumes through a tube and mask for half an hour a day. No symptoms of intoxication have been observed in any of the numerous patients thus successfully treated, and the inhaled mercury is found in the urine the same as with other methods. The subject is relieved from all the annoyance of frictions, etc., in the intervals, and the amount inhaled can be accurately determined and regulated. No stomatitis occurs from these brief treatments, although, as a precautionary measure, the patients are instructed to afterward gargle with potassium chlorate.

Artificial Production of Gout. H. Kionka.—Gout in pigs is due to deposits of guanin in the muscles, joints, etc., of the diseased animals, but it is caused in fowls the same as in man, by concretions of uric acid. Gout can also be induced in fowls by the administration of phenol, acetone, sublimate, aloin, oxalic acid and even sugars and chromic acid, and not merely in poultry but in ostriches, hawks and other birds of prey. Kionka has succeeded in inducing gout by feeding fowls exclusively with meat. They seemed to be perfectly healthy for two to five months, when the manifestations of the disease appeared, most prominent in the gradually developing tophi on the joints, and between the tendon sheaths of the legs and feet. Deposits of urates were also found on the serous membranes of the intestines, and uric acid infarcts in the kidneys. The fowls craved lime and ate 10 gm. of powdered egg shells a day, under the influence of which the ammonia in the urine was increased, but the elimination of uric acid decreased 40 to 50 per cent. V. Noorden recommended lime for the uric acid diathesis, three years ago, as he had observed that the elimination of phosphates diminished under it. The fact has also been noted that in human and dog urine, carbamic acid is excreted in large amounts after ingestion of lime. Herxheimer has tabulated tests which show a decrease of 12 to 13 per cent. in the elimination of uric acid when 6 to 21 grams of calcium carbonate are ingested daily.

Centralblatt f. Bakteriologie (Jena), Dec. 23, 1899.

Experimental Yellow Fever. A. [illegible].—The [illegible] with respect to the [illegible] and extremely path[illegible] differs widely from all others and [illegible] study of the mechanism [illegible] against them; also his statement that he found experimental vaccination [illegible] cultures were used entirely or nearly free from toxin. "The antitoxin in the blood of an already [illegible] animal is partly destroyed or neutralized by an injection of the toxin, thus diminishing its vaccinating power and it never regains its former intensity, while, on the other hand, the amount of antitoxin is progressively increased with every injection of toxinless cultures." He therefore advocates discarding the toxin in producing vaccin to combat infectious diseases, as Tizzoni has already recommended for tetanus. He mentions that the characteristic "wax seal" appearance, which is lost by passage through rabbits, can be restored by inoculating a dog with the cultures, and that the virulence of the bacillus can be increased by passage through animals. None of his attempts to induce infection [illegible] succeeded. He found the immunizing substance chiefly collected in the spleen and liver, and emulsions of these organs protected animals against infection even when the blood had not yet acquired any protecting power. "The facility with which the characteristic symptoms of yellow fever can be induced in all the laboratory animals explains much of the mystery hitherto surrounding this dreaded disease, aside from its importance in the etiology."

Reducing Capacity of Bacteria. F. MUELLER.—The morphology of bacteria is proving less reliable as a means of differentiation than was anticipated, and consequently the physiologic and biologic properties are acquiring new significance. Mueller's study of the reduction process of the bacteria in certain stains shows specific differences with each variety, both quantitative and qualitative, which will aid materially in the differentiation. In selecting stains for the purpose, those whose constitution is known should be preferred: methylene blue, litmus, rosanilin and indigocarmin were used in the tests reported. The reduction occurs outside of the cell body, and is evidently due to the action of a metabolic product excreted by the bacteria, which gradually loses its reducing power, from oxidation. All the bacteria tested, aërobic and anaërobic, have this reducing capacity more or less marked. A number take up the stain so intensely as to be appreciable to the naked eye—seen best on stained, agar streak culture—but the color forming bacteria usually do not.

Centralblatt f. Inn. Med. (Leipsic), Nov. 18, 1899, and Jan. 6, 1900.

Anomalies of Body Structure with Cardioptosis. L. FERRANNINI.—[illegible] called attention, some time ago, to the primary and usually isolated ptosis of the heart are connected with any dilatation of the organ or mechanical factor, but due exclusively to some essential alteration in its suspending apparatus. This condition is a special localization of the ptosis diathesis, in which a defective development renders the connective tissue less capable of accomplishing its task, and entails severe disturbances from slight causes. Four observations are described in detail, all showing abnormal development affecting the vascular system most prominently, causing in addition to the typical cardioptosis, mitral stenosis and various trophic disturbances.

Influence of Brief Action of Cold on Composition of Blood. [illegible].—No trace of hemoglobin could be detected in the serum of rabbits dipped into cold water for a few minutes or submitted to other similar tests. But the increased specific gravity of the blood and serum immediately afterward demonstrated that the cold drives the lymph out of the capillaries into the tissues. This change in the currents of the tissues suggests an explanation of the tonic and metabolism-stimulating effect of certain hydrotherapeutic measures. Later, friction and warmth send the lymph back again, shown by the prompt alteration in the concentration of the blood.

Neurologisches Centralblatt (Vienna), Nov. 15, Dec. 15, 1899, and Jan. 1.

Are All Ganglion Cells Directly Connected with Arterial Circulation? A. ADAMKIEWICZ.—The writer has succeeded in establishing that the intervertebral ganglion cells of the brachial plexus are each enclosed in a delicate little capillary which branches from the arterial blood capillaries and enlarges to enclose the cell like a glove, narrowing beyond it and again subsiding into an arterial capillary. These secondary capillaries do not allow the passage of the corpuscular elements. This mechanism has only been established for the ganglion cells mentioned, but Adamkiewicz considers its existence demonstrated for all the ganglia of the brain and cord, by the difference between the results when any non-physiologic substance, distilled water for instance, is applied by instilling it on the exposed brain or even directly on the ganglia. It scarcely disturbs them in their repose (rabbits), but if even 2 to 3 c.c. of the same substance is sent into the cerebrum through the carotis, the ganglia respond violently to the excitation, with nystagmus, disturbances in the respiration and pulse and tetanic convulsions. The only explanation of this difference in the reaction is the assumption that the water comes into more intimate contact with the ganglion cell through the circulation than even by direct external contact.

Dementia Paralytica and Degeneration. P. NAECKE.—It is possible that an endogenous or exogenous intoxication, slow or rapid, may prove to be the basis of all mental disturbances, and not merely of the so-called infectious psychoses, affecting a predisposed brain. Naecke ascribes great importance to heredity in this predisposition of the brain, which may remain latent and not appreciably affect the mental capacity. The probability of these assumptions is apparent even now. One of the preliminary questions is whether all the so-called external and internal causes of mental disease, especially emotional excitement, directly or indirectly convey toxic substances to the brain, which Naecke considers a most important factor in the etiology of paralysis.

Antagonistic Reflex. SCHAEFER.—Perpendicular compression of the middle or upper third of the Achilles tendon causes slight pain and, by shortening the tendon, produces a minimal plantar flexion of the foot and great toe, in normal conditions. But in five cases of severe mental disease Schaefer noted that this compression was quite painful and induced strong contraction of the dorsal flexor digitorum and tibialis anticus, that is, of the antagonists of the tendon. He asks for an explanation of this.

St. Petersburger Medicinische Wochenschrift, Dec. 30, 1899.

Treatment of Pulmonary Tuberculosis in High Altitudes. T. v. PACHT.—The more rarefied the air, the greater the evaporation, and the blood therefore becomes concentrated in proportion as the altitude is higher. This is the cause of the increase in the number of corpuscles, so variously interpreted. A very anemic patient with extremely hydremic blood will find this concentration to one-third or one-half of the total amount of blood most disagreeable, and be unable to bear a high altitude, while in case of moderate anemia the concentration of the blood enables the tissues to be better nourished, and hence improves the general health. Persons with extremely abundant expectoration are also much improved by the decrease in the quantity of the expectorated matters, which also favors the much-needed repose of the lungs. But in those with dry catarrh or ulceration of the larynx, the cough is increased by the dryness; such persons belong in a moist climate. The effusion in pleuritis humida is dried up and absorbed much more rapidly at a high altitude, while the effect in pleuritis sicca is distinctly the reverse; the deeper respiration necessary in the mountain air is even injurious on account of the increased friction of the pleural layers. The article refers to the danger of overexertion in sports in much frequented resorts, and quotes that "Davos looks like a factory town now, with its hundreds of smoking chimneys," while the much vaunted absence of wind in the valley leaves the smoke hanging for days at a time over the place.

Pruritus Vulva.

R.	Menthol	gr. xii
	Alcohol	ʒiss
	Aquæ dest	ʒiii
	Acidi acetici diluti, q. s., ad	℥i

M. Sig. Apply locally as required.—Cumston: *Med. Record.*

Societies.

Perry County Medical Society.—This Society met at Duncannon Pa., January 25, and elected the following officers: president, L. M. Shumaker; vice-president, H. D. Reutter; secretary, A. R. Johnston; treasurer, D. B. Milliken.

Ramsey County Medical Society.—The annual session and election of officers was held by this Society, in St. Paul, Minn., January 29. The new officers are: president, G. A. Renz; vice-president, Cornelius Williams; secretary, E. F. Geer; treasurer, Fred Leavitt.

St. Joseph County Medical Society.—The fourteenth annual meeting of this Society was held in South Bend, Ind., January 30. Among others presenting papers were E. W. Andrews, Weller Van Hook, and G. Frank Lydston of Chicago, and L. H. Dunning and F. C. Ferguson, of Indianapolis, Ind.

Denver and Arapahoe Medical Society.—The following named physicians were elected officers of this Society, at its annual meeting, January 9, held in Denver, Colo.: president, C. K. Fleming; vice-president, H. G. Wetherill; treasurer, E. J. Rothwell; financial secretary, G. H. Stover; secretary, C. P. Conroy.

Thirteenth International Medical Congress.—The Secretary-General of the Congress gives notice of the following reductions in rates: 1. All the railway companies of France will grant to the members of the Congress a reduction of 50 per cent. on round trip tickets, as follows: Every member will receive, on application to the Secretary-General, Dr. A. Chauffard, 21, Rue de l'Ecole de Médecine, Paris, a ticket which must be stamped at the railroad station where he enters France, on paying the full price of a single trip to Paris. At Paris the member will have this ticket *viséd* in the office of the Congress, and it will then serve as a return ticket without additional expense. The journey to Paris having been paid entirely, and the return trip being free, there is a 50 per cent. reduction. It goes without saying that in order to secure this, the return trip must be to the same point at which the original fare was paid. 2. The French line—La Compagnie Generale Transatlantique—will allow members of the Congress a reduction of 10 per cent. on tickets from New York City. 3. The Secretary-General has arranged to provide to early applicants a number of lodgings, including light and service, at the rate of five francs a day; and various agencies also advertise reduced rates for lodgings. For further particulars and application blanks for membership, address, Dr. H. B. Jacobs, Secretary, American National Committee, 3 W. Franklin Street, Baltimore, Md.

New York County Medical Association.

Jan. 15, 1900.

Dr. Thomas H. Manley presented a case of secondary osteoplasty, a specimen of gangrenous perforation of the sigmoid flexure, and a specimen of very large omental hernia.

Dr. F. H. Wiggin presented a large fibroid uterus, just removed by the intraperitoneal method.

NEW METHOD OF RETROPERITONEAL DRAINAGE OF PYOSALPINX.

Dr. Leon F. Garrigues read the first paper of the evening, on this title. It included a report of five cases so treated, but the histories were not read. The author is of the opinion that pelvic suppuration should be treated by vaginal drainage, not only because this procedure is almost free from risk, but because convalescence is so very much more rapid after it than where laparotomy has been performed. In addition to the disadvantage of longer convalescence, which oftentimes extends over many months, there is the danger of ventral hernia. He has seen severe hemorrhage follow puncture of the abscess and packing with iodoform gauze, and besides such packing is painful, and by reason of the pressure to which it is subjected does not drain efficiently.

The technique which he advises for these cases is as follows: An incision is made at the anterior vaginal junction, commencing posterior to a transverse line drawn through the cervical canal on the side corresponding to the pyosalpinx, and following the contour of the cervix for a distance of three-quarters of an inch, passing through the whole thickness of the vaginal wall. With the forefinger, the peritoneum can usually be quite readily stripped off from the uterus, and this should be done until the origin of the Fallopian tube is reached. Having located the most prominent part of the pus tube, an assistant presses downward while the operator pushes a pair of blunt scissors into the pyosalpinx. Having explored the abscess cavity with the finger, and broken down any pockets, a T-shaped rubber drain is inserted. He does not approve of irrigating the cavity at the operation, lest there might be a minute opening present through which infected matter might gain entrance to the peritoneal cavity. Four out of the five cases were operated on in tenement houses, and all five made complete recoveries.

Dr. J. Riddle Goffe said that while he is an earnest advocate of the vaginal route for the treatment of pelvic disease, he does not approve of the method advocated by Dr. Garrigues, though he has never personally tested it, nor had an opportunity of listening to a detailed report of the cases presented; but on theoretic grounds he objects to opening up the broad ligament in these cases. This ligament is bountifully supplied with lymphatics, and the danger of infection by so doing seems too great. Another objection is that it does not seem to be capable of effecting a radical cure. The method which he prefers and practices, consists in freely opening Douglas' pouch and making a thorough exploration. He then brings down the uterus and its appendages through an anterior vaginal incision. Where the abscess is large, it is necessary to first puncture and drain.

Dr. J. E. Janvrin also favors the posterior incision and drainage through the cul-de-sac—a method which is not liable to excite peritonitis, and which will, in the majority of cases, effect a cure. Because of the danger of infection in Dr. Garrigues' method, he considers it fully as dangerous as the more usual one of incising the posterior cul-de-sac. From personal observation, he vouches for the good results attainable by Dr. Goffe's method.

Dr. H. J. Boldt said he finds it difficult to understand how the method described in the paper could be employed for cases in which the pyosalpinx is high up in the pelvis, or where there is only a slight enlargement of the tube. He prefers to open the posterior cul-de-sac widely enough to admit his hand. In this way he can satisfy himself that he is really dealing with the tube, and that there are no other pus collections in the pelvis.

Dr. Garrigues replied that the fact that in all his cases the temperature promptly fell to normal is a sufficient proof that the theoretic danger of infection has been exaggerated. In his own hands this technique has yielded a radical cure. As he has only employed it where the tubes were but slightly enlarged, he could not fully answer one of Dr. Boldt's criticisms.

MANAGEMENT OF HERNIA.

Drs. Parker Syms, John F. Erdmann, Henry Roth, Irving Haynes, and William B. Coley presented papers on various phases of strangulated hernia, which appear in The Journal.

Dr. William B. deGarmo spoke of the negligence of many medical practitioners in regard to the proper application of trusses. This was a matter requiring the physician's personal attention. Where a light truss will efficiently support a hernia, no other treatment is required; on the other hand, where it occasionally allows the hernia to escape, or the patient is careless about the use of the truss, operation is demanded. He believes that the operation for radical cure should be done in almost every case of strangulated hernia, and after the patient has worn a bandage for four or five weeks, it is his custom to dismiss him, so great is his confidence in the radical cure. While all surgeons recognize the danger of resorting to taxis, the fact remains that many practitioners continue to employ it before giving their consent to operation. They will succeed [illegible] in reducing the hernia if they will attempt to draw down the hernia farther instead of attempting to push it back.

Dr. Charles N. Dowd, in the discussion, called attention to the fact that the operation for the relief of a strangulated hernia can be safely done at the extremes of life. He recently operated on a strangulated femoral hernia in a very feeble man of [illegible] years with excellent result, [illegible] he operated on strangulated hernia in infants of 4 and 6 months of age. This operation is not one from which the general practitioner should shrink in an emergency. It is very simple, the chief point being to remember to cut down to the aponeurosis of the external oblique and divide this above the point of strangulation.

Dr. Thomas W. Hotchkiss said that he too had operated successfully for the relief of strangulated hernia in young infants, as also in a woman of 81 years. When the diagnosis is reasonably clear, operation should not be delayed.

Philadelphia Pathological Society.

Jan. 11, 1900.

NEW METHODS OF STAINING THE SPOROZOA OF MALARIAL FEVER.

Dr. Albert Woldert, in a paper on this subject, said that for general work examination of the fresh blood is preferable to the stained methods in examining for the malarial parasite, on account of that method giving better opportunity for studying the general characteristics of the hematozoa. However, the stained methods have their place, because in this way the specimen becomes portable and remains permanent. The stained method requires a very careful technique, and another objection to it is that it frequently requires from fifteen minutes to two hours. A method which will shorten this period has been devised by Futcher and Lazear, of Baltimore, Md. It is a combination of the fixation method of Benario and a stain first employed by Marchoux. Two solutions are required, a fixation and a staining fluid. The first consists of a .25 per cent. solution of formalin in 95 per cent. alcohol; the second of a saturated aqueous solution of thionin (Cogit) in 50 per cent. alcohol—20 c.c. and 2 per cent. aqueous solution of carbolic acid, 100 c.c. The blood specimens are fixed for one minute in the fixation fluid, and afterward stained for fifteen seconds. The whole process can be completed in two minutes and the specimens are permanent. The second stain is one prepared by the speaker in an attempt to make the Prince blood stain. It is a triple stain and solution No. 1 has toluidin blue, gr. xv.; distilled water, 3iv. Solution No. 2 has acid fuchsin, gr. xv.; distilled water, 3ss. Solution No. 3 is 2 per cent. aqueous solution of eosin. The specimens are fixed by heat and stained for five minutes. By the latter the organisms are easier to find than in the former method.

Crescent organisms were exhibited, which had been found on the tenth day and after 90 grains of quinin had been given.

Dr. A. O. J. Kelly said he had used the first method and found it a useful and easy one.

Dr. J. A. Scott does not believe that any quick method of staining is needed, since it is so easy to study the fresh specimen of blood.

STATUS LYMPHATICUS WITH GASTRIC TETANY.

Dr. Alfred J. Hand presented specimens from a case of this condition in a child who had manifested symptoms of tetany with symptoms also indicating involvement of the higher nerve centers. Stroking either side of the face produced contraction. Coughing and dyspnea were also present. Fever was absent until shortly before death. At the autopsy the thymus gland was found to weigh 10 grams. The heart was normal, the liver suggested amyloid degeneration and weighed 232 grams. There was a supernumerary spleen present. The pancreas was normal, stomach walls thickened, and there was hyperplasia of Peyer's patches.

Dr. Simon Flexner said that, in an epidemic of diphtheria, he has noted the enlarged thymus, and hyperplasia of the lymph tissue of the intestines.

SYPHILIS OF SPINAL CORD.

Dr. Joseph Sailer presented a specimen from a man who gave a history of having been wounded by poisonous arrows thrown by uncivilized natives in South America. He said he was wounded in ninety places, and at each point a chancre (?) developed. A scar had also been present on the penis. Section of the spinal cord was shown, in which could be seen two large thrombi.

PULMONARY ACTINOMYCOSIS.

Dr. Simon Flexner presented a specimen of lung showing actinomycosis, from a woman of middle age, who had suffered from cough and pain in the chest. A swelling subsequently developed in the chest, and ruptured, leaving a sinus which communicated with the lung. In the pus actinomyces granules were found. At the autopsy the lower lobes of both lungs were found involved. Section showed consolidation of the tissues, with here and there yellowish masses, surrounded by overgrowth of connective tissue. Microscopic sections showed the micro-organism.

ADDISON'S DISEASE.

Dr. Frederick A. Packard presented specimens of suprarenal glands taken from a patient with Addison's disease. There had been several brownish spots in the region of the right nipple. Two features which led to the diagnosis were the low-tension pulse and gradual failing in general health. In the right suprarenal gland tuberculous nodules were found. The left was also diseased.

Jan. 25, 1900.

TYPHOID FEVER SYMPOSIUM.

Dr. A. C. Abbott reviewed the epidemiology of the disease. While typhoid fever has always been regarded as an autumnal affection, there are certain years in which the number of cases has been much higher in the spring than in the fall. This is particularly noticeable in the records of Philadelphia for last year. One interesting feature noticed in the epidemic of typhoid fever here last year is that the mortality in different wards was two or three times what it was in others. In those where the mortality was highest, the residents had been furnished with water from the Queen Lane reservoir, which it is believed had been contaminated.

Dr. J. H. Musser spoke of the value of clinical laboratory methods in diagnosis. One to-day recognizes the value of laboratory facilities as an aid to diagnosis, particularly of the infectious diseases. While an examination of the excretions in typhoid might be of some aid, yet such results obtained would not compare with the positive evidence furnished by the Widal reaction. It has been found that where careful technique has been followed in making this test, it has proven correct in over 98 per cent. of the cases of typhoid. Some inaccuracies doubtless occurred from the fact that some observers diluted the blood too much, thus furnishing ground for failure in some cases. The reaction in this disease may at times be intermittent, or delayed; yet it should be found in all cases if persistent efforts are made. The reaction is of the greatest importance in clearing up the diagnosis of an obscure nature. One precaution is that the reaction may be obtained in cases in which the patient previously had an attack of enteric fever, thus leading to an error in diagnosis. An examination of the blood is important. As is known, the leucocytes are not increased, and if they should be, that might indicate a septic process or an impending perforation of the bowel. Their increase after perforation chiefly affects the polynuclear forms. The diazo reaction is important and has been found in 90 per cent. of the cases. The presence of this reaction during the progress of the disease, however, limits the usefulness of this test.

Dr. A. O. J. Kelly briefly reviewed the statistics of the German Hospital. During the past two years the dried blood has always been used in making the test; 1002 tests were made in 557 cases of typhoid. In some instances the wet method was tried as a confirmatory measure. The dilutions were 1 to 10 or 1 to 15 in fresh bouillon cultures. By the dry method a positive Widal reaction was not only obtained in typhoid fever, but also in cases of tuberculosis, abscesses, rheumatism, appendicitis and other diseases. After a very thorough trial he is convinced that the dry method is not so accurate as the wet.

Dr. A. C. Abbott stated that at the city laboratory the dry method has been used as a routine measure, the wet in some instances. By the dry, 3 per cent. of errors occurred.

Dr. H. W. Cattell gave the statistics of the Woman's Hospital. The percentages in which the positive reaction was obtained was quite high. In his opinion the diazo reaction is important in clearing up cases of summer diarrhea in children, many of which are undoubtedly typhoid. Dimmel has spoken of a method of differentiating the typhoid bacillus from the colon. This consists in growing the micro-organism in a bouillon culture with the liver, and afterward using the fermentation and reaction test with litmus paper. If the litmus turns red, it is an indication that the organism was that of typhoid.

Dr. J. McFarland spoke of the cases in which the reaction was obtained at the Medico-Chirurgical College. He recognizes element is always present. Tschisch speaks of *coitus reservatus* that the personal equation, by many observers, may vary considerably in obtaining the Widal reaction by the dry method.

Dr. J. D. Steele spoke of the cases which occurred at the Presbyterian Hospital. His experience with the dry method agrees with that of Dr. Kelly, in that the dry does not seem to be as reliable as the wet. His dilutions were 1 to 10 and 1 to 20. The cultures were used from twenty-four to thirty hours. In obtaining the Widal reaction he noticed one avenue which may lead to failure, in that in most specimens, near the edge of the hanging drop, the bacilli are seen to become non-motile or give a picture of clumping. He has not called the reaction positive unless clumping was observed some distance away from the edge of the cover-slip. Regarding the diazo reaction, he has made examination of the urine and believes its persistence is an indication that a relapse is imminent or that the convalescence will be delayed. Ordinarily it would disappear in the latter weeks of the disease.

Dr. Simon Flexner spoke of the atypical lesions found in enteric fever, and of typhoid septicemia. As is known, many cases of typhoid have been reported in which no intestinal lesion of the bowel occurred, and yet a positive Widal reaction was obtained. In these the micro-organisms were discovered in the liver, spleen, lymphatic glands and bone marrow. Through the blood their distribution was made possible, yet it is exceptional to find the bacillus in the circulating medium, a true typhoid septicemia. While in Manila, he learned that the intestinal lesions in typhoid were very slight. In fact, many could not be diagnosed at the autopsy table, and yet the micro-organisms might be found in the blood.

Dr. T. G. Ashton believes that if proper care were exercised many epidemics of typhoid fever would be prevented. Proper care means thorough sterilization of the feces, urine, bed linen, and care of the hands in those that attend the sick. The modes of infection were detailed. In order to disinfect the stools it is advised to use four ounces of chlorid of lime to one gallon of water mixed thoroughly with the stool and allowed to stand for one hour; 10 per cent. carbolic acid might be used, as also bichlorid of mercury, 1 to 500. The latter solution should be acidulated and allowed to stand for a longer time. To sterilize the bed linen, 3 per cent. carbolic acid solution will do. It should be immersed in this solution and then boiled.

Dr. J. McFarland spoke of the present outlook of the serum treatment. He thoroughly reviewed the literature on the subject. In trying to manufacture artificial antitoxin from the horse, by first injecting pure and afterward sterile cultures, he was not successful. One point should be remembered in this connection and that is, any remedy which is recommended as an antitoxin in typhoid should also be antimicrobic in action.

Chicago Medical Society.

Jan. 24, 1900.

OCULAR THERAPEUTICS FOR THE GENERAL PRACTITIONER.

Dr. Albert B. Hale read a paper on this topic, and said: New drugs from the chemist's laboratory are constantly being added to the physician's table, and some deserve to be retained both by specialists and general practitioners. Among drugs useful in ophthalmic therapeutics we have, of the newer ones, four that are particularly valuable.

Holocain.—This is a synthetic product, related to phenacetin, so that its name is merely imitative of cocain, which it may in many cases supplant. Its salt, the hydrochlorid, is soluble to about 2.5 per cent. in cold water, and should be applied in 1 per cent. aqueous solution. It has particular advantages for the general practitioner. In removing foreign bodies from the conjunctiva or cornea, for instance, it is better than cocain, as it acts quicker, causes little pain, does not dilate the pupil, in temporary use affects corneal epithelium less, produces no ischemia, to be followed by hyperemia. It is somewhat antiseptic enough to keep itself at least, and can be sterilized by boiling with no disturbance of chemical composition. It must not be injected hypodermically, nor be applied to other than ocular mucous membranes, as it is systemically poisonous. It must be prepared and kept in porcelain, not glass, as the alkali of the glass influences it.

Euphthalmin.—Of the three effects of local applications to the eye—omitting cautery or astringency—anesthesia, mydriasis, cycloplegia, many drugs produce all three, in varying proportions. Modern chemistry has supplied holocain for simple anesthesia. As yet, no drug produces simple cycloplegia alone. Mydriasis alone, however, can now be produced by euphthalmin, a complex synthetic product. It is best used in a 5 to 10 per cent. watery solution. Here the author gave tables and cited authors to prove that cycloplegia is practically absent, and that it can be used in all cases at any age to produce a dilation of pupil for study of lens and fundus. His conclusions were: 1. No subjective symptoms are produced. 2. Only mydriasis is caused, of short duration, beginning in thirty minutes. 3. The effects are shown earlier in youth than age. 4. Ocular tension is not increased. 5. No hyperemia nor ischemia of the conjunctiva is produced, and the corneal epithelium is unaffected. 6. Accommodation is practically unaffected. 7. The normal pupil is soon restored. 8. It is apparently non-poisonous.

Protargol.—This he considers better than any inorganic silver salt yet used. It is proteid compound, containing about 8 per cent. of silver, and its bactericidal power as great as that of silver nitrate, while it penetrates deeper; is much less painful, not so dangerous to the epithelium, and can be used much more frequently; it is not so affected by light, and its brown color is an advantage for local application. Perhaps the silver nitrate is better for direct action on the gonococcus, but for all other inflammations or irritations of ocular membranes, protargol, in 5 to 10 per cent. watery solution, is much better for the general practitioner.

Extract of Suprerenal Capsule.—Abel (Johns Hopkins) was quoted with reference to epinephrin. Bates' experiments were confirmed, showing that it is astringent more than hemostatic, acting through the uninjured vessel wall. It is useful for cosmetic purposes, to blanch a red eye, to assist in prolonging anesthesia with cocain or holocain, to aid other drugs in treating inflammations of the conjunctiva. It is an unstable powder, spoils easily in the presence of water, and must therefore be mixed fresh for use, as it has no well-defined solubility.

PREVENTION OF TUBERCULOSIS

Dr. Chas. J. Whalen presented a paper on this subject; it will appear in The Journal.

TREATMENT OF FRACTURES OF EXTREMITIES BY MEANS OF SCHOENBORN-BEELE SPLINT.

Dr. Edward H. Lee followed with a paper on this topic. He gave a detailed description of this splint, and demonstrated its usefulness on a patient. Among the many advantages which it offers are that it can be applied immediately; it is light and neat; there is no necessity of padding with cotton; it is not apt to produce decubitus; it may be removed and put back in place in a very short time, and the cost of the material is moderate. He knows of no other that will adapt itself so perfectly to the form of the limb as this one. In 1891, during his term of service as interne under Professor Schoenborn at the Julius Hospital in Wurzburg, Germany, he had the opportunity of the splint. For the past seven years he has used this method in the Cook County Hospital, the Alexian Brothers' Hospital, and in private practice in a great number of cases. It has been used extensively by a number of the internes of the Cook County Hospital, and by some of the members of the attending staff, and the results have been excellent. Dr. Lee decsribed the application of the splint to various fractures.

NATURE OF NEURASTHENIA: A STUDY OF RECENT LITERATURE.

Dr. R. M. Ladova read a paper on this subject, saying that this disease is a general chronic functional neurosis, a state of continuous exhaustion and irritability of the nervous system. The predisposing causes are heredity, either neuropathic or arthritic. The determining causes are trauma, anemia, toxemia, overwork, worry and anger, exhausting chronic and acute diseases, misfortune, alcoholism, mental shock, violent emotions, crisis of puberty, sexual and other excesses and platonic love. Where heredity is present, the trouble begins early in life and runs a more severe course. Attention was directed to the two hundred observations made by Bidon, who holds that neurasthenia is etiologically allied to degeneracy. A study of the posterity of neurasthenics strongly points toward this view. Grandholm regards the too extensive social intercourse of the world as the principal cause of neurasthenia. Gattel has collected one hundred observations and claims that the sexual

[illegible]

It is possible that the toxin only acts as an irritant to the nerve-cell, exciting it to over-activity. Fatigue and chemical phenomena accompanying it are in proportion to the amount of nerve energy the muscle receives from its centers. A study of walking and bicycling riding points to it. In riding or walking up hill, where volition works against the force of gravity, fatigue is more evident. Functional neuroses are probably not primary diseases of the central nervous system, but a secondary symptom-complex in consequence of the activity of products of primary oxidation disturbance of the nervous system.

Lehigh Valley Medical Association.

[illegible]

[illegible]

[illegible] Reminiscences of the Last Half-Century," alluding to the changes since the time of Meigs, Hodge and others in the practice of obstetrics. He thinks the pre-eminent standing of these gentlemen elevated the chairs of obstetrics in the colleges, their reputation being national: the end of the greatest epoch in this art ended with their deaths. The regeneration of gyne- [illegible] tinues. Every manipulation in obstetrics is surgical and no necessity exists for the division of labor based on the use of the knife. The principal advances are asepsis and the use of anesthesia: the former, except in more intelligent detail, is not new: the latter is the greatest boon to parturient women.

[illegible]

Dr. Boardman Reed, Philadelphia, read a paper on this topic. He considers this easy of employment, and exhibited the apparatus which he employed. He has obtained excellent results in cases otherwise intractable. Certain patients require stimulation, and thus he obtains it. Much is necessary in the way of diet and care of the general system.

[illegible]

[illegible] Laboratory to the Physician." He pointed out that it greatly aids in diagnosis and proper treatment of disease, and instanced the X-ray, pathology, bacteria culture, microscopic work, histology, photography. Observation now takes the place of [illegible] sure as to what he obtained. Above all, the note-book should [illegible]

[illegible]

[illegible] ruple Amputations." He traced the history of surgery from the [illegible] haste to operate, nor object to do so when it is necessary. In amputations, we must have enough skin, muscle and fascia to [illegible] case is on record. He does not favor the drainage-tube, and regards it very important that we should make early arrange- [illegible] months or even a year, thus causing the patient to be awkward in its use. He prefers chloroform, and for ligatures the silk [illegible]

Dr. W. J. Hearn, Philadelphia, agreed with the speaker, but [illegible]

[illegible] servation more advisable than formerly, so it is important, if there is the least doubt, to employ careful hemostatic and anti [illegible] there is no need, in the majority of cases, for immediate [illegible] them on the crushed surfaces or just above the torn skin [illegible] wounds.

Dr. J. B. Roberts, Philadelphia, called attention to the necessity of applying means to check hemorrhage at the locality [illegible] jured, not far above, as is often done by the improperly taught policemen, who cause much damage by the tight bands [illegible] they apply far above on the injured limb. He believes it is a mistake to operate in a hurry. There is no need of it. H stops hemorrhage, obtains asepsis, and then waits for reaction

Dr. H. Augustus Wilson, Philadelphia, directed attentio to the need of the early use of artificial limbs, not delaying fo months, which often causes great awkwardness and difficulty [illegible] their use. Also, this delay causes wasting by non-use [illegible] limb, and pain when the artificial limb is placed. Surgeo must prescribe these limbs with as much care as they should d everything else.

Toronto Clinical Society.

[illegible]

[illegible]

Dr. George A. Peters showed one-half of a knitting needl which he had extracted from the pelvic cavity of a very sto woman. The patient had sat down upon her knitting, o needle passing into the buttock half its length and breaking o In its passage into the right buttock it had grazed the tub ischii of that side. On first examination the needle could no be felt, but a week later the surgeon examined vaginally an found the foreign body on the lateral plane of the pelvis lyin on the tuber ischii. It was removed with a pair of forcep through a vaginal incision.

[illegible]

[illegible] large syphilitic ulceration on the vertex about four inches i diameter and of irregular outline. Twenty-five years ago th man had become syphilized and at that time was very muc addicted to alcohol. At the onset of the present lesion he su [illegible] ago he had a fall and cut the scalp, which never healed ve well: and in August, 1898, it commenced to discharge. B September, 1899, there was a large ulceration and the bo beneath was corrugated and black. Pulsation from the bra [illegible] late in September, 1899, cutting through both tables, 2 by 2 [illegible] since that time portions have been removed without it, the on discomfort recorded being some buzzing in the ears. At fir the patient was put on iodid of potash, 10 gr. three times day gradually increased until at the present time he is taki 35 gr. three times a day. Treatment is suspended at interv of two weeks when the bichlorid is administered.

[illegible]

Dr. W. B. Thistle presented a specimen, with the history the case, from a married woman, aged 32 years, who had nev been pregnant, nor syphilized, although the husband w drunken and worthless. She was admitted to the hospital wi weakness, shortness of breath, and marked pallor, some edem below the eyes: pulse rapid but regular. Examination of t heart revealed a double aortic murmur traceable up into t neck and down along the sternum. Water hammer pulse w very distinct, also throbbing of the great vessels of the neck. There was also capillary pulsation very distinctly seen in the patient's finger nails. The apex was displaced somewhat to the left. Later on there appeared a systolic murmur at the apex, traceable to the left, and still later a presystolic one accompanied by a very pronounced thrill; also a pericardial friction sound. First examination of the urine revealed no albumin, but later on it was found in abundance. The diagnosis was malignant endocarditis. Death occurred from uremic convulsions, after seven weeks in the hospital. At the autopsy, the aneurysm was found to be in the ventricular septum, extending up into the auricular, so that it was partly in both septa. It was two inches in length and an inch in breadth. The clot turned out left a smooth wall with calcareous deposit about the opening. The mitral valve showed nothing abnormal, contrary to expectations.

ENDOCARDITIS OF RIGHT HEART.

Dr. W. B. Thistle also showed this specimen. The case was one of chronic endocarditis, occurring in a rheumatic girl, aged 12 years. It was of interest because all four valves showed marked changes; very pronounced mitral and just as pronounced tricuspid; with distinct vegetations on the aortic and also on the pulmonary valve; and, particularly interesting when the specimen was recent, there seemed to be a little tuft on each segment of the pulmonary valve, very distinct. This is an extremely rare condition. Some authors say you never get endocarditis affecting the pulmonary valve.

TUBERCULAR TESTICLE.

Dr. H. A. Bruce showed this specimen, the condition beginning in the epididymis, with a sinus opening through the scrotum, discharging pus. The patient was a young married man of 26 years, with some enlargement of both testicles for about a year, although the sinus only existed about four weeks. He also had one on the other side. The left one led to the globus major and the right to the globus minor of the corresponding side. The disease was in both testicles. Examination per rectum showed the seminal vesicle of the left side enlarged. The left testicle was removed entire, and as the patient was particularly anxious that some portion of one or the other be left, only the vas and epididymis of the right were removed. Later on this portion will have to be removed.

EXTRAORDINARY CASE OF CANCER.

Dr. Wm. Britton related the history of this case and Dr. Anderson described the pathologic specimen, from a corpulent woman of 57 years. She first came under Dr. Britton's care in July, 1899, with edema of the left ankle and a portion of the leg as far as the calf. In the absence of local causes for this, pressure was suspected higher up and a vaginal examination revealed a hard nodular mass completely filling the pelvis. A portion of the uterus could not be made out at all, nor either ovary or tube. With the finger in the rectum the tumor could be pressed forward so that the intestine was patent to a certain extent. An exploratory incision was performed and a large amount of ascitic fluid spouted out; the omentum was thickened and very much congested. The tumor was adherent in many places. As it was not thought advisable to proceed any further, the wound was stitched up. Five days later oozing of ascitic fluid began from the upper part of the incision and from the stitch openings. This continued about two weeks, when healing took place by granulation. During the last week of life vomiting was almost incessant. At the autopsy it was found that the tumor had nothing to do with the uterus, but arose from the left ovary. The whole peritoneum, both parietal and that covering the viscera, was studded with little elevations about the size of a millet seed, covering the broad ligaments, the whole surface of the tumor superiorly, and every portion of the peritoneum. They were most numerous over the stomach, mesentery, and colon. In front of the pylorus there was a great deal of thickening of the peritoneum, while posterior to it there was a nodule the size of a walnut, coarse and grayish in structure, having the appearance of scirrhous cancer. Macroscopically the condition was thought to be due to tuberculosis, but on examination with the microscope it turned out to be a papillomatous cyst of the ovary, the condition being shown microscopically in both ovaries.

ECLAMPSIA.

Dr. K. McIlwraith reported two cases of eclampsia, in primiparæ, aged 19 and 24 years respectively, in whom treatment by morphia, calomel and salines proved effectual.

Dr. W. H. Pepler lauded veratrum viride, which had proved an excellent remedy in his hands, and condemned pilocarpin, as death had resulted in the only case in which he employed it.

Dr. Wm. Britton thought that venesection should not be overlooked in sthenic cases.

Cincinnati Academy of Medicine.

Jan. 15, 1900.

FRACTURE AT BASE OF SKULL; RUPTURE OF MIDDLE MENINGEAL ARTERY; RECOVERY.

Dr. S. P. Kramer presented a patient, first seen on Nov. 3, 1899, a few hours after he had fallen down a flight of iron steps. He was semicomatose, with slow pulse, and semiparesis of the left side, especially of the arm and leg. The tongue was deviated toward the left side. The pupils were sluggish, with no difference in size. He did not respond to sound. In addition to this there were hemorrhages into the conjunctivæ, and also from both nostrils, which increased in the following twenty-four hours, and were considerable in quantity. There was also hemorrhage from the ear. The eyes were very much infiltrated. A diagnosis of fracture of the base of the skull was made, together with rupture of the middle meningeal artery, chiefly on account of the paresis. On November 5 the skull was laid bare and a badly comminuted fracture found, involving the squamous portion of the temporal bone, also the parietal. A rupture of the middle meningeal artery was also discovered. Just above the dura was a large clot of blood. Opposite this the dura was cut and torn, and from the aperture a small portion of the cortical substance was lost. After everything had been thoroughly cleansed, the dura was sutured and a drain inserted. On the day after the operation he had an attack of Jacksonian epilepsy, which affected the left eye, particularly the muscles of the neck, face and eyes. On the day following he had another similar attack. He came to the conclusion that these were due to iodoform poisoning, as he had used an iodoform gauze drain, that was discontinued, and a plain gauze one substituted. No other attacks came on. The recovery from that time was interrupted. There was still, as shown by Dr. Kramer, a small stitch-hole abscess in the scalp, and there is also now remaining a little deviation of the tongue to the left.

AORTIC DISEASE COMPLICATING GONORRHEA.

Dr. Gilbert L. Bailey presented a patient who had an attack of gonorrhea seven years ago. This was followed by a stricture of the urethra, which stricture was cut. Following this he had a lymphangitis involving the left leg, and he has suffered from this condition ever since. He has also suffered from phlebitis. The left leg was larger than the right. He has an aortic murmur due to an endocarditis occurring at the time of the attack, also probably of gonorrheal origin. There is considerable hyperplasia of the subcutaneous connective tissue, resulting in great thickening of the limb.

LOCOMOTOR ATAXIA: ETIOLOGY.

Dr. D. I. Wolfstein, in a paper on this topic, gave an exhaustive review of all the causes that have been believed to have caused this disease, his own personal opinion inclining him to the view that syphilis is not so important as writers have given us reason to believe.

Dr. Philip Zenner upheld the view of previous syphilis. He said that it could not be borne too strongly in mind that syphilis is often introduced into the system through unknown channels and not recognized at the time by either patient or physician. Certainly lesions of syphilis have been found when no history of syphilis could ever be obtained. Not infrequently there is great difficulty in obtaining a history of the disease even when the lesions are typical. He mentioned several cases in support of this, that had come to his attention very recently. A patient had been sent to him by his family physician. Examination revealed locomotor ataxia, but no marks of previous syphilis could be found even after the closest examination and the patient absolutely denied infection. He saw the family physician the next day and was informed that he, the family physician, had treated the man for constitutional syphilis, his wife for constitutional syphilis; that the latter had had a number of abortions, and that all the children who had come into the world had died of hereditary syphilis. Had he not seen the family physician he would have entered the case on his books as one of locomotor ataxia without previous syphilis.

A few months ago he saw a woman with paresis. He sent for her husband and inquired if he had ever had syphilis, but it was absolutely denied. The man, on leaving the office, casually announced that he was going to see his oculist. Calling up the latter he found that the husband was suffering from atrophy of the optic nerve. On inquiring from the family physician he found that the latter had treated the man for constitutional syphilis. Since that time the man has developed other symptoms of tabes.

In another case of a woman with locomotor ataxia, he sent for the husband and inquired for syphilis. Here it was also denied. He learned from the wife that she had had many miscarriages, and that a few months after marriage she had developed an eruption covering the body. Her husband has since developed paresis.

Many other similar cases have occurred in his practice, and he always expects to find syphilis in locomotor ataxia, and is not very often disappointed.

Dr. F. W. Langdon said that while he does not believe that syphilis is always the cause of tabes, he believes it is a very important antecedent in very many cases. He has had a number of cases of tabes in which no syphilis has been present. A very prominent etiologic factor is the strain put on the sensory neurons. The more highly organized the individual or race, the more delicate the sensory system and the more liable the latter is to give way under strain. The essayist mentioned how uncommon tabes is among the lower races of man, though syphilis is far more common among them than in civilized communities. It would seem from this one point alone that there is something else lacking as an underlying factor, and he is inclined to put it to this strain on a sensory mechanism, already overly delicate. He does not regard it as a great mystery that, with the progress of atrophy of the optic nerve, the disease tabes is frequently checked. With the progress of optic atrophy, man is necessarily compelled to be less and less active, and he may lead an almost vegetative existence. In this way the strain is taken off the sensory neurons in general, and that, in his judgment, is responsible for the cessation of the progress of the disease. Antisyphilitic treatment, while often advocated in tabes, in most cases, so far from doing good, caused actual harm; for tabes is not a gummatous disease.

Dr. Joseph Eichberg said that, in reference to the causation of locomotor ataxia, the neuron theory seems to be plausible, because the changes which take place in the body of the nerve-cell show that degeneration frequently occurs from over-stimulation of the neuron. The fact that Fournier, in 5000 cases of syphilis, was able to find 11 per cent. with locomotor ataxia, is an argument that does not admit of much discussion. It can not be said that when 11 per cent. of 5000 patients with syphilis have tabes, these are accidental cases, nor will it do, on the other hand, to say that tabes is always dependent on syphilis. The same sort of reasoning will apply to every infectious disease. It does not follow, because out of a number of individuals only a limited number show the infection, that the reputed cause of the disease is not operative in the manner stated. The fact that an individual may have had locomotor ataxia and have subsequently acquired a syphilitic sore does not disprove the fact that he had a primary sore before the tabes developed, because reinfection is not an unknown thing in the history of that disease. He believes that the whole pathology of the disease is as yet in chaos; while the lesion is known, the existence of the neuron and its liability to undergo degenerative changes, the result of nutritional disturbances, is indisputable, though the exact manner in which these changes are brought about is purely speculative.

Dr. J. W. Rowe believes that the theory of over-stimulation of the neuron, followed by exhaustion, fits well with the etiologic features named: that this exhaustion can be produced by excesses in alcohol or in venery, from overwork, or from the presence of an exhausting disease such as syphilis. In practical medicine we are accustomed to at least confirm our diagnosis from the effects of our therapeutics, as for instance the results of iodid of potassium in syphilis and quinin in malaria; the best neurologists in the country admit that the one therapeutic measure which has any possible chance of staying the progress of tabes is absolute, unqualified rest. By this latter method of treatment it might be possible to confirm the idea that exhaustion is the cause of tabes.

OCULAR SYMPTOMS OF TABES.

Dr. Louis Stricker read a paper on this subject. He called attention to the variety of symptoms on the part of the ocular apparatus that may be present in this disease: the Argyll-Robertson pupil, paralysis of the extrinsic muscles attended with strabismus and ptosis, and lastly the peculiar primary atrophy of the optic nerve, which latter, when occurring early in the disease, is curiously enough frequently followed by a cessation in the progress of the tabes.

Chicago Laryngological and Climatological Society.

Dec. 29, 1899.

HOME TREATMENT OF CONSUMPTION.

Dr. John A. Robison read a paper on this subject, and in it arraigned the profession for neglecting to place their home patients under the proper conditions for cure. He outlined the home treatment to consist essentially of the open-air method, and a minute supervision of the patient's daily hygienic and dietetic habits.

Dr. O. T. Freer said that exercise, when fever exists, will increase this, and that the rest treatment is then indicated. The fever is not only due to the absorption of tubercle toxins, but to pneumonic and bronchitic inflammations. It is better to give less food than more than the stomach can take care of, as these patients are very apt to have indigestion. It is especially unwise to give fluid fats, although solid fats are indicated, as the muscles waste less than the fat of the body, but fluid ones, such as cod-liver oil, increase indigestion, perhaps by covering the solid particles of food with an oily coating. Of the fluid fats cream is the best. It is now the fashion to prescribe milk generously, but he does not think it wise to overdo this. He believes a dry diet is preferable. The fresh-air treatment is a matter of great importance, as it means the absence of bacteria; the air of rooms has more bacteria than the air of the streets.

Dr. Edwin Klebs said drug and fat treatments come and go, but the individualizing of cases is neglected. The paper impressed him with the fact that he does not make a difference in the treatment of different cases. There is an enormous difference in the indications for the treatment of various patients. The fevers differ; the capacity for exercise differs. Dr. Freer spoke of putting the patient to bed. There has been a great controversy on the other side of the water on the rest and exercise question, and the war has been bitter. Dr. Klebs, from four years' sanitarium practice abroad and home, is of the opinion that patients do better when you can keep them out of bed, keeping the windows open when they are bed-ridden. The fever can be reduced and the psychic effect is good.

Dr. J. A. Robison recommended that the windows of the bedroom be kept open, but he went a step further, and would have some patients practically sleep out of doors without disastrous results. They can build little balconies and sit wrapped up in steamer chairs, kept warm with hot water-bottles for seven hours a day with good results, the patients being improved but not cured. We can not send many patients away, and sometimes it is not desirable. When we keep them at home we know what they are doing. The dietetic and hydrotherapeutic treatments seem simple, but are hard to put into practice with home patients.

Dr. Klebs does not agree with Dr. Robison that the patients need not be seen oftener than once a week, for it is better to keep in contact with them. He has followed in this method a plan which works well in the city: He has a nurse trained in dietetics and hydrotherapy, who visits the patient and sees that the instructions are carried out. They get the patients to work, and keep them cheered up, which is very important.

Dr. W. E. Casselberry said that modern sanitarians consider fever as a prohibitive of exercise, and yet western experience opposes the rest treatment. He has seen detrimental effects follow exercise at a temperature from 99 to 101.5 F. Exercise increases the temperature from .5 to .4 and .6 of a degree, but this does no harm. He is not in favor of putting the patient to bed: the mental effect is bad. He has not seen any mention made of walking as an exercise, which is a very valuable form and may be called the poor man's exercise; it is easily regulated, and the amount should be graduated, commencing with short walks and increasing their length gradually until the patient walks two or three miles a day; while walking he should take moderate inspiratory exercise, holding the breath for several steps. It is a great mistake to tell such patients to take a full bath; as many of them do not know what that means. He has them stand in a bathtub filled with water at a temperature of 50 to 60 F., when robust; if not robust he has them commence at a higher temperature, 70 to 80 F., and gradually reduce it. The temperature of the bath-room should not be less than 70 to 80 F. The bath should not last over thirty seconds, the patient standing in the tub and rubbing the water over himself quietly, following this with a brisk rubbing with a crash towel, the friction and motion having a stimulating and tonic effect.

In regard to feeding, he raised the question as to the use of alcohol—not as a food but as a stomachic: as an appetizer before meals. He thinks most patients can digest more food than their desire for food tempts them to take, unless it is in the advanced cases; and as a tonic he is accustomed to allow them wine or beer with their meals. Consumptives should never wear heavy underwear. Too heavy is debilitating, and provocative of catching cold.

Dr. J. A. Robison, in closing the discussion, said that his paper was merely suggestive, but he hoped the profession would adcpt a more systematic method of home treatment.

CLIMATIC TREATMENT OF TUBERCULAR LARYNGITIS.

Dr. E. F. Ingals opened the discussion on this topic by saying the climatic treatment has not been as satisfactory as in pulmonary tuberculosis. He has often thought it necessary to restrain patients, with tubercular laryngitis, in their journeyings. He has seen some who were injured by sojourning in high altitudes, but others who were not, nor by hot or dry or dusty climates. In fact, some seemed to improve, but he believes the improvement was due to a betterment in the general condition of the patient. As a rule he advises patients to keep away from the high altitudes, and urges the low ones, preferably the warm and dry. He would not send cases of tubercular laryngitis to Arizona, as it is too dusty. They are better in the mild climate of the South than the vigorous one of the North. Some would be better in a warm, damp climate. While a change of climate in the early stage often gives improvement, he believes it is generally due to that of the lung troubles.

Dr. W. E. Casselbery said his experience was confined principally to nine years spent in the Rocky Mountains, from Las Vegas, Albuquerque, Phoenix, Cheyenne and the borders of Colorado. The altitude is high, the climate dry, with abundance of sunshine and ozone. The sun is hotter here on account of the rarity of the atmosphere, and it is cooler in the shade. The winds vary very much, according to the particular spot. Denver, Estes Park, etc., are not very windy, nor so constantly dust-laden as are Phoenix, Albuquerque, etc. The outdoor life there is a great feature in the cure.

He said that Dr. Solly, in a report to the Pan-American Medical Congress, some years ago, tabulated 45 cases of tubercular laryngitis. In 25 the lungs were infiltrated, 20 had laryngeal ulcerations. Of his 25 infiltrated cases 17 lived an average of fifteen years—8 became worse and died, these averaging four years. In the 20 ulcerated cases, 5 were alive at the end of 8½ years, and 15 died or were worse at the end of 2½ years. Many died of pulmonary tuberculosis. There was, therefore, 64 per cent. of improvement or arrest; none of the patients died in the early stages of the disease.

Dr. Levy of Denver had also reported 42 cases in which 12 improved. One was cured, 2 improved after four years, 5 died and 7 were improving at the time of the report.

Dr. C. expressed it as his conviction, from personal experience and that of others, that there is nothing inimical to laryngeal tuberculosis in the climate of Colorado and New Mexico. He does not think high altitudes any contraindication, but that dust is, especially in alkaline regions. He does not see any reason for thinking altitude per se is inimical. This idea prevails among the profession, but the majority of cases do not do well anywhere. He does not see any direct curative agency in any climate, and thinks the good results secured are secondary in their nature.

Dr. Edwin Klebs said he had observed the influence of climate in cases of tubercular laryngitis in Denver; the Alps; the Black Forest; Falkenstein; in Davos; Phoenix, Colorado; Arizona, and North Carolina. He believes that when climate benefits the pulmonary tuberculosis it benefits the tubercular laryngitis; but climate is of secondary importance, as none is specific; it is only an adjunct.

Omaha Medical Society.

Jan. 23, 1900.

THREE ABNORMAL OBSTETRIC CASES.

Dr. W. O. Bridges presented a report on this subject. Two were cases of shoulder presentation, and in neither was the head impacted in the pelvic outlet. He was able to convert each, by bimanual manipulation, into a cephalic presentation and deliver, one with forceps and the other without. The most interesting feature of one was the fact that he could get the head over the neck, but it would slip away and be re-converted into a shoulder presentation with every new pain. To prevent this he resorted to profound anesthesia, then again secured the head in proper place and held it firmly until it was well engaged. The third case was one of albuminuria, with marked accumulation of liquor amnii, still further complicated by a central implantation of the placenta. When he was first called, he was unable to prove pregnancy present: he could get no fetal sounds; there was very great distension from fluid: edema and general anasarca were present and labor was said to be on: the cervix could not be reached at all. Later on, after some general treatment, he found a great degree of pain, no dilatation of the cervix: the pain continuous and convulsions on examination. He decided on rapid dilatation, which was accomplished in the midst of more convulsions. He found the placenta implanted centrally but not low down: this allowed him to detach, without much loss of blood. He then went through the placenta and ruptured the membranes, securing the largest flow of liquor he ever saw: it soaked the bed and ran through to the floor. By reason of the place of attachment of the placenta, he did not have the usual hemorrhage, though it was a central implantation. He therefore decided to apply the forceps instead of performing podalic version. This he was able to do at once, having a dead child. The mother never rallied, and died within an hour.

Dr. Bridges spoke of the rarity of convulsions with placenta previa, and of the very great danger involved. While it is the usual custom to perform podalic version, he was able to secure complete delivery with the forceps without loss of any material amount of blood.

HYDROCELE.

Dr. B. B. Davis read a paper laying great stres on the evil features of the injection method of treatment of hydrocele. He spoke of it only to condemn it as really the most radical method while posing for the most conservative one. He has used the Volkmann method repeatedly, the open operation with free drainage, but prefers the Bergmann, with free incision and removal of part of the tunica, and the closure of the walls without any drainage.

The Johns Hopkins Medical Society.

Baltimore, Md., Jan. 22, 1900.

ADHERENT APPENDIX.

Dr. H. A. Kelly reported a new method which he devised for dealing with an adherent appendix. He has found this condition in about twenty-five among the last 200 cases of abdominal section he has performed. His method consists in dividing the appendix at its base, then drawing out the mucous coat and separating beyond through the attached peritoneal covering. He explained his mode of dealing with the ureter in cases where it was involved in the tumor mass and had to be exsected, sometimes uniting the cut extremities or bringing the end to the bladder and making a new connection with that organ.

FIBROID UTERI.

In removing large fibroid uteri involving the cervix, he has found it difficult to reach the vessels for ligation, and under these circumstances he splits right through the mass from top to bottom, and thus secures access to the vessel.

THE JOURNAL OF THE
AMERICAN MEDICAL ASSOCIATION.
61 MARKET STREET, - CHICAGO.

SATURDAY, FEBRUARY 10, 1900.

THE DIAGNOSIS OF SMALLPOX.

In the presence of an epidemic the diagnosis of smallpox may in general be unattended with difficulty, but when the disease occurs only in sporadic instances doubt may often reasonably arise, and mistake may not always be avoidable. That error should be made at the present day, in the diagnosis, ought not be a matter for harsh criticism when it is considered that smallpox is comparatively rare, and many, particularly among more recent, practitioners have never had the opportunity of seeing a case of this disease. The action of the Philadelphia authorities recently, in response to an appeal by the County Medical Society, in opening the wards of the Municipal Hospital for Contagious Diseases to the instruction of undergraduates of the various medical schools, under the supervision of the physician in chief is, therefore, a matter for sincere congratulation, and is a credit to the intelligence and the public spirit of those with whom lay the power to withhold or to grant the desired concession.

Through the beneficent influence of vaccination, smallpox is rare, even in the large cities of the world, so that under the most favorable circumstances many practitioners may pass through a long and busy career without seeing a single case, to say nothing of the lack of clinical demonstration during the course of collegiate medical instruction. It is, therefore, as has been already stated, not surprising that cases of smallpox should be occasionally overlooked, or mistaken for other disease, and vice versa. The condition could not well be otherwise. It is worthy of mention, further, that by reason of the wide diffusion of vaccination even when the disease occurs, it does not always present the classic clinical picture. The frightful epidemics of the past are no longer met with in civilized communities, and both sporadic cases and endemics and epidemics often present a degree of mildness that renders the confounding of smallpox with other diseases exceedingly easy.

In a typical case, after a period of incubation of about twelve days, the attack usually sets in with a rigor or a succession of chills. Children may exhibit convulsions, delirium or coma. The temperature at once rises to a considerable elevation, and the pulse and respiration are accelerated. Headache and pain in the back and extremities are often present, and the physical prostration may be profound. The appetite is lost, thirst is increased, and constipation usually exists; vomiting or retching, with epigastric pain, is common. Catarrhal symptoms may also be present. On the first, second or third day a rash may appear, sometimes diffuse and macular, like that of measles, at other times scarlatiniform, and confined to limited portions of the body, particularly the hypogastric and the axillary regions; at still other times a diffuse red eruption appears on the trunk and the extremities within the first or second day, being soon followed by the lesions of hemorrhagic smallpox. Generally on the third day—sometimes earlier, sometimes later—the typical exanthem of variola makes its appearance, often earliest on exposed parts of the body, as the face and the extremities. For a short time it is macular, but it soon becomes papular, then vesicular, and finally pustular, and it exhibits throughout a peculiar shot-like hardness. As a rule, a central depression or umbilication is present, and the lesion is surrounded by an area of redness. The pock is constituted of a number of compartments or loculi, so that its contents are not wholly discharged and it does not collapse on puncture. The mucous membranes may be the seat of greyish or whitish elevated spots that soon become transformed into excoriations. The pustules undergo desiccation or rupture on about the eighth or the ninth day. If the true skin has not been involved, the crusts fall off about the fifteenth or the sixteenth day, leaving purplish-red stains; otherwise sloughing takes place on the eighteenth or the nineteenth day, leaving granulating surfaces that undergo cicatrization and are at first brownish, but ultimately become white. The initial fever subsides shortly after the eruption has appeared, and the constitutional symptoms moderate at the same time. At the end of three or four days, however, with the onset of pustulation, the febrile manifestations are renewed.

The disease in the differentiation between which and smallpox the greatest difficulty is likely to be encountered is chicken-pox. In fact, there was a time when the two diseases were considered identical, but there is abundant and conclusive evidence against this view. In the first place, typical chicken-pox may occur in those who have had smallpox or have been vaccinated; and an attack of the disease, while it confers immunity to chicken-pox, does not protect in the slightest against smallpox or vaccinia. Then, each disease gives rise only to cases of its kind. Further, the eruption of chicken-pox begins as a series of small, slightly acuminated red spots, which at first disappear on pressure. In a few hours, these become transformed into round or oval, transparent, tense vesicles, about as large as split peas. These sometimes have a red base, although they are at times seated on a colorless surface. They appear most commonly and in greatest number on the trunk and the covered portions of the body; usually they are superficial, have no thickened floor, are generally not umbilicated, do not present a number of loculi, and when pricked collapse almost completely; their fluid contents become opalescent, but not purulent; they begin to undergo desiccation in from twelve to twenty-four hours; thin brownish-yellow scabs form, which in a few days crumble and fall away, leaving reddened pigmented spots, and sometimes transient and superficial cicatrices. In contradistinction to the eruption of smallpox, that of chicken-pox generally appears in successive crops in the course of three or four days or a week, and in a single case all the different phases of the eruption may be present at the same time. The constitutional symptoms generally are exceedingly mild, and the temperature does not fall when the eruption appears, as it does in smallpox. The disease occurs almost exclusively in children, although many instances have been observed in adults. In this connection it should be borne in mind that smallpox also was largely a disease of children until the beneficent effects of vaccination almost revolutionized the incidence of the disease.

The primary eruption of smallpox may resemble that of measles, but the latter usually appears the later, and with its appearance the temperature, which originally had been high and had declined, again rises, while with the appearance of the papules of the eruption proper of smallpox the temperature declines. The eruption of measles further remains essentially papular throughout, while that of smallpox becomes successively vesicular and pustular. Catarrhal symptoms are earlier and usually more pronounced in measles than in smallpox. The latter is the longer disease.

There may be a close resemblance between typhus fever and smallpox at the beginning of each disease, but the eruption of the latter appears a day or two later than that of the former, usually avoids the face, does not become pustular, is often in part petechial, and the temperature does not decline with its appearance. The total duration of typhus fever is considerably less than that of smallpox.

In the headache, the pain in the back and the extremities, and the febrile symptoms, typhoid fever may at first be suggested in a case of smallpox. Epistaxis and diarrhea are, however, likely to be wanting in the latter, the onset of which is usually abrupt, while that of typhoid fever is insidious and gradual. Apart from the marked differences in the character and the course of the eruption that of smallpox appears earlier than that of typhoid fever, and its appearance is attended with decline in temperature and subsidence of the other febrile symptoms. The diazo reaction of the urine and the Gruber-Widal reaction of the blood are peculiar to typhoid fever, and the subsequent course of the two diseases is sufficiently distinct to prevent mistake.

The scarlatiniform rash, sometimes present early in cases of smallpox, and which may be suggestive of scarlet fever, is generally replaced on the third or the fourth day by papules, which in turn become vesicles and pustules. Rupture and desiccation occur in smallpox, and desquamation often in large flakes or sheets in scarlet fever. Further, sore throat with deposits on the tonsils or in the pharynx, enlarged cervical or submaxillary lymphatic glands, and a "strawberry tongue," are peculiar to scarlet fever; whereas in smallpox headache and backache are the more conspicuous.

The rash of erysipelas differs from the early roseola of smallpox in being circumscribed and indurated, and not succeeded by an eruption of papules, vesicles, and pustules, but terminating in desquamation, sometimes after the formation of blebs.

Contagious impetigo is an afebrile cutaneous disorder, attended from the onset with vesico-pustules on apparently healthy skin. The lesion is large, flat, and superficial, and on disappearing leaves no scar. The disease is communicated only by contact or direct inoculation, and it may spread by auto-inoculation.

The pustular syphilide may bear a close resemblance to the eruption of smallpox, but it occurs in crops, is more superficial, is less indurated, is usually free from umbilication, exhibits no tendency to ulceration, is unattended with dermatitis, and is usually associated with a coppery discoloration of the skin, and other symptoms of syphilis, particularly granular enlargement. Much the same points of differentiation will aid in the separation of smallpox and other syphilitic eruptions.

Smallpox and such disorders as cerebrospinal meningitis, influenza, rötheln, and various erythematous conditions of the skin may for a time be confounded, but a careful scrutiny of the patient, a consideration of its associations, and the further development of the clinical picture, will in almost all cases clear up any doubt that there may have been in the diagnosis. A knowledge of the existence of other cases of smallpox, a history of exposure to infection and the absence of evidence of successful vaccination and revaccination may be important factors in reaching a decision. Error can only be avoided, however, by being constantly on one's guard and always prepared for the unexpected and the expected alike.

MULTIPLE AMYLOID TUMORS OF UPPER AIR PASSAGES.

So-called amyloid tumors occur most frequently in the conjunctiva. They are in reality for the most part local amyloid infiltrations of granulation and hyperplastic connective tissue. In some cases the amyloid substance is present in small masses, in others larger nodules are formed that consist almost exclusively of amyloid material, and acquire a wooden hardness. Tumor-like accumulations of amyloid also develop more independently and without any evident association with inflammatory processes.

Next in frequency are amyloid tumors of the upper air-passages. These peculiar pathologic products belong to the more infrequent formations. Instances of occurrence in the trachea and the larynx are described by Burow, Balser, Kraus and Zeigler; partly solitary, partly multiple masses or tumors, sessile or pedunculated, were present in the submucous tissue of the parts mentioned; in some cases amyloid accumulations also occurred in the tongue. Recently Manasse[1] recorded two instructive cases of this disease. In the first there was found a large flat tumor, 3.2 cm. long and 1.2 cm. broad, situated on the posterior wall of the larynx and the trachea, and scattered about were numerous smaller growths, at times so closely aggregated as to resemble a more diffuse amyloid infiltration. The patient was a man, [illegible] years old, who died from peritonitis caused by the perforation of a duodenal ulcer. The masses were nodular, transparent and covered by an intact mucous membrane; on the application of iodin, the surface assumed a deep brown color; and gentian violet followed by glycerin and acetic acid gave the amyloid material a red color. A peculiar feature in connection with some amyloid growths in this situation is the presence of bone and of hyaline cartilage. Manasse believes that the islands of cartilage in his case were produced by a process of metaplasia in the connective tissue. The perichondral and parachondral connective tissue, in which the formation of amyloid masses takes place, is regarded as capable of thus forming both cartilage and bone. From the histologic description of Manasse it appears that in this case the deposition of amyloid substance took place in the preformed normal tissue.

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[1] Virchow's Archiv 1900, vol. clix, p. 117.

Manasse's second case concerns a man, aged 50, who for some time complained of difficulty in swallowing and breathing. Amyloid nodules were found on the soft palate, both tonsils and the left aryepiglottic ligament. The last nodule was pedunculated and moved up and down with the movements of respiration; when snared off, it was found to be 2.5 cm. long and 1 to 1.5 cm. thick. The patient remained free from return of the growths for one year after their removal; after that time he disappeared from observation. In this case the localization of the growths is peculiar, especially as regards the masses on the palate and the tonsils. The amyloid substance had developed in a cellular substratum of a decidedly sarcomatoid appearance, being composed of small, spindle-shaped cells with but little intercellular material. The amount of amyloid in different parts of the nodules varied greatly, being in places visible to the naked eye, while in others only the microscopic examination could reveal its presence. The amyloid material made its appearance first about the periphery of the tumors. Bone and cartilage were absent in this case.

While most authors refuse to regard local amyloid growths as the result of secondary changes in connective tissue tumors, Manasse's second case seems to be an undoubted example of this mode of formation. In the more advanced stages purer masses of amyloid material would result, which would bear quite a resemblance to the apparently primary amyloid deposits illustrated by Manasse's first case. In both the amyloid material present was tinctorially similar. In both cases, as well as in many others previously described, the amyloid substance appears to be deposits within preformed spaces that from their form, situation and endothelial lining undoubtedly represent the lymphatic vessels. A nearly constant feature of amyloid tumors of the conjunctiva, air-passages and tongue is the presence of multinuclear giant cells. These giant cells are generally regarded as derived from the endothelial cells of the lymph vessels and to play the part of giant cells that form about foreign bodies; in this case the amyloid material is the foreign body, and histologic appearances indicate that the giant cells take up and dissolve the amyloid material. The presence of amyloid material in the lymph vessels would seem to indicate that this peculiar substance is first produced in the tissue spaces, whence it may subsequently infiltrate the surrounding tissue. Further than this, nothing positive can be said concerning the method and the cause of the local accumulation of amyloid material in the cases here described.

EARLY MEDICAL HISTORY.

According to Packard[1], the earliest mention of an autopsy performed in America is to be found in "An Account of Two Voyages to New England," published in London, in 1674, by John Josselyn, an Englishman, who had spent some time in New England. He writes: "A young maid that was troubled with a sore pricking at her heart, still as she leaned her body or stept down with her foot to the one side or the other; this maid during her distemper voided worms of the length of a finger; all hairy with black heads; it also fell out that the maid dyed; her friends desirous to discover the cause of the distemper of her heart had her open'd, and found two crooked bones growing upon the top of the heart, which as she bowed her body to the right or left side would job their points into one and the same place, till they had worn a hole quite through."

In the records of Roxbury Church, on Aug. 20, 1674, is the following: "John Bridge, died of ye Winde Collick and was buried the day following. His body was opened. He had sundry small holes in his stomak & bowels, & one hole in his stomak yt a man's fist might passe through, wch is throught was rent wth vyolent straining to vomit, the night before he dyed, for the watchers observed yt something seemed to rend with in him, and he said of it I am a dead man." Dr. S. A. Green, in whose centennial address before the Massachusetts Medical Society these cases are mentioned, also found accounts of two other autopsies in volume xxx of the records of the Essex County Court. On June 1, 1676, an examination was made of the body of Jacob Goodale in the complaint against Giles Cory. The jury's finding was: "Several wrongs he hath had on his body, as upon his left arme and upon the right thigh, a great bruise wch is very much swold, and upon the reigns of his backe, in colour, differinge from the other parts of his body we caused an incision to be made much bruised and Run with a gelly and the skin broke upon the outside of each buttocke. Sworne to 30: 4 mo. 76."

Cotton Mather says of this case, "That about seventeen years ago Giles Cory kept a man in his House that was almost a Natural Fool; which Man Dy'd suddenly. A Jury was Impannel'd upon him, among whom was

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[1] Proceedings Path. Soc. of Philadelphia, 1900, iii, 46.

Dr. Zorobbabel Endicot; who found the man bruised to Death, and having clodders of Blood about his heart."

The other autopsy was held on May 2, 1678; the report on the result was made by the "Chirurgeon." "Search the Body of one called Edward Boyde: I made the incision upon the parte of his Body which was most suspitious which was upon the Temporall Muscle: I layd the Bones Beare: wee could nott find any fracture in the least neither was the flesh in any wise corupted or putrified."

Thus there are at least four autopsies prior to the one that Dr. Johannes Kerfbyle and five other physicians made on the body of Governor Slaughter of New York, in 1690.

In another paper, Packard[2] gives a résumé of the few facts known concerning the earlier medical societies. Prior to the founding of the College of Physicians of Philadelphia, in 1787, there were nine medical societies which, at one time or another, led a more or less active existence. Of the nine only three have survived to the present time—the Medical Society of New Jersey, the Massachusetts Medical Society, and the New Haven Medical Society. The College of Physicians of Philadelphia is the fourth in seniority of the medical societies in this country.

The title-page of the first number of a periodical that a medical society in Boston proposed to publish in 1735, contained the following among other titles: "A History of the Dysentery Epidemical in Boston;" "Some Account of a Gutta Serena in a Young Woman;" "The Anatomical Inspection of a Spina Ventosa in the Vertebræ of the Loins in a Young Woman;" "Some Practical Comments or Remarks on the Writings of Dr. Thomas Syndeham." Unfortunately this interesting number was never published. This society existed from 1735-1741. Its existence has been doubted, but Dr. Packard shows conclusively that it not only existed, but also flourished.

BUBONIC PLAGUE.

Now that the plague has reached Honolulu, and its introduction by way of one of our Pacific ports to this country is a possibility, it is well to be informed as to its peculiarities and dangers. A timely pamphlet has been sent out from the Government Printing Office, by Dr. Walter Wyman, Surgeon-General of the U. S. Marine-Hospital Service. It contains a brief historic introduction, followed by an account of the present epidemic, or almost pandemic, and a very complete statement of our modern knowledge of the disorder, its varieties, how it is spread, the life history of the bacillus, the means at our disposal for producing immunity and cure, and the hygiene and other measures advisable in case of its occurrence. The memoir concludes with a reproduction of the U. S. quarantine regulations in regard to this disease. It is obtainable by application to the U. S. Treasury Department or the Surgeon-General of the U. S. Marine-Hospital Service, and in view of possible, though it is to be hoped remote, contingencies it will be well for physicians, especially those on the seaboard, to post themselves by its contents.

STUDENTS AND MEDICAL PRACTICE.

The medical students of South Carolina have succeeded in obtaining legislation exempting them from the state examination, and those of Ohio are diligently working to the same end. As the Charleston *News and Courier* reports it, the students of the Medical College of South Carolina are admitted to practice in the state on the diplomas of the college, without further examination, "trusting to the standard and integrity of the faculty of that college." A still further backward step was made by making it optional with the Board of Examiners to recognize the diplomas of any four-year-course colleges of acceptable standard as qualifying to practice. As matters stand, the responsibility of medical reform rests, as regards outside institutions, on the examining board, and for the local institutions, on the "standard and integrity of the faculty," and it is hoped they will both duly apprecite this. In the case of the Ohio students, also, who, against the protest of the faculties of the colleges, are lobbying against the proposed practice act, the "standard and integrity" of the faculties should insure that no incompetent practitioners are let loose if the guarantee of the state examination is lost.

DECLINE OF CONSUMPTION IN NEW HAMPSHIRE.

While the sanitarians of California and Colorado are lamenting the increase of consumption within their borders, those of some of the eastern states find reason for congratulation on its diminution. The *Sanitary Bulletin* of New Hampshire, for January, contains a diagram showing the ratio of deaths from this cause to the total mortality for each year from 1884 to 1898. Commencing with over 14 per cent. in the first-named year, the percentage rapidly decreased to a little over 10 in 1889, rose with the influenza epidemic to about 11.5 in 1890, then rapidly fell again to 9.5 in 1892, rising a little above 10 in the three following years, to again steadily fall to exactly 9 per cent. in 1898. A reduction of over one-third in the proportional mortality from this disease is an encouraging showing, and from the diagram it would seem there is nothing to indicate that the diminution, which has been so long and steadily progressive, will not still continue. The *Bulletin*, in its brief statement, makes no attempt to account for these facts. It would appear that the people in New Hampshire are becoming immune or that the disease is in some way or other losing its virulence there. The change is certainly too great to be accounted for by the emigration of consumptives; indeed, there is no certainty that that is a factor at all. The *Bulletin* also contains some remarks on the danger of infection by milk, which it considers as having been over-estimated. In support of this opinion it refers to the data given out by the agricultural experiment stations in Wisconsin and Connecticut. The experiments that have been made of feeding calves with the milk of tuberculous cows in the Storrs Agricultural Experiment Station of Connecticut are noticed, and the conclusions deduced are quoted. It would seem from these and other facts that, while there is no reason for neglecting necessary precautions, there has been an unnecessary number of alarmist statements given out on this point.

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[2] Phila. Med. Journal, Jan. 27, 1900; THE JOURNAL, [illegible] 4, p. [illegible]

FOOTBALL AND DEVELOPMENT

A Boston physician has made the charge that the popular game of football is disastrous to grace and symmetrical physical development. He says it develops the external and superficial muscles at the expense of the internal and more important ones, that its positions are abnormal, that except running there is hardly an exercise in the game that calls for normal action, that it develops muscles at the expense of vital force, etc.; in short, that it is altogether bad and tending to physical degeneracy. From the usual slight acquaintance with the game possessed by the average citizen, these criticisms appear a little one-sided. If there is any recreation that seems to call into play every possible bodily movement, football would seem to be the one. It may not be specially conducive to grace, either inward or external; we can not say it is not, but its perils appear to outsiders to be chiefly mechanical ones; it seems less dangerous than an ancient gladiatorial combat, but rather more so than a modern French duel. Aside from its apparent dangers, which are probably less real than might be thought, it has its merits as an athletic exercise, and evidently demands more than mere muscle work, though as such it cultivates the highest development. As to its tendency being to asymmetrical development, it is claimed that the records of our colleges find the football players the most symmetrically developed of all athletes. There is a chance for more thorough research into the effects of football on the organism, but so far as the evidence is in, the particular charges made seem hardly justified.

VEGETARIANISM AND THE BIBLE.

A vegetarian editor claims that the Bible is the authority for the statement that the first men were vegetarians, and that when man enlarged his diet he limited his longevity. The first chapters of the Bible are not generally accepted as literal history, and the views as to primitive man, even among orthodox Christians, are not that he was altogether a superior being to his modern successors physically, morally or intellectually. The credible evidence that he was exclusively a vegetarian is very slight in amount or in value; he was probably at least partially insectivorous, as are his nearest relatives, the quadrumana, as can be seen by inspection of any monkey-cage. Taking it literally, however, first chapters and all, the Bible gives very little support to the vegetable diet theory. From Abel's satisfactory sacrifice and his murder by the vegetarian Cain, down through the Old Testament in which we read that meat eating was made a religious duty of the chosen people, and in the New Testament with its fishermen apostles and its mention of false teachers, "commanding to abstain from meats," we find almost nothing approving and much disapproving of vegetarianism. It is, in fact, a perversion of Scripture and, therefore, from a Christian point of view actually wicked in vegetarians to claim the Bible as an advocate of their cause. They had better confine themselves to such support as they can find in profane literature, and the use of such epithets as "pigarians" will, in default of argument, probably serve their purpose.

APPROPRIATED FOR COMMERCIALISM

A well-known eastern physician published an article in a reputable medical journal, and an enterprising drug firm, interested in the remedy mentioned, had 120,000 reprints made and sent them broadcast to the profession, over his signature, black lining the margin of the page where the remedy was alluded to. After spending $600 to prevent this use of his production, the physician was beaten on the ground that the article was not copyrighted. The obvious moral from this fact is, publish your articles in copyrighted publications, especially if they contain anything that by hook or crook can be utilized by commercial outsiders. This answers the question how to prevent such misuse of scientific material; the courts certainly will protect against infringement of the copyright laws. If articles are to be printed in uncopyrighted journals, it will be well to insure that they contain nothing that can be pirated to the financial advantage of anyone. We regret that it must be admitted that there are some who wish no defense from gratuitous advertising in this way, but we believe that honest and scientific physicians can, with a little care, put themselves in a position to be free from such unpleasant and unprofessional notoriety.

ALBUMINURIA AND NEPHRITIS IN THE COURSE OF DISEASES OF THE SKIN.

There is abundant evidence of the interrelation of function between various organs and tissues, as, for instance, between the skin, the kidneys, the lungs, and the gastro-intestinal tract. Not only is this relation of importance physiologically, but it can be, and is, often availed of therapeutically, failure in the functions of one of these tissues being compensated for by increased activity on the part of the others. The skin, by reason of its vast extent and its exposure to injurious influences of all kinds, is especially liable to be the seat of disease, and the importance of its functions and its relations to other organs makes such disease particularly serious. Interference with the action of the skin throws, as is well known, increased work on the kidneys; burns of the surface may be attended with ulceration of the duodenum or the stomach; various lesions of the cutaneous integument may be the portal of entrance for various infections. In view of these facts, it is rather a matter for surprise that disease of the skin is not more commonly followed by serious complications than is generally appreciated. Systematic investigation, however, may prove that this infrequency of association is more apparent than real, and in support of such a possibility Pechkranz[1] reports the results of a careful study of the urine in 128 cases of scabies, with more or less extensive eczema in consequence of scratching and infection. The patients were principally between 9 and 20 years of age, and almost all males, in order to eliminate, so far as possible, the leucorrheal and menstrual discharges. The test-agents employed were nitric acid, acetic acid with potassium ferrocyanid, and sometimes also trichloracetic acid. Among the entire number of cases albuminuria was discovered in twenty-four, either persisting throughout the period of observation—from one to two weeks—or occurring irregularly in both time and amount. In some the amount of albumin present in the urine was considerable, and in a small number tube-casts also were found. Cases of analagous character have occasionally been recorded by other observers. In the absence of positive knowledge as to the etiology of the disturbances of renal function under the conditions named, Pechkranz suggests that they may be due to irritation of the kidneys by micro-organisms that have gained entrance into the body through lesions in the continuity of the skin, or by the toxic products of bacterial activity.

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[1] Wiener Med. Woch., 1899, Nos. 51 and 52.

SUTURE OF WOUNDS OF HEART.

Although it has long been known that death does not invariably follow immediately on wounds of the heart in human beings and animals, and that spontaneous recovery from such wounds may take place in animals, as demonstrated by post-mortem examination, it is only within comparatively recent times that the possibility of recovery in human beings also has been adequately appreciated. Wounds of the heart are attended with two important sources of danger, namely, excessive hemorrhage and interference with the action of the heart from the pressure of the blood in the pericardial cavity. Until within a few years surgical intervention for the relief of such wounds was not merely not sanctioned, but was actually condemned. As, however, it was shown experimentally that even radical operations could often be performed successfully on artificially induced wounds of the heart in lower animals, it began to be realized that similar measures of treatment were applicable also in the case of man. In nine cases in which suture of the heart has been practised in human beings, recovery ensued in four, and death in the remaining five from complications and accidents. With the object of determining how extensive an injury the mammalian heart can safely withstand, and how extensive a suture could be applied to the heart without interference with its function, Elsberg[1] undertook a series of experiments on rabbits and dogs, and found that the heart in these animals bore a much greater amount of manipulation than had hitherto been suspected. Large wounds of the heart proved capable of healing, and the healing process occurred in a manner analogous to that in which it takes place in other muscular tissues. Even extensive suture of the heart-wall did not interfere with the functional activity of the cardiac muscle as a whole, although a large number of muscular fibers were destroyed, and were replaced by connective tissue. The results of these observations, it is believed, can in a general way be legitimately applied to the human heart. They are supported also by the results of clinical experience in human beings. The proposition may be made, therefore, that wounds of the heart in man should be sutured when all other means of relief have been tried without success. The introduction of the suture, which preferably should be of silk, was found to be unattended with danger of sudden arrest of the heart, as has been feared in the past. An interrupted should be preferred to a continued suture and the stitches should be as few as possible, in order to keep within the narrowest limits the amount of connective tissue that will necessarily be formed. As little of the heart's substance as possible, together with the epicardium, should be included in the suture, and this should be tied during the diastolic relaxation of the viscus. Absolute indications for operation, or for the time of its performance, can not be laid down. The decision in each case must, for the present at least, be made on the individual merits of the case.

UNIFORM LEGISLATION OR RECIPROCITY.

The movement inaugurated, or rather promoted, by the Wayne County (Mich.) Medical Society, for the establishment of a reciprocity in licensing to practice medicine in the different states has been in general very favorably received by the profession. The justice and the expediency of such reciprocity can hardly be questioned provided no deterioration of the standards is implied. What the country needs is a well-qualified profession, and it makes no difference where the qualifications are determined if only this is adequately done. At present the condition as regards the country as a whole is chaotic; a physician in one state may have no professional rights across an imaginary line that may cut his practice in two. Such a condition is exceptional and is provided against in some states, but it may occur. Each state board makes its own standard, and, in those states in which the law provides for reciprocity, the differences are considered by those in authority to be often so great that the application of this part of the law is out of the question. The chairman of the committee on legislation in one state openly says that the standard in his state is so high that reciprocity is out of the question, for the present at any rate. In many of the states no provision has been made for recognizing certificates from other states, no matter how high the standard might be. All these are drawbacks to true medical reform, which should first of all be unselfish and scientific, recognizing whatever has proved itself worthy. Inasmuch as it does not appear to be a function of the general government, the regulation of medical practice will have to be left to the states. The work of reform, however, is not done by disconnected individual action on their part. Local laws with local tinge and for local advantage only are not a worthy ideal for an honorable scientific profession. The recognition of worth and fitness should be universal; in no other way can we obtain or deserve the general approval of the public as well as of ourselves. The standards should be high, and, in an ideal condition of affairs, ought to be sufficiently uniform to permit a qualification in one region to be valid in another where medical practice acts exist. This ideal can not be reached by disconnected efforts; the movement must be co-ordinate in the different states. It may require delegated action by states and national societies as well as by conferences of examining boards, such as has just been held by those of the New England States. Results thus far attained are so unsatisfactory that evidently the past methods adopted have not been the best ones. What is needed is united action among those who are striving in different states for satisfactory laws. The profession in each has acted without regard to the ex-practice of the profession in others. It would seem that much could be learned by inquiring into the cause of success or failure of those working in other states, not only in knowing what is the best law, but the best way of getting it. Uniform legislation in the different ones would be better than reciprocity, but this uniformity can only be obtained by an organization of representatives from every state. Consistent and persistent effort on the part of such an organization would in time bring about the desired object. In any case the subject, in all its aspects and with its various problems, needs to be kept before the medical profession. The results may and probably will not appear at once, but steady agitation will ultimately have its effect.

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[1] Jour. Exp. Med., iv, 5, 6, p. 479.

Medical News.

A LEGACY of Jenny Lind-Goldschmidt gives the Samaritan Hospital, Stockholm, Sweden, $30,000.

THE CHILDREN'S ward at St. Luke's Hospital, Jacksonville, Fla., which was dedicated three weeks ago, was damaged by fire January 26.

TWO RECENT attempts to establish a crematory at Monmouth Beach, N. J., have met with such opposition from the cottagers that the project has been abandoned.

STEPS HAVE been taken for a new and enlarged hospital for the Jefferson Medical College, Philadelphia. Owing to the increased number of students and clinical material of this hospital, the present facilities are inadequate. The old building will only in part be torn down.

THE SUPREME Court has sustained the law requiring all barbers in Minnesota to have licenses, which has been the subject of contest for two years. It is held that there is as much necessity for a law requiring the maintenance of cleanly barber shops as there is for those regulating the practice of dentistry, law, medicine or plumbing.

CLEVELAND has an Appendicitis Club, to be eligible to which it is necessary to have a surgeon's certificate that the applicant has undergone an operation for that disease. The *Chicago Daily News* suggests that another operation on their brains would be interesting to the general public as showing what quality of gray matter, if any, goes to the formation of the nominal thinking apparatus of the members.

ACCORDING TO *Vossiche Zeitung*, Berlin, the German government proposes to introduce a bill to regulate private laboratories. The proposed bill is to contain measures which will compel investigators to take extraordinary precautions against the escape of pathogenic germs. The journal quoted condemns such legislation as likely to curtail the important investigations which are in progress, and hamper those who are doing bacteriologic work. The probable cause of the idea of such proposed legislation was the outbreak of plague in Vienna over a year ago, resulting from carelessness on the part of some one.

PROGRESS OF THE PLAGUE.—The official reports convey the following information: 1 death occurred at Rio de Janeiro, January 11; 35 are reported from Honolulu from the outbreak of the epidemic to January 17; 9 cases and 5 deaths were reported from Noumea, New Caledonia, January 1, and 1 case from Lisbon, Portugal.

PRACTICE IN IOWA.—According to the lay press, the senate committee on judiciary, in Iowa, has decided to report a substitute bill for the bills already reported relative to the examination of medical graduates of the State University. It was decided to report a bill providing that the graduates of all medical schools shall be placed on an equal footing; they shall pay a fee of $10 instead of $25 for a certificate of admission to practice; all graduates of all medical schools in the state, of good standing—this is determined by the State Board of Medical Examiners—shall be examined by a committee of that Board at the time of graduation, at the place of graduation. This bill, it is said, satisfies the friends of all the medical schools of the state.

ASSISTANT-SURGEONS FOR THE PHILIPPINES.—Surgeon-General Sternberg asks us to announce that the Medical Department of the Army is in need of additional assistance in the Philippines and it is desired that candidates for appointment as acting assistant-surgeons will make application to the Surgeon-General of the U. S. Army, Washington, D. C. Applicants must be graduates of reputable medical colleges, who have had practical experience, since graduation, in hospitals or in private practice. Candidates between the ages of 25 and 35 are preferred. They should forward, with their application, one or more letters from well-known professional men, giving testimony as to their character and qualifications. Appointments will not be made through political influence, and letters designed to produce political effect will injure rather than benefit the applicant. All applicants will be examined as to their physical and professional qualifications for service in the Philippines before they are given a contract. Contracts are made for one year, with the understanding that the approved candidate will remain in service for a longer period if his servces are required.

DOCTORS AND PATIENTS.—It seems that Goltzius, a prominent engraver and artist of Holland in the sixteenth century, published a set of four engravings in 1587, representing the relations between the physician and the patient at the different stages of illness and after recovery. The set is reproduced in the February 15 issue of *Janus*. Each engraving shows two apartments. On the left a patient is in bed, the physician feeling his pulse, surrounded by the anxious family. The scene on the right shows two patients, one with a fractured limb, on which the physician is busily engaged. In the foreground, against the dividing wall, stands the allegoric representation of the physician as he appears to the patient and his friends, a colossal god, a Christ, radiating wisdom, strength and love, in one hand a vial of urine and in the other a cauterizing iron. The same scenes are portrayed in the three other engravings, the patients advancing toward recovery, but the colossal figure in each changes. Instead of a god, No. 2 is merely an angel, but still grand and noble. In No. 3, in which the patients are depicted sitting up, the colossal figure of the physician is that of a well-dressed, dignified man. In No. 4, in which the physician is represented extending his hand for his fee—the patients dressed for the street—the colossal figure has become a devil with horns and grasping hands. Two other similar sets are also reproduced, later in date. All are carefully drawn to the smallest details, and are interesting portrayals of the art of medicine in their day. Goltzius appended to his set the warning to physicians to demand their pay while the patients are still suffering and not wait until their recovery.

NEW YORK.

AN EPIDEMIC of measles has broken out at Fort Slocum, on David's Island. This post, which has been practically quarantined, has been for the last two or three months the recruiting rendezvous for the regular army stations east of the Mississippi.

CAPT. FREDERICK P. REYNOLDS, assistant-surgeon, U. S. A., Fort Slocum, and who was ordered to accompany recruits on the U. S. transport *Sumner* to Manila, has been detailed as a member of the board of medical officers convened in San Francisco, vice First-Lieutenant Bailey K. Ashford, assistant-surgeon.

MORTALITY IN 1899.

The annual bulletin of the State Board of Health shows the number of deaths during 1899 to have been 121,320, which is 850 more than in the previous year and 4740 more than in 1897, a year of exceptionally low mortality. The death-rate per thousand was, however, the same as the average for ten years, i. e., 17.3. There was a notable decrease in the infant mortality and in deaths from diphtheria, as compared with the average for the last ten years. It is estimated that la grippe caused 7000 deaths in the first four months of the year.

STATE HOSPITAL FOR CONSUMPTIVES.

On January 31 there was a joint hearing of the Senate Finance Committee and the Ways and Means Committee of the Assembly for the purpose of discussing Senator George A. Davis' bill, which asks for an appropriation of $200,000 for the establishment of a state hospital for consumptives. Of those medical men who spoke on the subject, only one, Dr. J. H. Byrne, chairman of the Committee on Charities and Legislation of the New York Medical League, expressed his disapproval of the measure. He characterized it as unwise and inadequate legislation, objected to the admission of paying patients to such a hospital, and advised the legislature to go slowly in the matter of making the appropriation. Dr. John H. Pryor, of Bufalo, in addition to urging the passage of the bill, suggested that there should be three instead of two persons on the Board of Managers, and that not more than two should belong to one school of medicine.

New York City.

THE ANNUAL charity ball, in aid of the Nursery and Child's Hospital, which has been more or less of a fashionable event since 1857, except two years during the Civil War, when it was omitted, took place February 1, and was highly successful.

DEATH FROM BERIBERI.

A death from beriberi is reported from the Long Island College Hospital, Brooklyn. The patient was the captain of the Portuguese bark *Nanny*, which recently arrived from Oporto, and he was ill with the disease at the time the vessel reached New York. Two days later he was removed to this hospital, where he died on the day of his admission.

MT. SINAI HOSPITAL.

Ground has been broken for the new buildings which are to house this hospital. The site selected is the entire block bounded by Fifth and Madison Avenues, and One Hundredth and One Hundred and First Streets. Construction will be largely of marble and light brick, and it is estimated that the building and its equipment will cost $1,335,000.

LOCOMOTION WITH BROKEN LEG.

A policeman in the Borough of Brooklyn recently noticed a man hopping along on one foot, then falling; then picking himself up and hopping along for a short distance, only to again fall. On inquiring the cause of the man's disability he received the rather startling information that he had broken his leg while in the Borough of Manhattan, but, nothing daunted, had traveled in the elevated cars, and then tried to walk to his home. An ambulance was called, and the surgeon in charge confirmed the statement that the leg was broken. The man had almost succeeded in reaching his home.

EFFECT OF FASTING.

A man in this city hopes to abstain from all food for forty days. He has already refrained from tasting food for twelve, and last year lived twenty-eight days without any. He then reduced his weight from 210 to 168 pounds. On the first day after this fast he took a half cup of bouillon, on the second a glass of milk, and on the third a good meal. The present fast began January 22, and he claims that he has not taken anything since that time, except between one and two pints of a pure mineral water daily. When he began his weight was 207 pounds; now it is 184 pounds. On the second day he felt quite weak, and since then has been occasionally a little feverish, but his condition is such that he puts in the usual day's work at his place of business. Aside from improving his own health, he says that his object is to keep accurate records of his observations as to his weight, girth, and quantity of water ingested, with a view of furnishing useful information to the general public and to the medical world.

PROPOSED LEGISLATION.

A bill has been introduced in the legislature providing that in case the amount of antitoxin prepared under the auspices of the New York City Board of Health shall exceed the quantity required for actual use, the board may cause such excess to be sold at public auction, provided that the aggregate net amount of each sale shall not in one year exceed $5000. Another measure introduced provides that no person or corporation shall sell or offer for sale any proprietary or patent medicine containing cocain; medicated snuff and tobacco and headache and catarrh and hay fever "cures" are specially referred to in the act. Still another bill has for its object the establishment of a board of examiners in lunacy for the City of New York. It was introduced in the state Senate on January 31, and provides for the appointment by commissioners of public charities, of a board of duly qualified physicians who shall have had at least ten years' experience in the active practice of medicine. Four members are to be appointed for the Boroughs of Manhattan and the Bronx, four for the Boroughs of Brooklyn and Queens, and two for the Borough of Richmond. The chief examiner is to be selected from the City of New York at large, the others to be residents of their respective boroughs. The salary of the chief examiner is fixed at $5000 a year, while the examiners for Manhattan, the Bronx, Brooklyn, and Queens are to get $3,500, and those for Richmond (Staten Island), $1500. A bill has also been introduced providing that an ambulance shall have the right of way in any street over all other vehicles excepting those carrying the U. S. mail.

N. Y. POST-GRADUATE HOSPITAL.

The 50th annual report of this institution shows that during the past year it gave 38,313 free days of hospital care. Five hundred and twenty-three practitioners attended the medical school, and the amount of money received from students' fees and certificates, which was given to the hospital, was $30,046. Among the 1633 adults and children treated in the wards, there were 77 deaths, and among the 1035 infants in the babies' wards, 253 deaths. This apparently large mortality among the latter is explained by the fact that incurable cases are not excluded, and a considerable proportion of those treated were known to be of this character when admitted. In the dispensary department, 17,455 new patients were treated, an increase of 1000 over the preceding year, and in the lying-in department, 368 were treated during confinement in their own homes. There is at present no indoor lying-in department and the directors refer to the urgent necessity of having one provided. During the year, $3359 was received from the municipal treasury, toward the maintenance of babies. The city does not contribute a lump sum for the purpose of the babies' wards, but the authorities agree to pay 38 cents a day for each pauper infant treated in the institution provided it has been a resident of New York for twelve months. Since the last report was published an arrangement has been made with the managers of the Dairy Fields Home, at Englewood, N. J., by which patients from the orthopedic ward may be transferred to that institution, though still remaining under the care of the Post-Graduate surgeons. By the gift of Harris C. Fahnestock, there has been erected, opposite the Post-Graduate Hospital, the Margaret Fahnestock Training School for Nurses, which is a part of the medical school and hospital.

PENNSYLVANIA.

AN INMATE of the almshouse in Scranton recently had left to him a fortune of $12,000.

ON ACCOUNT of smallpox in the Westmoreland Hospital, at Greensburg, that institution has been quarantined. Thirty patients with other maladies were under treatment at the time.

OWING to the prevalence of scarlet fever and diphtheria in [illegible] Health Officer W. J. Allen has given orders to close the [illegible] Public Library for an indefinite period.

THE PUBLIC school in Conestoga Township is perhaps the first in this country to adopt individual drinking cups for its pupils. Each cup is made of agate and holds about one-fourth of a pint.

A PHYSICIAN was recently tried in Harrisburg on the charge of performing a criminal operation by which his victim died. He was sentenced to the penitentiary for four years and six months and also fined.

QUARANTINE AGAINST RABIES.

Several weeks ago a dog supposed to be mad bit others in the neighborhood of Miles Township. Soon afterward many dogs were affected. It was noticed that several days after cattle also manifested signs of the disease. The Live Stock Sanitary Board was notified and sent Dr. John Riter to the district, and after making a thorough examination, he decided that the cause of death among the cattle was rabies in a severe form. A strict quarantine was immediately placed on all cattle in the district.

CLOTHES AS CARRIERS OF INFECTION.

A recent order has been issued in Pennsylvania calling on the officers connected with the Factory Inspection Law to break up the practice of selling clothing made in unhealthy or unsanitary places. It is said that in Philadelphia over 100 places in which clothing had been made in buildings where infectious or contagious diseases had been found were closed during the past year. The clothing found was confiscated. It is further stated that only a few days ago clothing was being made in a place where both scarlet fever and diphtheria prevailed. In this instance the parties had only been in this country for a few months. The greatest offenders are those who make a business of peddling.

Philadelphia.

DR. J. H. MUSSER entertained the Stillé Medical Society at his residence on the evening of January 27.

DR. SOLOMON SOLIS COHEN has been chosen to deliver a lecture in the Mickve Israel Association course, February 11.

THE BOARD of Directors of the Jewish Maternity Home has decided to make an addition to the building now used by that institution. The new department will be devoted to gynecology.

THE NEW operating-suite of the University Hospital, the gift of James D. Lippincott, has just been opened. The suite contains four sections, a large operating-room in the center, and opening into this a sterilizing-room, the surgeons' bath-room, the etherizing-room and one for recovery from the anesthesia.

AT THE annual meeting of the Medico-Legal Society, January 30, the following officers were elected: president, A. M. Eaton; first vice-president, L. Hooler; second vice-president, Samuel Wolfe; secretary, C. H. Clewell; treasurer, G. W. D. Peltz; librarian, J. D. Nash.

THE SOCIETY of ex-Resident Physicians of the University Hospital held its first annual dinner the evening of February 3. The meeting was attended by fifty of the eighty-two ex-residents of the University Hospital. The following officers were elected: president, H. R. Wharton; vice-presidents, Edward Martin, Barton Cooke Hirst, Richard H. Harte; secretary and treasurer, Albert Philip Francine.

THE PROCEEDS from the annual charity ball during the past twenty years has been $200,000. This has been distributed among fifty charitable organizations throughout the city. This year the following will be beneficiaries: University Hospital, Jefferson Hospital, Women's Directory, and the Southeastern Dispensary.

SCHOOL INSPECTION.

The reports by the inspectors of public schools, recently appointed, go to show that the work has been most satisfactory. So far only one case of diphtheria has been found, and in that instance the child was at once sent home and the room disinfected. The following were represented: skin diseases, ulcerated mouth, gastritis, nasal catarrh, eye strain, feeble-mindedness, pharyngitis, chicken-pox, measles, ulcer of cornea, hypertrophied tonsil, nasal obstruction, conjunctivitis, goiter, chorea, granular lids, mumps, tinea circinata, palpitation of the heart and enlarged lymphatic glands.

OPIUM SMOKING.

Since the [illegible] of the young woman from smoking opium mentioned in these columns last week, a crusade has been instituted by the city authorities among the citizens of Chinatown, and a large number of arrests have been made. While it was known that such practices were by no means uncommon the amount of vice and crime upturned has been something to engage the attention of the people at large. As a result of the arrests a large sum of money has been obtained by fines, while on others a sentence to the House of Correction has been imposed. In revenge many of the Celestials propose a boycott on those members who have become Christians.

MARYLAND.

THE NEW medical practice bill introduced into the legislature makes unlawful the itinerant vending of any drug, ointment or application of any kind intended for the treatment of disease or injury.

ACCORDING to the annual report of the Board of Charities and Correction, of Frederick County, the disbursements for Montevue Hospital (for the insane) of Frederick City, for the last year, were $23,178. The average number of inmates was 263.

THE STATE veterinarian reports that, during the last four years, 191 visits were made to stockyards and abattoirs and 45,625 cattle inspected, among which were found 323 cases of tuberculosis and 19 for lumpy jaw.

SCHOOL FOR FEEBLE-MINDED.

The Maryland Asylum and Training School for Feeble-Minded Children, Owing's Mills, has asked the legislature for $200,000 for the next two years in addition to $13,000 already received annually for its maintenance. The superintendent was given the floor of the House of Delegates, February 1, for an exhibition by twenty of his pupils. A brass band composed of very young boys played several pieces, which the others sang. There were recitations, and specimens of handiwork were exhibited. The appropriation desired is for new buildings and increased accommodations.

REGULATION OF DAIRY PRODUCTS.

A bill has been introduced in the legislature for the appointment of a state dairy commissioner at a salary of $2000, and with two assistants with salaries of $1200 and $1000 respectively. The commissioner is to be charged with the enforcement of all laws against fraud and adulteration in the manufacture and sale of dairy products. Free analyses are to be made for him by the chemist of the Maryland Experiment Station (Agricultural College), and he is also empowered to employ other chemists, experts, counsel, etc., when deemed necessary. Free access to factories, etc., with power to secure samples at pleasure is to be permitted, and $12,000 appropriated annually for expenses.

BLOTS ON THE ALMHOUSE SYSTEM.

"One of the worst blots upon the almshouse system in this state," says Secretary Preston, of the Lunacy Commission, in his fourteenth report, "is the freedom with which the sexes mingle. During the past year at least half a dozen children have been begotten and born in the county almshouses. This refers, of course, to the children born of insane or feeble-minded women. Where there is no supervision or at least a very feeble attempt at supervision over the pauper insane such calamities must occur. In several of the county almshouses of this state there are insane or feeble-minded women who give birth to children almost as frequently as the law of reproduction permits. Under the plan proposed" (the uniting of several counties in building and equipping a suitable institution located on a large farm and provided with competent service) "the sexes would be vigorously separated and such shameful occurrences would be impossible. The superintendents of almshouses have repeatedly told the secretary that under the present system it is impossible to keep the men and women apart. Disregarding the moral side of the question, it would be far more economical for the counties to adopt some such plan as the one proposed or send such women to the state institutions. The children born of this class are as a rule idiotic and lifelong charge upon the country." Referring to epileptics, the same report says: "There is no class in the community more deserving of sympathy than those unfortunate individuals afflicted with epilepsy. Epileptic children are not allowed to go to school if they have attacks during school hours. It is impossible for such children to obtain employment since, upon the first attack they are dismissed. Hence it is imperative upon the state to assume charge of this class or at least of the indigent individuals belonging to it. At present, there is absolutely no place in the state where indigent epileptics can be sent. The plan of colonizing them, which has been in successful operation for many years in Germany has been inaugurated in many of our states and has proved of inestimable benefit to this unfortunate and helpless class. It would be a perfectly feasible plan to inaugurate an epileptic colony at Springfield." (The second asylum for the insane). "It is clear that the state will be compelled to afford some provision for this class in the near future and there is plenty of room at Springfield for the colony."

Baltimore.

THE RECEIPTS of the two-days benefit recently given the Maryland General Hospital amounted to $1200.

FORTY-THREE of the 198 deaths reported in Baltimore last week were from pneumonia.

AN ENTERTAINMENT for the benefit of the Southern Free Dispensary was given on the 31st ult. The program included two comediettas with several musical numbers and dancing. During 1899 over 6800 cases were treated and 14,571 prescriptions compounded.

ANTI-EXPECTORATION.

An effort is being made to enforce the anti-expectoration law. The women have taken the matter up. The present ordinance refers to expectoration in street-cars and public buildings. The passage of a special ordinance by the city council, applying also to the sidewalks, is favored. The police commissioners will use their authority and will employ officers in citizens' clothes to enforce the present law.

DECISION AGAINST A SCHOOL.

Dr. Erwin Ebaugh has obtained a verdict for $270, in the city court, against the Baltimore University. He claimed that, by the terms of his contract as professor in the institution from Sept. 1, 1898, to May 1, 1899, he was entitled to one-tenth of the net income of the school during the period named, which it was alleged amounted to $2700. For the defense it was denied that there was any contract or any net income. Similar suits of Drs. Arthur G. Barrett and C. Urban Smith are continued.

OHIO.

DR. H. F. ROHRS has been appointed pension examining surgeon at Napoleon.

DR. D. S. GARDNER, of Massillon, has tendered his resignation as a trustee of the Cleveland State Hospital.

THE ANNUAL report of the Lakeside Hospital, Cleveland, shows an increase in the number of patients treated in 1899 over 1898, of nearly 25 per cent. The expenses of the hospital were upward of $90,000, and the income about $73,000, leaving nearly $20,000 to be raised.

IN THE report of the tenth annual meeting of the state and local boards of health (THE JOURNAL, February 3, p. 306) an error was made in announcing an election of officers. The meetings of the health boards are held under the auspices of the state officials, the state board paying all the expenses and the officers of the board acting as the officers of the meeting.

ILLINOIS.

Chicago.

DR. ARTHUR R. REYNOLDS, Commissioner of Health, delivered a public lecture February 2, on "The Work of the Health Department."

A MOVEMENT has been inaugurated toward the establishment of a hospital at South Chicago. The sum of $1025 has been subscribed for this purpose.

A MEETING of Illinois stock raisers and dairy men was held February 2, and resolutions were passed recommending a change in the law which compels the injection of tuberculin in cattle shipped into the state.

AT THE annual meeting of the Chicago Medical Examiners' Association January 30, the following officers were elected: president, Denslow Lewis; vice-president, W. K. Harrison; secretary, G. F. Butler; treasurer, J. Homer Coulter.

MORTALITY STATISTICS.

The mortality during the past week was 504, which is 22 less than for the corresponding week of 1899, but 18 more than for the week previous. The greatest mortality was from pneumonia, which caused 113 deaths, or more than 22 per cent. of the total. This increase is due to the extreme severity of the weather.

INSPECTION OF SCHOOLS.

The report of the medical inspection of schools for the week ended February 3, shows a decided decrease in the number of exclusions of children over those of the preceding week. There were 4248 examinations made, as compared with 7376 for the week previous. The exclusions during the two weeks were 452 and 291 respectively. This diminished number is regarded as an indication that parents are waiting until their children are fully recovered from contagious diseases before sending them to school.

INDIANA.

THE SUPREME court has sustained the State Board of Health in its order excluding unvaccinated children from the public schools.

THE ANNUAL report of the Indianapolis City Hospital shows that 1808 patients were treated in the institution during the year. The total expenses were $31,000, and the per capita cost of maintenance was at the rate of 44 cents a day.

THE SUPERINTENDENT of the railway mail service recently received an order from the post-office department directing the fumigation of all mail from the counties of Clay, Montgomery, Putnam, Owen, Vermilion, Greene, Sullivan, and Vigo. The order is issued on account of the smallpox epidemic.

MISSOURI.

THE ANNUAL report of the German Hospital, Kansas City, shows that 720 patients were treated in the institution during the past year. The receipts and expenditures were about $14,000.

THE DEATH of a "Christian Science" believer occurred in St. Louis, February 3. The autopsy revealed the fact that death was the result of a strangulated hernia and could have been prevented had medical aid been sought.

TENNESSEE.

DR. J. FOSTER SCOTT has assumed his duties as city physician of Knoxville.

Nashville.

DR. OWEN H. WILSON leaves soon for a six months' tour in Europe.

DR. LARKIN SMITH has been re-elected health officer of Nashville.

AT A meeting of the City Board of Health, January 29, Dr. J. D. Plunkett was elected president for the ensuing year.

WISCONSIN.

AT A recent meeting of the Waupaca County Board it was resolved to build an insane asylum for that county.

THE STATE Board of Medical Examiners will meet at La-Crosse for the purpose of licensing such physicians as desire to practice in the state after April 1.

DISTRICT OF COLUMBIA.

HEALTH OF THE DISTRICT.

The report of the health officer for the week ended January 27 shows the total deaths to have been 102, of which 58 were white and 44 colored. At the close of the week there were 80 cases of diphtheria, 121 of scarlet fever and 4 of smallpox under treatment. There were three fatal cases of diphtheria but none of scarlet fever or smallpox. During the week there were 84 births, 14 still births and 27 marriages.

Washington.

AT THE 311th meeting of the Washington Obstetrical and Gynecological Society, held the 2d inst. Dr. Fry reported a case and read a paper entitled "An Indication for Symphysiotomy."

DR. GEO. R. SORREL, the resident physician at the Washington Asylum Hospital, has tendered his resignation, and the commissioners have accepted the same and appointed Dr. J. F. Wallace his successor.

EMERGENCY HOSPITAL.

At the meeting of the attending staff of the hospital, held [illegible] inst., the report of the work done for the past month was presented, and showed 1419 new cases, 4772 visits, 233 operations, 45 ward cases with 67 ambulance calls, 6 deaths and [illegible] post-mortems. The training school for nurses was reported to be in a flourishing condition and a committee of the staff was appointed to make some changes in the teaching department of the school.

IN CONGRESS.

Mr. Dalzell has secured the passage of the Senate bill, through the House joint resolution 140, which appropriates $4000 for a pedestal for a statue in Washington, D.C., in honor of Samuel Hahnemann, the founder of homeopathy. The resolution provides for its erection on public grounds in other than the Capitol or Library grounds, to be decided by the Chief of Engineers, U. S. A., the chairman of the Joint Committee on the Library, and the chairman of the Hahnemann Monument Committee of the American Institute of Homeopathy. Senator Hawley submitted a resolution, which was referred to the Committee on Printing, that there be printed 5000 copies of a document entitled "The use of the Roentgen Ray by the Medical Department of the U. S. Army in the War with Spain, 1898," of which 1000 copies shall be for the use of the Senate, 2000 for the use of the House of Representatives, and 2000 for the use of the War Department. Surgeon-General Sternberg writes approving the resolution, endorsing the work and suggesting that the report be also distributed among the leading surgeons of this country and Europe; the report also bears the approval of the Secretary of War.

CANADA.

On account of the continued spread of smallpox in several districts of New Brunswick, general vaccination is proceeding in St. John's and other cities and towns of that province.

The affairs of the provincial asylum at New Westminister, B.C., are to have a searching governmental inquiry. The legislature of the province, now in session, is appointing a special commission.

Owing to the prevalence of smallpox in Washington (U.S.), the provincial health authorities of British Columbia are now putting into force the regulations for the prevention of the introduction of the disease into that province.

Dr. J. N. E. Brown, at one time secretary of the Ontario Medical Association, and now territorial secretary and clerk of the Yukon Council at Dawson City, was married on New Year's day to Miss Freeman of Toronto, the Yukon governor's assistant secretary, a lady who had gained considerable repute in Canada as an authoress under the *nom de plume* of Faith Fenton.

LODGE PRACTICE.

In connection with the stand taken by the Medical Society of Victoria regarding lodge practice, it is stated that several applications have been received in response to the advertisement noted in the last correspondence to The Journal, but as yet no appointments have been made. It is indeed to be deplored that there are any members of the profession in British Columbia or elsewhere throughout the Dominion who would become practitioners in Victoria under such circumstances. May the report prove false. The fraternals will petition the legislature now in session asking them to revise and amend the medical laws of the province.

SANITATION OF MONTREAL.

Montreal is in the throes of a civic election, and the question of better sanitation is occupying a leading place in the campaign. Presiding at a general meeting of citizens this week, Dr. Reid stated that in respect to sanitation, this is one of the worst cities in the world, and that the death-rate for children between 2 and 5 years is fearfully high. Prof. J. G. Adami, addressing the Council of Women recently, made the statement that Montreal, in all that goes for sanitation, is twenty years behind all the other large cities on this continent, and that such a state of affairs will continue as long as the municipality is run in the interests of a clique and not for the common good of the citizens. He further spoke on the dangers in the city milk-supply.

MONTREAL GENERAL HOSPITAL.

The authorities of the Montreal General Hospital are making a special appeal to the general public for more generous support. Owing to increased expenses in connection with better equipment, the trustees have deemed it advisable to issue a special circular letter to the citizens of Montreal. While the expenses have increased, the contributions from the public have remained about stationary, being $24,604 in 1894, and $24,812 in 1899; besides the revenue from investments has considerably diminished from the decrease of the rate of interest. During the past year 2730 patients were cared for in the wards, while 35,078 outsiders received medical attendance at the institution.

AN IRREGULAR PRACTITIONER.

A member of the profession in Toronto—though not particularly of the profession—along with the proprietor of an alleged "cancer cure" has been committed for trial by the police magistrate of the city, charged with manslaughter, as the result of the death of a citizen, who was the subject of an incurable cancer. It has been stated that the death was accelerated through the application of a strong caustic paste to the man's side, which corroded the tissues, laying bare several ribs and the pleura of one side, resulting in an attack of pleurisy and pneumonia, of which he died. The accused will come up for trial at the May sitting of the assize court.

THE EIGHTH COMMANDMENT AS APPLIED TO A CANADIAN MEDICAL JOURNAL.

Some severe criticism of the medical journal alluded to has been noticed in certain quarters regarding the wholesale transference of articles appearing originally in other periodicals, to the pages of a Toronto journal without due and proper credit to the source from whence the articles were "pinched." Without having heard the other side—there may be no other side—your Canadian correspondent must needs say a few words on the subject. Not that it is the purpose to condone any such nefarious acts as have been charged—and even though the "peculiar methods" had been noticed for some time past, still, probably the duty devolves here to defend some of our fellow practitioners of that city, who were formerly on the editorial staff of the journal referred to, as they may not have been aware of the procedures, and further may have never seen the strictures passed on themselves as "editors" of the journal in question, as before the time the exchanges had occasion to complain, the editor and the staff of editors had retired and completely severed their connection therewith, leaving the field entirely in the possession of the sole proprietor of that journal. That the oldest medical journal in the Dominion of Canada should have fallen into such disgrace with its exchanges is certainly lamentable; but the fact that one unskilled in the etiquette of journalism was thus, by force of circumstances, thrust into the breach, may be scant excuse for the unwarrantable acts laid to his charge. It is rumored that one of our bright young physicians is about to take hold of the editorial helm, and if this rumor prove correct, the journal will rapidly regain its lost prestige.

TYPHOID FEVER IN MONTREAL.

After an interval of some years, Montreal is once again brought face to face with an epidemic of typhoid fever. The incidence of the disease at this juncture is largely due, it is stated, to the city milk-supply, being almost limited to those families obtaining their milk from one dealer. Although this same dealer, from the moment he was informed that something was wrong with his milk, took steps to avert the danger of an epidemic, he is now under considerable condemnation, severe and just, for what is asserted to be his criminal disregard or ignorance of the ordinary rules of hygiene. At some point or other the water employed to wash the milk cans became contaminated; and the important question is raised how Montreal as well as other cities in Canada is to legislate in order to prevent these epidemics of typhoid through milk. At the present time, in Montreal, the city milk inspectors are powerless outside the city limits; and although all the milk supplied to the city comes from districts lying entirely outside the corporation, the city authorities have no right to inspect the sources of the supply, so as to condemn unsanitary buildings, defective drainage, etc.

Correspondence.

Medical Education.

CHICAGO, Jan. 29, 1900.

To the Editor:—The very comprehensive and elegant editorial on "Medical Education," in THE JOURNAL of January 27, must commend itself, on the whole, to every teacher of medicine. It is a startling, if not disgraceful, fact that we have, during the past twenty years, seen the army of specialists grow, while the regular practicing physician has sunk into corresponding insignificance or obscurity. It is now the ambition of far too many medical students to become specialists in one department or another, where they can practice medicine "handsome and out of the wet."

From the standpoint of the schoolmaster, however, there are a few assumptions in the editorial which might lead to erroneous conclusions. In the first place it is a mistake to assume that any American medical school proposes, or ever proposed, to put the student of medicine to the serious work of original medical research and investigation. Doubtless this erroneous assumption comes from the fact that it has been proposed, and successfully tried, to put the student in the position of an observer and investigator, and in this manner to teach him the elements and facts of medical science in an unforgetable manner. This method is followed out in many of our laboratory guides in chemistry and physiology, as for example in "The New Physics," by John Trowbridge of Harvard University (D. Appleton & Co., 1884); in the "Text-Book of Chemical Phsiology and Pathology," by W. D. Halliburton (Longmans, 1891): and in "A Manual of Physiology," by G. N. Stewart (Bailliere, Tindall & Cox, 1895), not to mention other efforts of equal value. In every one of these manuals the author attempts to guide the student, by a series of directions and questions, to such operations and reflections as will inevitably lead him in the course of a few hours or even minutes to apperceive those related facts on which the science rests, the discovery of which consumed years and sometimes centuries of professional energy and experiment. Such exercises present the fact or facts to the student with all the vividness and intensity experienced by the original discoverer, and in this way he is led, in the course of a few weeks, through all the experiences of the medical profession.

In the next place the editorial erroneously assumes that there are certain inviolable principles at the foundation of medicine. It is a fact that certain principles do underlie the homeopathic system, but medicine is an inductive science, resting on a multitude of facts and phenomena, each one of which can be verified *ad libitum*. In this respect medicine differs from the deductive systems of homeopathy, theology, and law. Certain verifiable facts on which medicine rests have been correlated into theories from time to time. These theories have stood the test, some of more and some of less time and criticism. Many of them have ranked with the so-called principles of the deductive systems of homeopathy, theology, and law, but they are not in any sense principles, and the science of medicine does not rest on them. Any day a new interpretation or a new combination of the verifiable phenomena on which our dearest theory rests may be proposed by some unheard-of stripling. If this interpretation be truer and explain the verifiable facts more completely or rationally, then the new thory displaces the old, and our text-books, which follow the canonical nomenclature, must substitute new "principles" for the superannuated.

In the third place, it is an error to assume that there can be any effective teaching of the science or art of medicine in *ex cathedra* presentation of the theories or "principles" in which the verifiable facts of medicine and their relations have been conventionally expressed. The abstract expression of even the most simple correlations of unknown phenomena make no true nor lasting impression on the mind of the student, but given the experience of discovering the concrete phenomena and the further experience of correlating them and expressing the correlation even imperfectly, the student readily grasps the extended theory in all its details and keeps it ready as a part of the formulæ or machinery of his mind. Should he in time forget this theory, or should its expression become confused in his mind, he can go back to the memory of his experiences or experiments and rebuild it and then make use of it with any matter at hand.

BAYARD HOLMES, M.D.

Pre-Columbian Leprosy.

NEW YORK CITY, Jan. 25, 1900.

To the Editor:—In Dr. Kinyoun's able report on leprosy, as a delegate to the International Leprosy Conference, Berlin, published in the "Annual Report of the Supervising Surgeon-General of the Marine-Hospital Service of the United States," for the years ending 1897 and 1898, there are two errors to which I beg to call attention. On page 27 (1897 report), he says: Ashmead (New York) claims to have demonstrated that leprosy existed in America in the pre-Columbian period, and submits photographs of bone lesions which have been discovered in the ancient Peruvian graves. Further, this hypothesis is borne out by the specimens of Peruvian pottery of the Incan period."

My position is directly contrary to all this, as Dr. Kinyoun might have found out by simply reading my article (The Question of Pre-Columbian Leprosy: Photographs of Three Columbian Skulls and Some Huacos Pottery) published in the first volume of "Mittheilugen und Verhandlungen der Internationalen Wissenschaftlichen Lepra Conferenz zu Berlin," 1897. On page 73, I say: "There is no evidence in any bones that I have examined in America of any such thing as pre-Columbian leprosy; not a pharynx of a mummy shows a melting of bone, not a hand shows mutilation: no tuberculation of the tissues of the face, not a nose dropped in, nor can we find evidence of the importation of East Asiatic customs. Outside of the evidence on pre-Columbian potteries, deformations of faces, never of fingers and toes, is there the slightest evidence of the pre-Columbian leprosy. As to the deformities on huacos pottery, I exhibit here two photographs, each containing five potteries. These are from Chimbote, Peru, excepting one, the largest, which comes from Tepen, Peru. All these specimens are pre-Columbian, undoubtedly. In the first photograph, the one containing the figure lying on its belly, with amputated feet, the other four figures have also amputated feet, which of course, is not seen in the photograph. The figures are represented as kneeling, so by turning them around, the fact of the amputation appears. The flaps are shown, and the two bones on each leg. Whatever disease is represented in these faces must have been very frequently accompanied by some disease of the feet requiring amputation: and not of one foot, but of both. One of these figures is shown in the act of dressing the stump, with a cup containing some medicine: his other foot can not be seen, as he is sitting on it. In many of these faces, the nose has been eaten away, that is the cartilaginous part of it. In no instance does this eating away of the nose show any resemblance to the eating away of the nose by leprosy. The bones are never represented melted away, but are always present, only the soft part is gone. In many of these figures there is also a partial or total loss of upper lip, that is, the lip is eaten away, not drawn away by cicatrization, as would be the case in leprosy.

"In one of these figures we see a drawing-back of the head; this is accompanied by loss of nose and partial loss of upper lip. Whatever disease appears in the face, it is reasonable to suppose afflicted the spine. Tuberculosis (lupus) alone could have worked in that manner. If it was not this, it was then syphilis: but it could never have been leprosy.

"In two of our figures there are extreme prognathism, and evidently a diseased condition is meant. Could leprosy have produced that! Never."

Dr. Kinyoun's second mistake is in attributing to Dr. Buzzi, some remarks which followed the reading of my paper. It was Dr. Polakowsky, of the Berlin Anthropological Society, who discussed the question of pre-Columbianism of leprosy in America, taking my side against Dr. Virchow, who had attacked it.

ALBERT S. ASHMEAD, M.D.

Office Treatment of Female Generative Organs.

[illegible], Jan. 27, 1900.

To the Editor:—In THE JOURNAL of January 27 Dr. Milo Buel Ward has sounded the bugle-call of reform in that pernicious practice of office treatment of female generative organs.

How often do we see in the present day poor victims of that so-called tri-weekly 'local' treatment week after week with instruments that have been used on patient after patient, with only the cleaning that soap and cold water is able to give, admitting that proper sterilization has been done the delicate endometrium has been subjected time and again to the ravages of the cotton probing. It is true, as Dr. Ward says, that the application of iodine to the vaginal vault for diseased appendages is quite as scientific as it would be for us to wash our faces in a bichloride solution for the cure of post nasal catarrh. Would that this article might be printed in abstract form and mailed to every physician in the land, and especially to the country practitioner, who does so much of this, never stopping to think of the many poor victims he sends out into the world, injured rather than benefited.

F. A. Packard, M.D.

Association News.

Rates for the Atlantic City Meeting. The American Medical Association's Committee on Transportation has for some time been in communication with the different passenger associations for the purpose of securing reduced rates to the June meeting. The Committee has asked a one-fare round trip with fifteen-day extension for that occasion, and at present has a preliminary report., but will present a full report through The Journal, probably in the next issue.

Section on Laryngology and Otology. A most excellent program for the meeting in Atlantic City, June next, is announced for this Section. The list of papers to be presented is now complete and the program is full. Those who are to read papers are urged to send their abstracts by May 1, so as to give the Committee ample time to suitably arrange the topics for publication. C. R. Holmes, chairman; J. A. Stucky, secretary.

Books Received.

Acknowledgement of all books received will be made in this column, and this will be deemed by us a full equivalent to those sending them. A selection from these volumes will be made for review as dictated by their merits, or in the interests of our readers.

General and Local Anesthesia. By Aimé Paul Heineck, M.D., Clinical Instructor in Genito-Urinary Diseases, College of Physicians and Surgeons, Chicago; Clinical Instructor in Gynecology, Chicago Clinical School; Clinical Instructor in Surgery, Northwestern University Woman's Medical College. 124 pages. Price $1. Chicago: G. P. Engelhard & Co. 1899.

The Urine and the Clinical Chemistry of the Gastric Contents, the Common Poisons, and Milk. By J. W. Holland, M.D., Professor of Medical Chemistry and Toxicology, Jefferson Medical College of Philadelphia. Sixth Edition, Revised and Enlarged. 12mo., 41 Illustrations. Price $1, net. Cloth. Philadelphia: P. Blakiston's Son & Co. 1899.

Manual of Diseases of the Eye. By Edward Jackson, A.M., M.D., late Professor of Diseases of the Eye in the Philadelphia Polyclinic and Colleges for Graduates in Medicine. 12mo, over 600 Pages, with 178 Illustrations from Drawings by the author. Philadelphia: W. B. Sanders. 1900. W. T. Keener, Chicago Agent.

King's College Hospital Reports: Being the Annual Report of King's College Hospital and the Medical Department of King's College. Edited by Nestor Tivard, M.D., F.R.C.P., W. Watson Cheyne, F.R.C.S., F.R.S., John Phillips, M.A., M.D., F.R.C.P., and W. D. Halliburton, M.D., D.R.S. Vols. iv and v. 8vo. Cloth. Price $1.80. London: Adlard and Son. 1898-99.

Hermann Ludwig Ferdinand von Helmholtz. By John Gray McKendrick, M.D., LL.D., F.R.SS.L. and E. 8vo., cloth. Pp. 300. New York: Longmans, Green & Co. 1899.

Medico-Chirurgical Transactions. Published by the Royal Medical and Chirurgical Society of London. Vol. 82: Second Series, Vol. 64. 8vo., Cloth. Pp. 478. London: Longmans, Green & Co. 1899.

Lectures on the Principles of Surgery. Delivered at the University of Michigan by Charles B. Nancrede, A.M., M.D., LL.D., with an Appendix Containing a Résumé of the Principal Views Held Concerning Inflammation, by Wm. A. Spitzley, A.B., M.D. Illustrated. 8vo., Cloth. Pp. 398. Price $2.50, net. Philadelphia: W. B. Saunders. 1899. W. T. Keener, Chicago Agent.

System of Diseases of the Eye. By American, British, Dutch, French, German, and Spanish Authors. Edited by Wm. F. Norris, A.M., M.D., and Charles A. Oliver, A.M., M.D., of Philadelphia. Vol. iv: Motor Apparatus, Cornea, Lens, Refraction, Medical Ophthalmology. With 51 Full-page Plates and 211 Text Illustrations. 8vo, Cloth. Pp. 950. Price, $20. Philadelphia and London: J. B. Lippincott Co. 1899.

Report of the Commissioner of Education for the Year 1897-98. Vol. i, containg Part 1. Pp. 1280. Washington: G.P.O. 1899.

Manual of Organic Materia Medica and Pharmacognosy. An Introduction to the Study of the Vegetable Kingdom and the Vegetable and Animal Drugs Comprising the Botanical and Physical Characteristics, Source, Constituents, Pharmacopeial Preparations, Insects Injurious to Drugs, and Pharmacal Botany. By Lucius E. Sayre, B.S., Ph.M. Second Edition. Revised. With Histology and Microtechnique. By William C. Stevens. Illustrated. 8vo., Cloth. Pp. 684. Price, $4.50. Philadelphia: P. Blakiston's Son & Co. 1899.

Water and Water Supplies. By John C. Thresh, D.S.C. (London); M.D. (Victoria); D.P.H. (Cambridge). Second Revised Edition. 8vo. Cloth. Pp. 438. Price $2. Philadelphia: P. Blakiston's Son & Co. 1900.

Blank Book for Autopsy-Protocols. By Aldred Scott Warthin, M.D., Ph.D., Assistant Professor in Pathology in the University of Michigan. Ann Arbor: George Wahr. 1899.

The Lute and Lays. By Charles Stuart Welles, M.D. 12mo.; Cloth. Pp. 104. Price $2. New York: The MacMillan Company. 1899.

Deaths and Obituaries.

Vandyke G. Schibneck, M.D., a graduate of the University of Maryland (medical department) died at Hagerstown, Ind., January 30, aged 55 years. He was a native of Frederick County, Maryland, took his medical degree in 1882, and practiced in Baltimore until about twelve years ago, when he removed to Indiana.

Gerard F. Mason, M.D., died in Charlestown, W. Va., of general debility, on the 30th ult. He was born in Virginia in 1815, and took his medical degree at the Jefferson Medical College in 1841, locating in Charlestown early in 1842, where he continued to practice until about four years ago.

Horace Vaughan, M.D., Middletown, Conn., died January 22. He was born in Delaware in 1859, was graduated from the Jefferson Medical College in 1888, and was a member of the Delaware State Medical Society.

R. B. Skinner, M.D., Barton, Vt., born in 1834 and graduated from the medical department of Harvard University, class of 1858, died recently. During the Civil War he served as a surgeon of the 3d Militia Regulars of Vermont, and later was a member in the legislature in that state.

E. T. Painter, M.D., Redlands, Cal., aged 44, died January 22. After graduating in médicine he took a post-graduate course in Berlin and Vienna, and was later connected with a Pittsburg medical journal, moving to Redlands in 1891.

Ernest George Metcalfe, M.D., Long Island College Hospital, Brooklyn, N. Y., 1872, died at his home in that city, from renal disease, February 2. He was for four years a lunacy examiner in the charities department and from 1886 to 1888 was a civil service commissioner.

A. J. Axtell, M.D., Bloomington, Ind., born in 1827 in Pennsylvania, died January 25. He began the study of medicine in 1847 and in 1852 was Captain of Co. A, 97th Volunteers.

G. S. Lauterman, M.D., Bellevue, Ohio, died January 29, from blood poisoning. He was 55 years old, was at one time mayor of his city, and during the Civil War served in the 3d New York Light Infantry.

Frank Hodgkin, M.D., Chestertown, Maryland, died in Wilmington, Del., January 31. He studied medicine in Chicago and had practiced medicine about six years.

JAMES J. OATMAN, M.D., Altoona, Pa., died in that city January 30, aged 62 years. He was a graduate of the Jefferson Medical College and a veteran of the Civil War.

Among others we note the following deaths:

James M. Briggs, M.D., Bowling Green, Ky., January 26, aged 68 years.

Elsworth Colton, M.D., New Britain, Conn., January 26, aged 42 years.

J. J. Cooper, M.D., Barnett, Ga., January 24.

Eldridge G. Decker, M.D., Ft. Fairfield, Me., January 29, aged 74 years.

W. W. Duncan, M.D., Louisville, Ill., February 1, aged 70 years.

William Halsey, M.D., Caldwell, N. J., February 2, in his 85th year.

Edward D. Hitchcock, M.D., Newton, Mass., January 26, aged 45 years.

Wirt Johnston, M.D., Jackson, Miss., January 25.

D. S. Marquis, M.D., Rochester, Pa., January 31, aged 79 years.

M. G. Olivier, M.D., Berwick, La., January 26, aged 37 years.

Elijah S. Shirley, M.D., Xenia, Ill., February 1, aged 73 years.

A. J. Thomson, M.D., Cadillac, Mich., January 27, aged 59 years.

M. H. Van Riper, M.D., Kankakee, Ill., January 29, aged 67 years.

M. G. Whittier, M.D., Fairfield, Pa., January 30, aged 52 years.

Lloyd Wilbur, M.D., Hightstown, Pa., January 27, aged 70 years.

DEATHS ABROAD.

Thomas Grainger Stewart, a noted Scotch physician, died in Edinburgh, February 3, aged 63 years. He was born in Edinburgh in 1837, and educated at the University of Edinburgh. After graduating he studied in the universities and hospitals of Berlin, Prague, and Vienna. On his return to Edinburgh, he became resident physician in the Royal Infirmary. He was made pathologist to this institution and, in 1876, was appointed professor of the practice of physic in the University of Edinburgh. He published works on kidney, lung, and nervous diseases. He was president of the Medico-Chirurgical Society of Edinburgh and of the medicine section of the British Medical Association, and at the time of his death president of the Royal College of Physicians in Edinburgh and physician in ordinary to her Majesty, the Queen, in Scotland.

Miscellany.

Mosquitoes and Malaria.--An unofficial letter from Java, to the Berlin *Post*, states that Koch and his Dutch assistants are becoming more and more convinced that a single family of mosquitoes is the propagator of malarial infection. Investigation at the hill resorts where the people seek and find refuge from malaria showed the complete absence of this—the white spotted wing—variety.

Traffic in Cadavers.—The newspapers of the last few days have contained accounts of the discovery, at Sioux City, Iowa, of a body shipped by express from Baltimore, Md. A janitor from the College of Physicians and Surgeons, Baltimore, has been arrested and committed to jail in default of $1000 on the charge of shipping bodies out of the state. It was found that there had been no foul play, the man having been struck by a street car, dying in consequence at the city hospital after an ineffectual trephining. The body had then been sent, as usual, to the city morgue, for identification, and after remaining there the usual time, unclaimed, a burial certificate was given by the coroner and the body turned over to the health department, which consigned it for anatomic use to the College of Physicians and Surgeons. The janitor shipped it in a box marked "books," to Sioux City. He has implicated a former resident physician of the College of Physicians and Surgeons, now of Sioux City, and further intimated that he had been shipping bodies in the same manner for some time past. The Maryland law bearing on such cases is very stringent, making the offense a misdemeanor, and the penalty imprisonment for a term not exceeding five years of hard labor in the city jail. The Iowa laws against importing bodies into that state are also said to be very strict.

Early Differentiation of Idiocy.—By testing the sensibility to pain, the taste and the attention, Czerny has been able to differentiate imbecility or idiocy in very young infants, and the subsequent career of the child has confirmed his diagnosis in every case. (*Deutsche Med. Woch.*, January 11.) The tests are only reliable when the infants are physically sound, and if there is any coexistent affection they should be postponed until recovery. An entire lack of attention indicates the severest form of idiocy, an abnormally fleeting attention, hard to hold, as in the "agile imbeciles," offers the best prognosis. The taste is tested with 25 per cent. solution of saccharin; 2 per cent. solution of quinin sulphate, etc., and the expression of pleasure at the sweet and disgust at the sour taste is evident even in the youngest normal children. But the only positive sign is the permanent analgesia of the entire surface of the body, which only occurs in the imbecile. Very imbecile or idiotic children, even several years old, can be severely pricked with a needle again and again without eliciting any expression of pain or fear.

Smallpox Prevalent.—The following cases have been reported to the U. S. Marine-Hospital Service: Alabama, January 2-22, 6 cases; Florida, January 13-16, 3; Georgia, January 4-20, 60; Louisiana, Dec. 20, 1899, to January 20, 366 cases and 11 deaths; West Virginia, January 26, 26 cases. In Colorado there has been no widespread epidemic since last year, and the total of cases reported since January 1, is 17. The following measures to stamp out the disease are strictly enforced: 1. Immediate isolation of all cases. 2. Compulsory vaccination and detention for fourteen days following exposure. 3. Fumigation with sulphur for twenty-four hours, using five pounds to each one thousand cubic feet of space, and destruction by fire of such articles as can be burned. Vaccination is urged on all citizens. The Georgia epidemic started in a Savannah hospital and was traced directly to importation from Porto Rico. Up to the present time there have been 500 to 600 cases in the vicinity of Brunswick. In nearly every instance it has appeared in so mild a form that many physicians failed to recognize the disease. Although the mortality has been less than 4 per cent., the disease in Southeastern Georgia, with remarkable rapidity, extended along the lines of railways and has assumed a serious form. In Ohio, now that the medical profession has accepted the diagnosis of smallpox, the disease, while still appearing here and there, is making little headway, and there is not much probability of the development of epidemic conditions such as prevailed last year.

ANTIVIVISECTION: A REVIEW OF THE PROPOSED LAW.

WASHINGTON, D.C., Jan. 26, 1900.

HONORABLE COMMISSIONERS, District of Columbia.

Gentlemen: Referring to a bill entitled "A Bill for the further prevention of cruelty to animals in the District of Columbia" (S. 34), which has been referred to me for an expression of opinion relative thereto, I have the honor to submit the following report.

The bill now under consideration is identical in its terms with Senate bill 1063, similarly entitled, which, having been favorably reported by the Committee on the District of Columbia, was pending in the Senate at the time of its adjournment, March 4, 1899. It undertakes to accomplish its purpose solely by the regulation of experiments on living animals, and must be considered in its relation to mischievous practices, if any, tolerated by existing law. The following statutory provisions seem to bear upon this subject (Abert's Statutes in Force, etc. p. 540 et seq.):

Sec. 5. whoever, having the charge or custody of any animal, either as owner or otherwise, inflicts unnecessary cruelty upon the same shall for every such offense be punished by imprisonment in jail not exceeding one year, or by fine not exceeding two hundred and fifty dollars, or by both such fine and imprisonment.

Sec. 6. Every owner, possessor, or person having the charge or custody of any animal who knowingly and wilfully authorizes or permits the same to be subjected to unnecessary torture, suffering or cruelty of any kind shall be punished for every such offense in the manner provided in section one.

Sec. 9. Whenever complaint is made by any member of the Association for the Prevention of Cruelty to Animals (Washington Humane Society), on oath or affirmation, to any magistrate authorized to issue warrants in criminal cases, that the complainant believes and has reasonable cause to believe that the laws in relation to cruelty to animals have been or are being violated in any particular building or place, such magistrate, if satisfied that there is reasonable cause for such belief, shall issue a search warrant, authorizing any marshal, deputy marshal, constable, police officer, or any member of the Association for the Prevention of Cruelty to [illegible] Animals (Washington Humane Society), to search such building or [illegible].

Sec. [illegible]. It shall be the duty of all marshals, deputy marshals, [illegible] officers, or any member of the Association for the [illegible] to Animals (Washington Humane Society), to [illegible] of this Act which shall [illegible] knowledge, and fines and forfeitures collected [illegible] resulting from the complaint or prosecution of any [illegible] Association for the [illegible] to Animals [illegible] under this Act shall inure and be [illegible] Humane Society [illegible] and of the benevolent objects for [illegible] incorporated.

Sec. [illegible]. Nothing in this Act contained shall be construed to prohibit [illegible] with any properly conducted scientific experiments [illegible] which experiments shall be performed only under [illegible] the faculty of some regularly incorporated medical [illegible] or scientific society.

What the foregoing provisions may mean to a mind trained in [illegible] I of course am unable to state, but to one [illegible] in its ordinary sense it appears that [illegible] provision for the punishment of any un[illegible] the members of the Washington Humane [illegible] power relative to the search of private premises [illegible] reason to believe animals are being needlessly [illegible] not only the privilege but also the duty of [illegible] as well as of every peace officer, to [illegible] of the society [illegible] such offenses, and that members of the [illegible] Society are offered a special inducement to [illegible] duty by reason of the fact that all fines and for[illegible] the property of their society; and finally, that any [illegible] to perform experiments involving suffering on [illegible] of the lower animals is protected from punishment [illegible] such experiments are performed under the authority of [illegible] incorporated medical college, university, or scientific society, and even then only so long as they are *properly* conducted. [illegible] of the law be correct there is apparently no need [illegible]. If, however, there be such need in fact, it [illegible] from abuses which exist, or which have existed, with [illegible] possibility of hindrance under present law.

The present law has been in force since 1871, more than a quarter [illegible]. With the obligation which has rested upon the [illegible] Washington Humane Society, among others, to en[illegible] may be accepted as certain that if any abuses have [illegible] has been made to correct them. The method of [illegible] for the enforcement of this law is by the issue of search [illegible] and by arrest and trial in the Police Court. The record, [illegible] of unsuccessful attempts to enforce it should be found [illegible] in the Police Department or in the Police Court. I have [illegible], however, to discover any evidence of a single search [illegible] having been issued, or of a single prosecution having been [illegible] during this entire period based on the alleged performance of experiments on living animals in violation of law; that is, the alleged performance of such experiments either improperly or without lawful authority.

I am aware that the objection may be made that it has been necessary to show malice in order to maintain a prosecution, and that for that reason, as much as by reason of the exempting clause, [illegible] been impossible to prosecute for experiments on animals. [illegible] is a matter which must depend upon the construction of the [illegible], and it does not appear that any competent court has ever been given an opportunity to construe it. To one not versed in legal technicalities it appears that a law which forbids unnecessary [illegible] might imply malice from the very absence of necessity, and that the exemption of the experimenter from liability under certain conditions can mean nothing else than that he is liable under [illegible] conditions. If abuses exist or have existed why have the [illegible] not been afforded an opportunity to say whether they can or [illegible] be remedied under existing law?

But if we suppose that animals have been experimented upon in an unnecessarily cruel manner without possibility of prevention under existing law, the idea naturally suggests itself that specific instances of such experimentation must have been placed on record [illegible] the hearings which have been accorded those endeavoring to secure the enactment of this measure, and in the reports which they [illegible]. There has been no complaint that anything was [illegible] with it. There has been no [illegible] such hearings or from such reports which had even [illegible], but while instances of [illegible] bearing upon the subject [illegible] have been cited from various parts of the world, not [illegible] placed on record which was in any way related to the [illegible]. The omission is significant. In the absence of any explanation it is to my mind conclusive that the promoters of this measure had no such evidence to submit. And if the absence of [illegible] to show that such abuses have existed is noticeable, the [illegible] to show that they are likely to exist is equally striking.

The foregoing considerations have convinced me that no legislation [illegible] proposed in this bill is needed. If, however, this [illegible] harmless [illegible] there would be no objection to its enactment [illegible] the statute books. [illegible] measure, [illegible] the probable effect of this measure [illegible] than by ascertaining the effect of similar legislation in other places where the general [illegible] of law is the same as that of this District. Unfortunately, [illegible] in the United States. Congress [illegible] District of Columbia. But [illegible] proposed [illegible] from [illegible] upon them [illegible] should be required to [illegible] in order to prevent its enact[illegible].

But in the absence of any possibility of ascertaining the probable effect of this proposed law by observation and analogy, and while waiting for evidence as to its harmlessness from those who are seeking to secure its passage, an examination of the bill will yield information upon which a provisional judgment, more or less accurate, can be based. One of the most important requisites of a law is that it shall be intelligible and definite, not intelligible only to the lawyer, but also to the average man who must live under it. Many of the provisions of the bill now under consideration are obscure, and some seem repugnant to each other.

As an example we may cite paragraph *b* of section 2, which is as follows:

The experiment must be performed by a person holding such license from the Commissioners of the District of Columbia as in this Act mentioned, *or by a duly authorized officer of the Government of the United States, or of the District of Columbia.*

It is by no means clear whether due authorization refers to the authorization to perform the ordinary duties of the office, or whether it refers to some special authority to perform experiments upon animals. If the former be intended persons having no knowledge of scientific matters are at liberty to experiment at will; if the latter, there is no indication of the source or form of this "due authorization."

Again paragraphs *c* and *d*, section 2, read:

c. The animal must, during the whole of the experiment, be completely under the influence of ether or chloroform sufficiently to prevent the animal from feeling pain, excepting only that in so-called inoculation experiments or tests of drugs or medicines, the animal need not be anesthetized nor killed afterwards, nor in tests of surgical procedure need animals be kept completely anesthetized during the process of recovery from a surgical operation. Otherwise than this the animal must be kept from pain during all experiments; and

d. The animal must, if the pain is likely to continue after the effect of the anesthetic has ceased, or if any serious injury has been inflicted on the animal, be killed before it recovers from the influence of the anesthetic which has been administered.

Paragraph *c* provides that after an inoculation experiment the animal need not be killed; paragraph *d*, that if pain is likely to continue after the experiment, it must be killed. The former provides that in tests of surgical procedure the animal need not be completely anesthetized during the process of recovery from the operation; the latter, that if pain is likely to continue after the effect of the anesthetic has ceased, or if any serious injury has been inflicted on the animal, it must be killed before it recovers from the influence of the anesthetic. Is the investigator to perform experiments of this sort with the liability of being compelled to defend himself in a criminal prosecution simply because of the vague language of this statute?

These citations are made solely for the purpose of illustrating the difficulty which will be likely to arise in determining the meaning of this bill should it become a law. As they have not been pointed out for the purpose of securing alteration or correction, it is not pretended that they may represent every doubtful or ambiguous phrase which occurs in the bill now under consideration.

If the language of this bill is uncertain, its effect, if enacted into law, seems, too, to be more or less obscure. In all of the discussion no allegation has been affirmed on one side, or denied on the other, with so much vigor as, that the proposed regulations are prohibitory in their character. The affirmative has been held by scientific men all over the United States, who have examined the provisions of this bill and many of whom are engaged in research work involving the use of living animals. The negative has been supported by persons entirely ignorant of the technique of vivisection or having only a theoretical acquaintance with it. As to the relative weight to be attached to opinions upon this point originating from such sources there can be no question. One matter, however, is so clear as to be beyond the reach of controversy: that is, that the proposed law would take the regulation of such experiments out of the control of medical colleges and scientific societies and entrust it, even to the extent of absolute prohibition, to two laymen, forming a majority of the Board of Commissioners. To this statement there is possibly one exception, and that is with reference to the possibility of clerks and messengers in the service of the United States or of the District of Columbia, being permitted in some more or less indefinite manner to perform experiments, under paragraph *b*, section 2. But it is believed that if any unprejudiced person, unbiased by emotion, will consider all of the restrictions imposed by this law—the trebly indorsed applications and certificates, the registrations, the inspections, the use of anesthetics, the choice of animals, the reports, and the other technicalities which can be appreciated only after an effort to comprehend what this bill requires—he can come to but one conclusion, and that is that, if enacted into law, it will at the very least seriously hamper experimentation on living animals, and that it puts it quite within the reach of officers charged with its enforcement to execute its provisions so as to prevent such work even while nominally permitting it.

All of the rigorous requirements of this proposed statute might be looked upon lightly if they were such as would be called into action only by the commission of some act wrong either from a moral or a legal standpoint, and have reference only to the offender. But from the very moment of the passage of the bill there would be new rules of law so far as relates to animals, domestic and wild; new limitations upon a man's right of property in such things; new restrictions upon his freedom in the choice of means whereby to add to his own stock of knowledge and to the stock of knowledge of mankind as a whole; a new rule for the invasion of the homes, workshops, and laboratories of citizens, and a new rule for the search of their papers; and citizens would be required (if it were possible for law to require it) to bear evidence against themselves in the form of reports called for by the Commissioners. And all of this change is to be made not because of any wrong done or alleged to have been done in this District, but because of alleged improper practices in Paris, Vienna, Milan, and elsewhere.

Pain is universally associated with the life of every vertebrate animal. The only fair way of considering the question now before us is, therefore, not by inquiring whether experiments such as it is proposed to regulate create pain, but by seeking to learn whether they increase or diminish the total amount of the suffering which exists and will continue to exist until the end of time. Those who seek the passage of this bill do not appear to have looked beyond the pain which may be caused in some cases by experimentation; it is a noteworthy fact that in few if any of the instances of alleged cruelty which they have set forth have they thought it necessary or material to the point at issue to state the purpose or the result of the experiment. In drafting this bill they have confined their attention so closely to the immediate, the apparent, suffering that they have forgotten the terror which must strike the animal, the deathly sickness, and the probable fruitless loss of life, likely to result from the very process of anesthetization, which must in many cases outweigh the pain which would be inflicted were the experimenter to proceed without the use of anesthetics. The good which has been accomplished by experiments on animals has been fully set forth elsewhere by the opponents of this bill. The atrocities which have been occasionally committed have been set forth in high light by those who seek its passage; but such rare crimes do not represent the generality of experimentation any more closely than the murders and rapes which are reported daily represent existing civilization. It is believed, moreover, that existing law is sufficient to punish any wanton infliction of pain should it occur here; certainly it has not been demonstrated that it is not.

I am not unaware that this report has every appearance of an argument against the bill to which it refers, rather than a statement of its merits. I regret that this should be the case, but I believe that whatever merit this measure has, has been fairly set forth. If I had felt it either desirable or necessary to gauge its value by my feelings rather than by my intellect, or to appeal to the emotions of others, it might have been possible to have given this report a different color. The emotions deal with what is apparent without looking beyond to see either the purpose or the result. Those whose special training has not been such as to enable them to appreciate properly the fruits of experimentation on animals are those who cry for its regulation out of existence. Those who know what has been and what is capable of being accomplished by it, are those who seek its continuance. The former judgment is the product of emotion; the latter, the product of thought.

In considering this matter I have endeavored to lay aside as far as possible my character as a physician, and to consider the proposed law fairly and impartially. The foregoing statement is the result. It may be summed up briefly as follows: The proposed law seeks to take from the regularly incorporated medical colleges, universities, and scientific societies the right which they alone now have to authorize experiments on living animals, and to confer such authority in a restricted form on the Board of Commissioners, a lay organization of which two men constitute a majority. It seeks to take from the courts the power to decide whether any experiment has or has not been properly conducted, and to limit their authority to the power to determine whether in any given case an experiment was performed according to certain rules and regulations laid down in this bill. It undertakes to do away with the necessity for a warrant for the search of premises on which experiments are conducted, enabling any or all of four inspectors to enter at any time without notice. It seeks to subject the papers of the experimenter to search without warrant, by requiring him to make such reports as the Commissioners may direct, and in this manner it undertakes to make him bear evidence against himself. In support of the proposed bill not one fact has been adduced to show that harmful conditions exist, ever have existed, or are ever likely to exist in this District, not curable by existing law.

As the result of a careful consideration of this measure I have the honor to recommend that it be referred to the Attorney for the District, for a consideration of its legal aspects and for a review of such questions of law as have, unavoidedly, entered into this report. I have the honor to recommend further, subject, of course, to the opinion of the Attorney, that this bill be returned to the Senate Committee on the District of Columbia with a statement that it is vague in many of its provisions; that there is no evidence of the existence in this District of any such conditions as it is apparently the purpose of the bill to correct; that existing law appears to be sufficient for all present purposes; that the enactment of the present measure will interfere with scientific investigation in this District; and that the bill should not be passed.

Respectfully,

Wm. C. Woodward, M.D., Health Officer.

Queries and Minor Notes.

VACCINATION.

HILLSBORO, N. D., Jan. 18, 1900.

To the Editor:—The discussion of vaccination, *pro* and *con*, has come to such a point in this vicinity that I feel that something authentic in the way of statistics should be given the public, at least in this neighborhood. However, I am not in a position here to gather the material. Would it be possible for you to send me complete statistics of the epidemics of smallpox and protection by vaccination, which certainly must be in a compiled form? This question is growing so embarrassing that it seems it should, as far as possible, be finally settled, not only in the minds of the members of the profession, but especially in the minds of the people.

Yours truly, T. M.

ANSWER: Our correspondent sends us copies of a little monthly called the *Sanitary Home*, which contains what purports to be arguments against vaccination and its dangers. These arguments (?) are too absurd for notice, and we would first advise our correspondent not to enter into a controversy with one who displays such gross ignorance. It is impossible to give complete statistics of the epidemics of smallpox; they have been too numerous in years past, and still occur in unvaccinated communities. There are plenty of statistics showing the results of vaccination in checking them, and one of the best studies of the subject, giving the most complete data, is that of Ernest Hart, in the third volume of Allbutt's System of Medicine. The article by Acland, in the same volume will also do to consult in regard to the possible accidents of vaccination. These, it is fair to believe, are largely due to faulty methods and uncleanliness, and with proper care can be almost entirely eliminated. A pin prick or a mosquito may cause death under certain conditions, and vaccination is also liable to cause trouble if proper care is not observed. As a sample of statistics we can take those recently published for the German Empire (Medizinal-statistiches Mittheilungen aus dem kaiseri Gesundheetsamte; Bd. v., Hft. iii; British Med. Jour., July 15, 1899), where vaccination and revaccination are compulsory of late years. In 1897 there were five deaths in a total of forty-five cases. Three of these occurred on the Russian and Austrian frontiers, where the chances of exposure are greatest: only one occurred in a large town. In the towns in Holland the deaths were seven fold greater, in England sixteen fold, in France 123 fold, and in Austria 247 fold greater. The statistics of Dr. Groff, who stamped out smallpox in Porto Rico, where it was epidemic, might also be quoted, and there have been no bad results from vaccination reported there. The above German figures are reliable. We can not vouch for those of Dr. Harmon in the paper sent, and seriously doubt that a million of vaccinated persons died of smallpox in Germany between 1870 and 1885. The official figures show that the average number per annum from 1866 to 1895 was only 116: in 1895 it was 27, in 1896, 10. There can be no better argument than these figures, during these years of compulsory vaccination, and if deaths were numerous before, the better the showing. We hope to refer to this matter editorially, next week.

ASSOCIATION OF COLORED PHYSICIANS.

OKLAHOMA CITY, O. T., Jan. 31, 1900.

To the Editor: 1. Does the AMERICAN MEDICAL ASSOCIATION admit, to full membership, either by vote or as delegate from state, county, or district societies, persons of the African race? 2. Is or is there not an American association separate and apart from the "White Man's," organized and maintained by the colored race?

T. A. C.

ANSWER: 1. The AMERICAN MEDICAL ASSOCIATION accepts all delegates from affiliated societies without regard to color. 2. Yes. There is an association called the American Medical Association of Colored Physicians and Surgeons, of which Dr. O. D. Porter, Bowling Green, Ky., is president.

The Public Service.

ARMY CHANGES.

Movements of Army Medical Officers under orders from the Adjutant-General's Office, Washington, D. C., Jan. 19 to 22, 1900, inclusive:

Ira Ayer, acting asst.-surgeon, from the transport *Wright* to Fort Wood, N. Y., to accompany recruits to Manila, P. I., where he will report to the commanding general for assignment.

Peter J. A. Cleary, lieut.-col., deputy surgeon-general, sick leave extended.

Christopher C. Collins, acting asst.-surgeon, sick leave extended.

Jose M. Delgado, acting asst.-surgeon, from Washington, D. C., to Tampa, Fla., to await further orders.

Rudolph G. Ebert, major and surgeon, U. S. A., from Vancouver Barracks, Wash., to the Department of Alaska as chief surgeon.

Charles Farmer, acting asst.-surgeon, from New York City to Lexington, Ky., for annulment of contract.

Robert J. Gibson, major and surgeon, U. S. A., member of a board in San Francisco, Cal., to examine officers for promotion.

Frederick M. Hartsock, lieut. and asst.-surgeon, U. S. A., from New York City to Fort Warren, Mass.

J. C. Merrill, major and surgeon, U. S. A., member of a board at Washington, D. C., to examine medical officers for promotion.

Hugh L. Taylor, acting asst.-surgeon, previous orders directing annulment of contract revoked; he will report for duty at Fort [illegible].

Walter Whitney, acting asst.-surgeon, member of a board at Fort Sheridan, Ill., to examine officers for promotion.

Ezra Woodruff, major and surgeon, U. S. A., member of a board on Governor's Island, N. Y., to examine officers for promotion.

NAVY CHANGES.

Changes in the Medical Corps of the U. S. Navy for the week ended Jan. 27, 1900.

Surgeon H. N. T. Harris, ordered to the *Adams* via the *Peoria*.

P. A. Surgeon L. L. Von Wedekind, ordered to duty on the *Richmond*.

[illegible] Station.)

Asst. Surgeon R. C. Holcomb, detached from the Solace and ordered to [illegible].

MARINE-HOSPITAL CHANGES.

Official list of the changes of station and duties of commissioned and non-commissioned officers of the U. S. Marine-Hospital Service for the seven days ending Jan. 25, 1900.

Surgeon L. L. Williams, granted extension of leave of absence for ten days.

Surgeon W. J. Pettus, granted leave of absence for one month and 20 days from February 10.

Asst. Surgeon H. E. Parker, directed to report at Washington, D. C., for special temporary duty.

Acting Asst. Surgeon John Frick, granted leave of absence for thirty days from February 28.

BOARD CONVENED.

Board convened to meet at 378 Washington Street, New York City, on Wednesday, February 7, 1900, for the purpose of examining candidates for appointment as assistant surgeon in the Service. Detail for the Board—Surgeon H. W. Austin, Chairman; Surgeon C. E. Banks and Surgeon L. L. Williams, Recorder.

HEALTH REPORTS.

The following cases of smallpox, yellow fever, cholera and plague, have been reported to the Surgeon-General, U. S. Marine-Hospital Service, during the week ended Jan. 26, 1900:

SMALLPOX—UNITED STATES.

Colorado: Denver, Jan. 7, 1 case; Huerfano County, Jan. 9, 3 cases.

District of Columbia: Washington, Jan. 12 to 18, 2 cases.

Georgia: Blackshear, Jan. 11, 16 cases; Brunswick, Jan. 11, 10 cases; Darien, Jan. 11, 2 cases; Jessup, Jan. 11, 2 cases; Liberty, Jan. 11, 1 case.

Indiana: Evansville, Jan 13 to 20, 2 cases.

Kentucky: Covington, Jan. 13 to 20, 4 cases; Louisville, Jan. 11 to 18, 1 case.

Louisiana: Calcarien, Jan. 7 to 13, 3 cases; East Feliciana, Jan. 13, 50 cases; Livingstone, Jan. 13, several cases; New Orleans, Jan. 14 to 21, 84 cases, 2 deaths; Shreveport, Jan. 13 to 20, 2 deaths.

Massachusetts: Malden, Jan. 13 to 20, 1 case.

Nebraska: Omaha, Jan. 13 to 20, 1 case.

New York: New York, Jan. 13 to 20, 1 case.

Ohio: Cleveland, Jan. 13 to 29, 20 cases; Youngstown, Jan. 15 to 22, 7 cases.

Oklahoma: Beaver County, Jan. 10, reported; Blaine County, Jan. 10, 1 case; Noble County, Jan. 10, reported; Pawnee County, Jan. 10, reported.

Pennsylvania: Allegheny, Jan. 13 to 20, 1 case.

Texas: Satte, Jan. 1 to 16, 75 cases, 1 death; Houston, Jan. 6 to 13, 4 cases.

Virginia: Portsmouth, Jan. 13 to 20, 20 cases, 1 death.

SMALLPOX—FOREIGN.

Brazil: Bahia, Dec. 2 to 9, 1 case; Rio de Janeiro, Dec. 1 to 8, 32 deaths.

Canada: Ontario, Nov. to Dec. 30, 243 cases.

Egypt: Cairo, Dec. 23 to 31, 7 deaths.

England: London, Dec. 23 to Jan. 6, 15 cases; Southampton, Dec. 31 to Jan. 6, 1 case.

France: Lyons, Dec. 7 to 23, 2 deaths; Marseilles, Jan. 2, epidemic; Nice, Dec. 19 to 31, 1 case, Jan. 1 to 8, 1 case.

Greece: Athens, Dec. 31 to Jan. 6, 3 cases, 1 death.

India: Calcutta, Dec. 8 to 16, 2 cases, 2 deaths.

Mexico: Chihuahua, Jan. 6 to 13, 9 deaths; Vera Cruz, Jan. 6 to 13, 1 death.

New Brunswick: Campbelltown, Jan. 13 to 20, 5 cases.

Russia: St. Petersburg, Dec. 23 to 30, 12 cases, 7 deaths.

Scotland: Leith, Dec. 31 to Jan. 6, 1 case.

Spain: Corunna, Dec. 23 to Jan. 6, 3 cases, 4 deaths.

Turkey: Smyrna, Dec. 17 to 24, 3 deaths.

YELLOW FEVER—UNITED STATES.

Florida: Key West, Jan. 16, 1 case.

YELLOW FEVER—FOREIGN.

Brazil: Rio de Janeiro, Dec. 1 to 8, 8 deaths.

Colombia: Barranquilla, Dec. 23 to 30, 1 case, 1 death.

Cuba: Havana, Jan. 6 to 13, 4 cases, 3 deaths.

CHOLERA.

India: Calcutta, Dec. 8 to 16, 38 deaths.

PLAGUE—UNITED STATES.

Hawaii: Honolulu, from outbreak to Jan. 8, 19 deaths.

PLAGUE—FOREIGN.

India: Calcutta, Dec. 8 to 16, 54 deaths; Karrachee, Dec. 8 to 23, 3 cases, 3 deaths.

Japan: Formosa, Tamsui, Nov. 28 to Dec. 12, 14 cases, 7 deaths.

Paraguay: Asuncion, Nov. 7 to 21, 9 deaths.

Portugal: From outbreak to Jan. 6, 1900, 287 cases, 108 deaths.

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The Journal of the
American Medical Association

Vol. XXXIV CHICAGO, ILLINOIS, FEBRUARY 17, 1900. No. 7.

Original Articles.

THE HOCKEY-STICK INCISION.

A TYPICAL MODE OF ENTERING THE ABDOMINAL CAVITY IN CERTAIN COMPLICATED CASES OF APPENDICITIS.

BY WILLY MEYER, M.D.
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NEW YORK CITY.

The first question that presents itself to the surgeon when operating for appendicitis is that as to how and where he had best make his incision. The main point by which he is guided in deciding this is the nature of the case under consideration; that is, whether it be an acute or an interval case.

In interval cases every surgeon nowadays tries to get through with as small an incision as possible and arranges his work in such a way that there will remain no tendency nor possibility of the appearance of a ventral hernia. Thus he traverses the external oblique and transversalis muscles near the anterior superior spine, bluntly, according to the direction of their fibers—McBurney's gridiron incision[1]; or he makes the cut at the outer border of the right rectus muscle, then displaces it inwardly in order to reach a spot of its posterior sheath which, after having been incised and later sewn up again, is covered by the protecting belly of the muscle[2]; others still sometimes deem it wise to penetrate the right rectus muscle itself in order to accomplish their work. It certainly is the aim of every surgeon nowadays to arrange his operative procedure in an interval case so as to restore the abdominal wall to its former perfect condition. To make, at an interval operation, a sharp incision near the anterior superior spine, which divides the fibers of the external oblique and transversalis muscles at right angles, is justified only in cases where the surgeon, after having done the blunt division, finds such far-reaching adhesions, or such conditions within or around the appendix, that a further procedure through so small an opening in the abdominal cavity is unadvisable.

It is different when we operate for acute appendicitis. Knowing how often we meet with gangrene of the appendix or with suppuration in its immediate neighborhood; knowing, further, that in perforative cases the small pelvis or the entire abdomen is filled with seropurulent fluid or real pus—in which cases thorough drainage becomes imperative—we arrange so as to be able, during our work, to obtain as free access to the abdominal cavity as may become necessary. In other words, we cut through all the layers of the abdominal wall in one direction, and then lengthen the incision upward or downward as the case may require.

The incision parallel to the outer border of the rectus muscle, originally devised by Schüller, is now rarely employed. As far as I know, the majority of surgeons, when operating for acute appendicitis, prefer to make their incision where the abdominal wall is thickest, i. e., very near the anterior superior spine. In doing this we shall certainly have done our best to protect the patient against the future occurrence of a ventral hernia, at least if we were able to close the wound entirely, or to its greatest extent, by layer sutures, draining through its lower angle. But how proceed, if we have to enlarge this wound in order to obtain ready access, for instance, to the perforated tip of an appendix that hangs low down into the small pelvis, or is drawn toward the linea alba? how, if we have to obtain free access to a co-existing pyosalpinx or perforated ovarian abscess? how, if we are confronted with a case where it was impossible to definitely determine beforehand whether the symptoms of acute peritonitis were due to an acute inflammation of the appendix, or of the tubes or ovaries, or a combination of these?

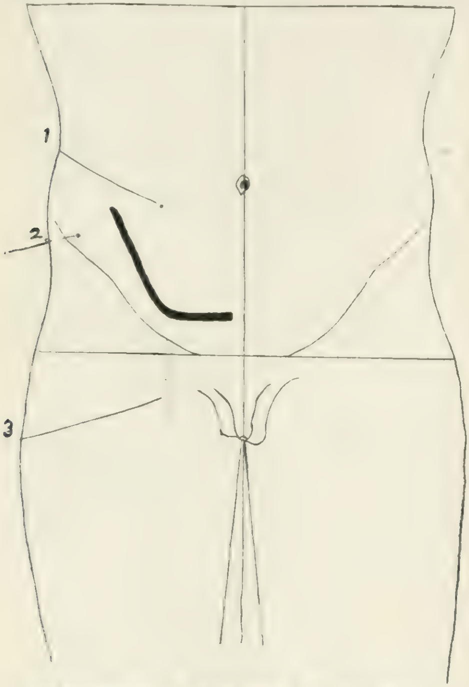
I am sure that a large number of surgeons would abandon the original incision and add a second one in the median line, should they find they would have to remove a pyosalpinx of the same side after having finished their work on the appendix. Others might at once make a more oblique incision without regard to the direction of the fibers of the fascia of the external oblique muscle, if they anticipated trouble in the small pelvis.

In the course of my extensive operative work for appendicitis, I have found a useful incision, the chief advantage of which is that it enables us to respect the fibers of the external oblique muscle and that, if properly lengthened at its lower angle, it gives us sufficient access to the small pelvis and its contents to accomplish whatever work may be necessary, at least as far as the adnexa of the right side are concerned. On account of its shape, I have called it "the hockey-stick incision."

For years I have made it a rule, also in my operations for acute appendicitis, to always split the fascia of the external oblique muscle in the direction of its fibers. I endeavored to make this fascial incision just where the layer of the abdominal muscles is thickest, namely, close to the anterior superior spine. With a view to estabishing typical points as to the beginning and direction of the incision, I carefully traced its course during the operations, and found that its upper end passed exactly midway between McBurney's point and the anterior superior spine, and then continued in a straight line toward the spot where the femoral artery is felt pulsating underneath Poupart's ligament. I further found that the skin incision thus made corresponded to the direction of the fibers of the external oblique muscle in at least 95 per cent. of the cases, the exceptions being very fat people, especially a multipara with pendulous abdomen. There the incision must be made in a somewhat more slanting direction.

In all cases of operation for acute appendicitis where the abdominal muscles have to be cut, one should be careful not to begin the incision too far above a line drawn from the umbilicus to the anterior superior spine, for the reason that we must be enabled to lengthen the incision posteriorly and parallel to the crest of the ilium, should we find the appendix situated behind the caput coli. If the disease could be definitely diagnosed to be in the lumbar region, the cut would at once be made posteriorly.

My usual incision in most cases of acute appendicitis, therefore, commences at a spot about one-half inch above and midway between McBurney's point and the anterior superior spine and ends about one-half to three-quarters of an inch from Poupart's ligament. In making it, I first ascertain where the femoral artery pulsates on its passage underneath Poupart's ligament. The left forefinger of the assistant marks this spot, and I cut toward it. The fascia of the external oblique and the following structures are split in the same line. After having entered the abdominal cavity, it will become evident whether or not the incision is large enough to enable us to do the necessary work. If the appendix is found to be situated inward or downward and a wider entrance be needed, the incision can first be lengthened straight upward as far as the surgeon thinks proper. With reference to lengthening the lower end, I now proceed in the following way: I enter the peritoneal cavity at the lower angle of the wound, with my left forefinger, and slide it inward to the spot where the epigastric artery pulsates; I then curve the lower end of the incision by drawing the knife in a horizontal line, that is to say, perpendicular to the median line of the body, thus forming a rounded-off angle of 110 to 120 degrees. The entire wound then has the shape of a hockey-stick. (See cut.) In making the horizontal part of the incision, care must be taken not to injure the epigastric plexus. It is primarily caught between two forceps, then cut and ligated. The incision ends at the border of the right rectus muscle. If still more room be needed, the belly of the rectus can be easily drawn inward and the peritoneum beneath it incised in the same direction. In pulling the borders of this wound apart, it will be seen that an easy access has been gained to the organs situated within the small pelvis.



1 McBurney's point. 2. Ant. sup. spine. 3. Femoral artery.

It is well possible that others may have availed themselves of a similar cut, but if so, it seems they have not published their experience; for, my friend, Dr. Martin W. Ware, who kindly perused for me the literature with reference to the different incisions employed in operations for appendicitis, in the interval as well as in the acute stages, has been unable to find any descriptions of or reference to a hockey-stick incision such as practiced by me, or the purpose of this incision.

The different incisions for opening the abdomen in cases of acute appendicitis, so far devised and published, are the following:

1. Schüller, in 1889, proposed an incision parallel to the outer border of the rectus[3], basing his incision on the anatomic researches of Treves and Luschka. It is 10 cm. long and runs one finger's breadth to the inner side of the center of a line spanning the anterior superior spine and symphysis pubis.

2. An oblique incision with an additional cut at its upper end inward, or at its middle outward, according to necessity, is practiced by Fowler[4].

3. Morris makes an inch and a half incision, which runs obliquely, the distal end of the line ending at the right margin of the right rectus abdominis muscle[5]. In cases with widespread infection the incision is three or four inches long.

4. Beck also favors an oblique incision, which runs in a straight line and courses from the end of the eleventh rib toward the os pubis[6].

5. Roux[7] makes his incision as close to the anterior superior spine as possible and parallel to Poupart's ligament, sometimes as long as 15 to 18 cm., and extending equally as far above as below the anterior superior spine.

6. Sonnenburg[3] favors the incision as advised for the ligation of the iliac artery.

It was by chance that I first came to make the hockey-stick incision: Two years ago, when operating for what seemed to be acute appendicitis on a married woman, whose pathologic symptoms could as well be referred to an acute gonorrheic inflammation of the right tube, with sudden outflow of infecting fluid at the abdominal end of the same, I did not feel satisfied after the removal of the appendix. It seemed desirable to bring the tube and ovary into view. The patient was stout, so that it was impossible to reach the parts in question through the wound already made. I was unwilling to add a median incision for the purpose. In this emergency I continued the incision at the lower end, turning it into the shape of a hockey-stick, as above described. Then it was very easy, not only to feel the right ovary and tube—the latter down to its uterine insertion—but to see these structures with the fundus uteri and observe the pus oozing out of the abdominal end of the tube, especially when gently massaging.

With proper drainage the patient made a good recovery.

From that time on I have made use of this incision in other complicated cases: Thus, for example, I have removed, after having dealt with a diseased appendix, a large ovarian cyst of the right side; in another instance, a gangrenous right ovary with its tube, the gangrene being due to a twisted pedicle; in a third patient, a large pyosalpinx which filled the whole small pelvis and was firmly adherent to the surrounding organs. All intrapelvic manipulations were well feasible, because the incision is long enough to permit of the entrance of even a large hand, and its working within the small pelvis. In my patients it was not at all difficult to bring the fundus uteri into view and ligate the tube close to its uterine end. I certainly did not have the slightest wish to make an additional median incision, although I did the work in all cases with the patient flat on her back and not in Trendelenburg's posture. I am sure that, if the latter be added, the necessary intrapelvic manipulations would be still more facilitated.

With reference to the left tube and ovary, I have repeatedly satisfied myself that they can be palpated with ease by the aid of two or three fingers in the wound.

I have found this incision useful also in the male, especially in cases of perforative appendicitis where we have to drain the small pelvis, which had been filled with septic material; for, the lower end of the wound is then almost perpendicularly over Douglas' cul-de-sac. The drainage is, therefore, more direct. I have repeatedly used it to advantage in such cases.

The incision proved especially valuable in my hands in the case of a colleague who presented a very long gangrenous appendix which had not perforated, but was filled with fluid to its utmost extent, and hung low down into the small pelvis. From the appearance of the appendix I felt positive that, if the organ should burst during the manipulations, which would undoubtedly have happened had the incision been made insufficiently long and thus given less ready access to the small pelvis, the hope of recovery would have been greatly reduced. I did my best, as also did my most competent assistants, to handle the organ as gently as possible; to our delight we were able to get it out unruptured. Recovery was uneventful.

In non-suppurative cases the whole wound can be immediately closed by sutures.

If drainage be necessary, the entire wound need not remain open, the upper portion of it, which traverses the thickest part of the abdominal muscles may be closed by tier-sutures, the lower part being reserved for drainage. It is evident that, by partially closing the wound in this way, the danger of the development of a ventral hernia, especially that annoying type so often produced by the caput coli, is less imminent. In some instances it seemed to me of advantage to also insert a few stitches in the extreme lower end of the wound. This ought to be always done if the peritoneum beneath the rectus muscle was incised transveresly.

I have employed the hockey-stick incision in ten cases of appendicitis, gangrenous, perforative, or complicated with tubal or ovarian affections, and feel that I can recommend it as a typical mode of entering the abdominal cavity in just such cases, as it enables us to efficiently do extensive work within the small pelvis without necessitating an additional median incision

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THE BUBONIC PLAGUE:

POINTS OF SPECIAL INTEREST TO SANITARIANS.

BY EDMOND SOUCHON, M.D.
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The following are extracts from Kitasato, Nakagawa, Yersin, Wyman, Manson.

CAUSES EXTERNAL.

The plague affects all countries.

It affects all climates, but it has become practically a disease of warm climates.

It affects all altitudes.

It affects all seasons, but is worse in moderate temperatures.

Moderate temperatures combined with a certain degree of dampness are the most favorable conditions.

It affects all races, but the yellow race is the most liable. The white race is much less so. In the epidemic of Hongkong in 1898, the death among the Chinese was 98 per cent., and among the Europeans 18 per cent.

It is endemic in many countries of Asia.

It exists over such a large area there that the disease may be said to be pandemic.

The worse the hygienic conditions, constitutional and general, the worse the disease.

Filth and overcrowding are the most potent conditions for the starting and spread of plague.

It is the severest in unsanitary districts and among the poverty-stricken and ignorant.

In cities the cleanly districts are generally spared.

Underfeeding and the use of poor or unwholesome food is a potent predisposing cause.

The poison is not eliminated by the ordinary respiration of a patient suffering with the disease.

The elimination takes place in the sputum—especially in the pulmonic plague—the urine, the dejections, pus and blood from wounds, buboes or other ulcers or wounds.

When exposed to the sun the bacillus dies in four hours.

It may survive outside of the body for a longer time.

Its vitality outside of the human body is very short.

There is a considerable mass of evidence tending to show that clothes, skins, textile fabrics and other similar materials may preserve the virus for several months.

The bacillus can live for a time in dirt, also in moist dust dry enough to be easily wafted into the atmosphere by slight currents of air.

There may be transportation of the virus in *moist articles*.

Yersin states that he found in the *soil forming the floor* of plague-haunted houses, 4 to 5 cm. below the surface, a bacterium with all the bacteriologic characters of the plague bacillus, but devoid of virulence.

Nobody has been able to demonstrate the presence of ***virulent*** plague bacilli in the soil of infected localities.

The bacillus when desiccated can not be preserved more than seven days.

Lice, flies, bugs, fleas may act as carriers of the virus from person to person, inserting it with their bites.

Yersin found in his laboratory dead flies, whose bodies were crowded with the bacilli.

The bacilli are found in the bodies of rats and mice found dead during an epidemic.

There is sometimes a great mortality among rats, mice, snakes, beetles, bugs, flies, dogs—less frequently, —jackals. Purely herbivorous animals—horses, oxen, sheep, goats, rabbits—are usually exempt pending and accompanying outbreaks of plague in man.

Other animals also may die, oxen, sheep, deer, pigs, dogs—less frequently.

Fleas carry it from animal to animal and from animal to man and from man to animal. Fleas leave dead animals to go to living ones or hide in clothes.

Rats contract the disease by breathing the air of an infected house or by eating and drinking contaminated food and water, or by eating cadavers of man and of animals.

They infect houses by defecation or by dying in or under houses.

The disease is communicated by breathing the air of an infected room, also by eating and drinking in an infected room, also by conveyance from the fingers or glasses or fork, etc., to the mouth.

Rats and mice fed on cultures or on fragments of liver or spleen of animals dead of plague acquire the disease.

Yersin placed in the same cage healthy and inoculated mice. The inoculated died first, but afterward the originally healthy and uninoculated mice also succumbed.

Inhalation experiments have thus far been negative.

The extension of the epidemic depends oftener on place infection than on direct transmission from person to person.

It spreads from one country to another by religious pilgrimage, by ordinary travelers and their baggage, by rats, fleas and other vermin.

Plague is not so infectious as scarlet fever, measles, smallpox and typhus.

Plague Conveyance by Merchandise.—Following is an extract from the London *Lancet* of March 13, 1897, upon this subject:

> A special commission was appointed by the French Academy of Medicine in 1846, and made report upon the danger of the importation of the plague infection through merchandise from infected ports.
>
> The decision of the commission of 1846 was as follows: *There is no proof that merchandise can transport plague outside of the epidemic foci*, and the arguments upon which this conclusion was based were: (Translation.)
>
> In 1835 epidemic plague prevailed at Alexandria among the employees of all grades living in the warehouses of the Egyptian government. A great quantity of bales of cotton, handled daily by laborers, were shipped to all the great ports of Europe from January to June—that is to say, during the period of the epidemic—without a single case of plague resulting. In 1835, 31,709 bales were carried to England, 33,812 to Marseilles, 424 to Leghorn, 150 to Holland, 32,263 to Trieste, 32 to various ports. *These cotton bales, we repeat, did not convey plague to [illegible], although no precaution was taken to disinfect them.* They were compressed before being put on board, and were then piled in as small a space as possible. The hatches were closed, and the vessel left Alexandria. Of the 16 English vessels loaded with cotton which left Alexandria from the beginning of January to the end of June, eight had plague on board, but the cotton loaded in these vessels was not more dangerous than that of non-infected vessels. We close, gentlemen, what we had to say with regard to the transmissibility of plague by directing your attention to a fact of great importance, which is positively and officially recognized. *Since 1720 not one of the porters employed at the lazaretto of Marseilles in loading and handling merchandise has contracted plague.*
>
> Generally speaking it is now considered that new merchandise plays a small rôle in the conveyance of disease.

CAUSES INTERNAL AND INDIVIDUAL.

The disease is rarer after 50 than during adolescence.

Certain occupations like rag-dealing may increase the risk of infection.

It may penetrate by respiration, by ingestion; also by inoculation through slight wounds. The disease may be communicated through trifling wounds of the hand, face or other parts of the surface. It is conceivable that the germs that may be lying about on the ground deposited there by the discharges of sick men or animals, or perhaps growing there in natural culture, may have been picked up in this way.

The bacillus persists in the bodies of the convalescents for at least three weeks after cessation of the active disease.

The plague is due to a bacillus discovered by Kitasato in 1894.

It is found in great quantities in the buboes, generally in pure cultures, but often associated with the pus cocci.

It is also found in the blood. It is easily detected only by cultivation at the beginning, and with difficulty directly by the microscope.

But toward the end of the attack they are so numerous that they are readily seen by the microscope directly.

The bacilli of the blood are shorter than those of the fluids.

They are also found in the intestinal contents and in the feces.

The bacillus is found in the blood obtained from the finger tips of the living; also in the intestinal organs.

The most favorable temperature for the cultures is from 36 to 39 C.

The bacillus does not form spores.

Intentional and unintentional experiments prove or rather make probable the inoculability of plague to man.

Mice, rats, guinea-pigs and rabbits are very susceptible to inoculation.

Pigeons survive. Sheep and swine are feebly, if at all, susceptible.

Guinea-pigs die in from two to five days.

The bacillus, when dried on cover-glasses protected from the sun, dies in four days.

Exposed to the sun it is killed in four hours.

By artificial and by natural means the virulence of the bacillus is susceptible of modification.

By passing the virus from one guinea-pig to another by inoculation it increases in virulence.

Yersin says that a gelatin peptone cultivation is as fatal as virus derived directly from a bubo.

Its growth is more vigorous in anaërobe cultures.

The bacillus is a facultative anaërobe culture. In such its virulence is preserved for an almost indefinite length of time, eight to ten months.

In aërobic cultures the virulence is lost rapidly.

The bacilli undergo alterations if they are cultivated through several generations in artificial media.

The bacilli produce toxin in artificial cultures.

The bacillus is readily killed by ordinary processes.

In the blood there is great increase in the number of the leucocytes.

The erythrocytes are not diminished.

The Yersin pest bacillus is quite distinct from the bacillus of Kitasato.

INCUBATION.

The incubation is usually from a few hours to eight days; usually within four days. It may extend to fifteen days.

PREMONITORY SIGNS.

Rats sometimes leave a healthy locality in great numbers before the plague is declared in man.

There is sometimes great mortality in rats, mice and other animals before the plague is declared in man.

It has been remarked, on two occasions, in Russia and in Persia, that outbreaks of plague were preceded by a sporadic or epidemic febrile—sometimes afebrile—affection in the course of which the lymphatic glands became enlarged and perhaps suppurated.

SYMPTOMS.

The most important prodromal symptom is the tenderness and pain in the inguinal or axillary region.

The cardinal symptoms of the usual type are rapid high fever, adenitis in the groin and axilla, typhoid facies and general condition, extreme weakness causing a peculiar gait.

DIAGNOSIS.

Kitasato and Aoyama say they have demonstrated the presence of the bacilli in blood twenty-four times out of twenty-eight examined, and they would be decisive in the majority of cases.

Examination of the fluid aspirated from the glandular swelling may afford an easier method.

There are cases on record in which plague was diagnosed and yet the autopsy showed widely different conditions.

COURSE.

In sanitary hygienic conditions plague does not spread.

In some of the worst sanitary conditions the disease after being epidemic dies out spontaneously.

In some epidemics the first cases are the worst and the subsequent ones less severe.

It may start as very benign and later assume a malignant aspect.

The subsidence of the plague in a locality seems to depend on the abatement of its virulence in due course of its evolution.

It is generally conceded that seven months are necessary for the subsidence of an epidemic.

Convalescence is slow and long

Convalescents must be kept isolated for one month.

PROGNOSIS.

In Hongkong, in 1894, the death-rate among the Chinese was 98 per cent., and among the Europeans 18 per cent., as said above. This was mostly due to the fact that the Chinese are underfed and often use poor or unwholesome food.

The mortality is high, but if light cases are counted in, it is not so high as it seems.

One attack seems to confer immunity against a subsequent.

TREATMENT.

The treatment should be conducted on general principles.

Animals can be made immune by preliminary injections of the attenuated virus; also by the injections of sterilized virulent cultures.

The serum has curative efficacy in the lower animals.

The serum of Kitasato and of Yersin, preventive and curative, has not yet given thoroughly reliable satisfactory results in the human subjects, but it is gaining ground.

The serum of Haffkine, prophylactic and curative, has not as yet been uniformly successful.

PROPHYLAXIS.

Nurses must use a disinfectant mouth wash.

They must wash their faces, mouths and hands before eating.

They must never eat or drink in the sick-room.

They must protect every little abrasion of the skin anywhere.

They must wear boots and fasten the trousers around the ankles.

The bacillus is easily destroyed by all the ordinary disinfectants.

Mice and rats which have died spontaneously or otherwise in houses must be cremated.

COMPLICATIONS.

The most common complication is the streptocopyemia due to the concomitant micrococcal infection.

FORMS AND VARIETIES.

Premonitory plague is the mild form which sometimes precedes the appearance of the typical disease, as cholerine precedes cholera epidemics.

Mild plague—pestes minor—presents buboes with little or no constitutional symptoms.

It may precede true plague.

It may follow or mark the end of true plague.

It may exist through a whole epidemic from beginning to end.

A thorough bacteriologic examination in cases of mild plague has never been made. If they are really light cases of plague, they might be instrumental in the propagation of the disease.

In the Larval plague there are large numbers of mild cases. The buboes form and suppurate and resolve, but the constitutional symptoms are mild and are sometimes wanting.

Ambulant plague cases are those where the patient is able to be about, having little if any fever and apparently being little inconvenienced by the disease. Such patients, however, may collapse suddenly. They are potent causes of spreading the disease.

Defervescing plague is the form that terminates by a defervescence or crisis.

In the *Siderating plague* death occurs within twelve to twenty-four hours, before the buboes are formed. These cases are principally pneumonic.

Pneumonic plague is the form that affects the lung. The sputum in these cases is dangerous; also the infinitely small particles which may be contained in the air when patients cough.

Hemorrhagic plague or Black plague is characterized by extravasations of blood.

Ulcerated plague is characterized by the presence of ulcers resulting from the suppuration of the glands and of the extravasated blood.

Plague septicemia is the form complicated by cocci infection.

Cold in Treating Pneumonia.

The question, "Has the application of cold given satisfaction in the treatment of pneumonia?" was recently addressed to representative clinicians throughout the United States, and the replies are given at length in the Md. Med. *Jour.* for January. In brief, 7 report this treatment "very valuable;" 9, "valuable;" 4, "useful," and but 1—Eichberg—has found it "unsatisfactory," and therefore abandoned it. He uses hot baths in all but the [illegible] [illegible] treated. As to the mode of employment 7 use ice-bags, 7 employ cold wet compresses, 3 use cold sponging, 6 the cold plunge or tub and 1 [illegible] applies the cold [illegible] to the front of body.

BILHARZIA HEMATOBIA.*

BY EDWIN WALKER, M.D., PhD
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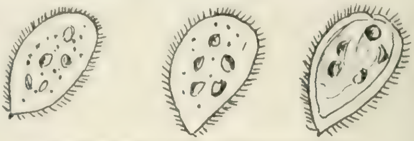
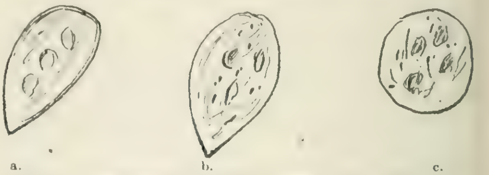
The parasite, Bilharzia hematobia, has been described by numerous authors, all of whom have supposed that Africa was its only habitat. All reported European patients have at one time resided either in Egypt or Cape Colony. One case has been reported in this country, by Dr. D. S. Booth, Sparta, Ill., the patient being a resident of that place, which is not far from the home of my patient, and after a careful perusal of his article and his description of the parasite, I believe it was a case of genuine bilharzia. There was not, however, any great care taken to avoid error, and this throws a slight shade of doubt on it; still, the symptoms of the patient and the description of the parasite are almost conclusive. I will describe my case quite fully, in order that you may judge for yourselves whether it is genuine or not. Every possible error was eliminated, and the parasite found in the specimen of urine passed in sterile vessels, as well as that drawn by catheter. That the parasite came from the bladder of the patient there is no doubt.

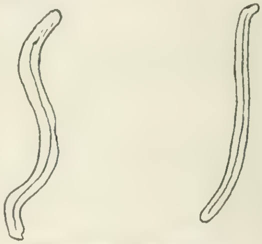
On account of the rarity of the disease, and from the fact that practically no attention has been paid to the subject in this country, I have taken the liberty of presenting a synopsis of the literature. I am indebted to my associate, Dr. James Welborn, for the microscopic and much of the detail work connected with the case, and to Dr. Jesse Ramsburgh of Washington, D. C., for a summary of the literature.

The patient, a slender, delicate-looking woman, 28 years of age, and weighing less than 100 pounds, first came to me on Feb. 19, 1897. She gave a history of an illness dating from soon after her marriage, nine years before. She had in the meantime suffered chiefly with pain in the right inguinal region, which had been so severe as to require a great deal of opiate. The right ovary was cystic and was removed. The left was found to be normal, and she made a good recovery from the operation, although for some time afterward she suffered considerable pain in the right side. She remained fairly well until May, 1898, when she began to suffer severe pains in the region of the bladder, and have hemorrhages, the latter coming on at irregular intervals, rarely more than two weeks apart, and finally were almost continuous, and were at first supposed by her physician to come from the uterus. From this time she suffered constantly with pain in the left side near the median line just behind the pubis. She was under the care of several physicians, and it was found, sometimes at least, that the hemorrhage came from the bladder. She returned to me in September, 1899, a picture of distress. She had been much reduced by repeated hemorrhages, and was suffering excruciating pain in the left side. An examination revealed a cystic ovary on that side, about as large as a lemon. Her physician had attributed her trouble to this, and I removed it two days after she came to the sanitarium. Her convalescence from the operation was without incident, her temperature never rising above 100 F. She had no flow of blood at the time of her admission, the urine contained a few mucous corpuscles, had the specific gravity of 1016, but was otherwise normal. After this her pains remained the same, and the hemorrhage returned, and we soon found that the flow was entirely from the bladder, and that the urine contained peculiar looking clots, which were of blood and mucus mixed and would float. She suffered some pain every day, and was nearly always worse in the evening. The abdomen would become distended on the left side, would be tympanitic and so sensitive that any deep pressure could not be endured. Then suddenly there would come a gush of fluid, the specific gravity of which was from 1001 to 1006, containing almost no urea, sometimes absolutely clear and sometimes tinged with blood, and in this we found the ova of the parasite. After this there would be some relief. The quantity would vary from a few ounces to a gallon. These gushes of fluid were accompanied with discharges of gas, and the latter often came through the catheter.


Embryo seen in motion, sometimes very slow.



a, b, c. ovum seen floating in the fluid. c seen to change its form from b to spherical shape.


Worms seen in the sediment.

The patient was accordingly anesthetized and a careful bimanual examination made, also a deep palpation of the entire side. As near as I could tell, the sac from which this fluid came was posterior to the bladder and peritoneum. I did not think it was hydronephrosis, because it could hardly have discharged that way; besides, it could have been more distinctly palpated when full, and I was able to palpate a kidney of normal size on that side. An endoscopic examination of the bladder was also made. On the mucous membrane were a few grayish white patches, irregular in size and shape, like cicatrices. The urethral orifices were elevated, more on the right side, and I could not get the ureteral catheter more than a few lines into the orifice. I was unable to find any opening of the sac from which these gushes of fluid came. In order to ascertain the exact nature of this discharge, I had the nurses prepare a vessel which was absolutely sterile, and the moment the patient felt it coming, it was caught directly in the vessel. At other times it was drawn from the bladder by catheter to be sure nothing was mixed with it. In the fluid we found the parasite. We never found it in the urine alone. The ova, embryos and two small young worms were found. The ova are oval, and at one end have a sharp spine and are granular bodies .08 to .1 mm. long. We noticed ameboid movements in some of them, changing from an elongated oval to nearly spherical form. The embryos were larger, varying from .1 to .12 mm. long, and about .05 mm. wide. They were granular also, presenting large globular bodies called by Cobbold, "sarcode globules." They had ciliæ or flagella all over, except the point. These were in active motion and when the embryo was free, not lodged in mucous nor clots, it would swim with great rapidity. When unable to free themselves the movement of the flagella could be plainly seen. They would live in the fluid for many hours. We were unable however, to keep any of them growing. Cobbold found that they lived longer in spring water. If only a small quantity of urine was added they soon died. In sea water they were at first quiet, but after twenty minutes again began to move. Those interested in a more extended description are referred to Cobbold's excellent article for quite a graphic description of the hatching and developing of the interesting little creature.

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* Read before the Southern Surgical and Gynecological Association, New Orleans, La., Dec. 5-7, 1899.

We also found two worms which I think were young ones. They were 4 or 5 mm. long and rounded at both ends, the head being larger. A distinct canal extended throughout the whole length. Neither of them were alive. They were certainly unlike the adults as figured by Roberts and others, but found as they were, with ova and embryos of various stages of development, I have no doubt of their genuineness. I have not, however, found any author who claims to have found the adult parasite in the urine. Cobbold found one in the portal vein of a monkey, but he does not mention having found them in the urine.

Synonyms.—The name Bilharzia hematobia was conferred by Cobbold, and is preferred to all others by nearly all writers since his time, as it gives a more accurate name, and at the same time hands down to posterity the name of its discoverer. The name of Distoma hematobium, given by Bilharz himself, is objectionable, because among the Distomidæ are included bisexual parasites.

Distoma capense was given by Harley, who supposed that those found in the Cape were different from those found by Bilharz in Egypt, which Cobbold shows to be an error.

Gynecophorus hematobium, by Diesing, is very appropriate, expressing the most distinctive peculiarity in the creature's anatomy, as well as in its life history; but neither this nor any of the remaining synonyms have found general favor, and the name Bilharzia hematobia is rapidly superseding all others in the later writings of helminthologists.

Discovery and Geographical Description.—The symptoms of the disease have been noted by physicians of the various parts of Africa and its neighboring islands, but more especially in Egypt. It was not until 1851 that Bilharz, in conjunction with Griesinger, discovered that the special symptom, hematuria, was due to the presence of a trematode worm and its ova. In 1857 Cobbold discovered a similar parasite in the portal vein of an African monkey. In 1864 Harley discovered the disease at Cape Colony and Port Elizabeth. Since that time cases have been reported from different places in Africa, by Henderson, Allen, Atherstone and others, in the Cape and Natal, and the surrounding country, including the Transvaal. It is probable that the disease exists in all parts of the continent from Cairo to Egypt.

The manner in which the parasite gains access to the body is still uncertain. Griesinger suggests that the larvæ exist in river water and fishes which inhabit it. Cobbold thinks they enter the body by ingestion of molluscs which adhere to edible vegetables. Sonsins suggests that the worms gain access through drinking impure water. Members of the agricultural class in Egypt, who drink from stagnant pools or running streams, are more subject to the disease than the inhabitants of the cities who make use of purified water. Harley, Allen and others suggest the entrance while bathing, by small superficial veins, or by the urethra or rectum. It has been suggested that the worm may deposit the eggs on the surface of the body, and that they hatch out and find their entrance into the veins. Among the Boers it has been found in the males, while the females are almost exempt. It is more frequent among the boys. The explanation of this is probably due to the fact that the boys are constantly bathing in the rivers, while the girls do not, and this is an additional support of the theory that it is either deposited on the surface of the body, or finds entrance through the urethra or rectum. Newcomers, if they are adults, who venture to bathe frequently, contract the disease, while others who avoid doing so escape. Those who bathe in these streams frequently complain of itching on emerging from the water, and afterward show signs of the disease. It does not seem to be infectious by direct contagion.

Pathologic Effects.—The adult worm is found most frequently in the portal vein or its branches, and in the vesical veins, or in the blood clots contained in them post-mortem. The organs in which eggs are found, post-mortem, are the bladder, ureters, vesicular seminales, mesenteric glands, and the rectum. They have also been found in the liver, kidney and prostate by Kartulis, in the lung by Mackie and others, and in the left ventricle of the heart by Griesinger. The cavities into which they escape most frequently are those of the urinary apparatus, the pelvis of the kidney, the ureters and the bladder. They are almost always found in the urine, but they may also escape through the rectum, passing out with the feces.

The female worm after fecundation leaves the male and finds her way into the minute vein or soft tissue and becomes encysted. The eggs are then deposited in abundance, the veins burst and they are set free into the cavities in the neighborhood. This rupture is usually accompanied by hemorrhage, which is sometimes the only symptom noticed by the patient. This is the chief symptom of the disease, and gave to it its original name of endemic hematuria. Infiltrated, congested and ecchymotic patches, varying in size from a quarter to half an inch in diameter, covered with slimy mucous, are found post-mortem in the bladder, ureter and pelvis of the kidney, most frequently in the bladder. These patches are usually found on the posterior walls of the bladder. They are covered over with soft granular material, in which are often found lime salts. Sometimes these patches become the seat of warty outgrowths or vegetations. Should these be located in the ureter or kidney they may cause hydronephrosis, taking the form in the urinary organs of cystitis or myelitis, and in the case of the bowel, diarrhea or dysentery.

Symptomatology.—The passage of blood by the urethra is usually the first symptom. Sometimes uneasy sensations, seldom amounting to pain, are felt in the lumbar regions, or about the perineum, before any blood is passed. As the patient is usually a child, the detection of blood on the clothing first directs attention. The period required for the disease to fully develop is difficult to determine. Adults develop hematuria after a residence of four months at Rushenburg.

The blood is not as a rule mixed uniformly with the urine. It is almost always passed at the end of micturition, the quantity varying from a few drops to a teaspoonful, or even a tablespoonful. After exertion the amount is markedly increased. The blood thus seems to be vesical in origin. It may be highly colored or dark, and often passes in clots. When these come from the bladder or ureter the patient may suffer with marked colic. The hematuria is usually intermittent. Later, more or less pain accompanies the disease, the passage of clots giving rise to pain more or less acute, and in many, a dull, aching pain in the back is a prominent symptom. Irritability of the bladder, frequent micturition preceded by a burning sensation and followed by smarting and straining is quite frequent.

The disease is mostly confined to boys from 6 to 15 years of age. After that age hematuria generally disappears, and the other symptoms improve so greatly that the patient regards himself as cured. A careful examination of the urine will often reveal the presence of ova for many years afterward. Subsequently, oxalic and uric acid calculi frequently form in the kidneys and bladder. Renal growths are particularly common. The reaction of the urine is similar to any other which contains blood, but by microscopic examination the parasite is found, usually the ova and embryos, seldom the worms. These we find in the sediment from the urine. In my own case it was a discharge of water independent of the urine, which contained most of them. Shreds of mucous membrane containing imbedded ova in large numbers are frequently passed later in the disease.

Diagnosis.—Detection of ova in the urine and feces is the only method of absolute diagnosis. The urine is always acid, and frequently contains crystals of uric acid. As mentioned before, the chief symptom is hematuria.

Prognosis.—The immediate danger to life from this disease seems to be small, although it is doubtful whether any of the patients entirely recover. The disease is known to recur after ten or twenty years.

Treatment.—Indication: 1, removal of cause; 2, alleviation of symptoms; 3, prevention of the sequelæ.

1. For the removal of the worm from the blood of the adult and the ova from the organs and tissues, nothing has yet been found, for the parasite taking up its abode in the interior of the vein can not be reached except through the blood, and it is thus impossible to act on it efficiently by means of the ordinary anthelminthics. Harley recommends a mixture of oil of turpentin and male fern for bringing away the ova. By prophylactic measures we can limit the duration of the helminthiasis; by cutting off fresh infection, limit is placed to its duration. Vesical injections have been tried, with no benefits, except on the secondary lesion if any be present.

2. More success can be looked for in the alleviation of symptoms. Hematuria should be treated from the beginning. Usually the perchlorid of iron has given the best results; also liquor arsenicalis hydrochlorici. Give this along with the iron, with a bitter infusion, e. g., quassia. Allen recommends the use of santonin internally, and in my case I used this remedy and after that she improved, although the improvement was probably due to the freer flow of fluid from the cavity where the parasite was contained. Allen also recommends an injection, into the bladder, of 5 gr. of santonin to ʒi of alcohol, which produces a severe inflammation of the bladder. I, however, fail to see the philosophy of this. Prohibit violent exercise, or exertion of any kind, particularly horseback riding. Prescribe complete rest. For pain, give opiates. As this is due to passage of blood clots through the ureters, give aromatic diuretics (buchu) and demulcent and diluent drinks; in later stages the pain is more probably due to passage of calculi. Treat accordingly.

Treat irritability of the bladder by injections, boric acid in saturated solution, or weak carbolic acid solutions. Epistaxis, diarrhea and digestive disorders frequently call for treatment appropriate to their nature. The practice of masturbation must be looked into. No doubt the genitals become irritated from the excessively acid urine. The habit is exceedingly common among the victims of bilharzia.

3. Daily use of bicarbonate or citrate of potash in weak solution is especially commendable with the object of combating tendency to calculi. Surgical interference is sometimes, though rarely, necessary except for large calculi in the bladder, or papillomata and other growths in the rectum due to deposits of the ova.

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CORNEAL CORPUSCULAR ACTIVITY.

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At a meeting of the Medical Society of the State of Pennsylvania, held at Chambersburg, in May, 1894, I described and demonstrated to Dr. Adolph Koenig, and other members of the Society, the phenomenon of vision which two years later Bowditch briefly described and classified as the retinal circulation. In an address on ophthalmology, delivered before the same Society a few months later, I gave a detailed description of the phenomenon, under the title of "Corneal Corpuscular Activity," which as yet has not been disproved. The theory of its being the perception and recognition of the blood corpuscles in the retinal capillaries is based only on its apparent resemblance to the capillary circulation, for there is no evidence to sustain it. Various observers' opinions in reference to the rate-movement of these bodies differ.

Norton[1], in a recent article, says that "their motion is a peculiar, jerky one, each particle moving forward rapidly for a moment and then for a moment having a slower motion," and further says "that the jerks of this motion are synchronous with the pulse-beat and the number of jerks may be increased by anything that will increase the number of heart-beats, for example, physical exercise." He has evidently overlooked the fact that the pulse wave is not extended to the capillaries in normal conditions. My own observation of this phenomenon is that it is *not* synchronous with the pulse, nor can it in any way be affected by the heart's action. Stasis or intracutaneous tension increases their speed, but has no influence on their action, as stated in the original description. The most conclusive evidence against the capillary theory is that in aortic insufficiency there is a capillary pulse, plainly distinguishable by a distinct flushing under the finger nails, at each contraction of the heart and which consequently must be applied to the entire capillary system, and must, if these bodies be in the blood circulation, be communicated to them, so that their motion would be synchronous with the heart-beat, but they are in no way influenced in this condition. This evidence, in connection with the fact that these bodies cross and recross the central field of vision which corresponds to the fovea centralis, that contains no capillaries in which to circulate, is incontrovertible evidence, from a physiologic standpoint, that this phenomenon has no connection whatever with the blood circulation. From an optical point of view it must be remembered that blood-corpuscles are microscopic bodies, and that the capillaries represent the retinal elements. If we can not distinguish them without a microscope, under the observance of all optical laws it is difficult to comprehend an optical law that will not only enable the retina[2] to perceive its own elements, but to distinguish microscopic bodies through the capillary walls[3], differentiate between them and exclude the red corpuscle, for it does not enter into the phenomenon described.

The eye may be likened to a camera, which might possibly take a photograph of an object placed inside of it, but to expect a photograph from an object placed in the film itself is something that optical laws do not allow. The two conditions are identical, and the retina can no more perceive its own elements than a film in a camera can photograph its component parts.

To recapitulate, we find among the objections to the retinal capillary theory the following important facts:

1. *The red corpuscle*[4] *is not associated with this phenomenon.* For any opaque substance posterior to the lens is perceived as a scotoma only, and if the red corpuscle took part there must be a corresponding number of shadow dots on the retina, which is not the case.

2. If the retina[4] does not recognize the capillaries or arteries themselves, it can not appreciate their microscopic contents.

3. The corpuscles[4] in the capillaries are *dependent on their media for motion, while the bright bodies described are independent of their media and of each other.*

4. They cross and recross the central field of vision corresponding to the fovea centralis, that contains no capillaries in which to circulate.

5. In aortic insufficiency, in which condition we have a capillary pulse and which, if they were in the capillaries must be communicated to them, so that their movement would be synchronous with the pulse, but is not, is conclusive evidence that they are not in the blood circulation.

6. No known law enables[2] the retina to perceive its own elements.

A recent article by Dr. George M. Gould[5] on this subject, in which he describes the phenomenon as a reflection from the corpuscle in the retinal capillaries and classifies it as "phoses," is, I am compelled to say, untenable. If it be either one or the other, it can not be both, for they are two separate and distinct conditions without analogy. All phoses are subjective light symptoms; shimmerings of light, phosphenes, so-called stars, the light seen when striking the eye suddenly with the finger, etc., are all light reflexes, dependent on retinal irritation from sudden impact, increased tension, blood-pressure in the retina or optic nerve, and have no connection with the visual apparatus, as far as sight is concerned, and may be seen after the eye is removed, from cicatricial pressure on the optic nerve[6]. (Park.) If it be a reflection, therefore, it can not be classified with the "phoses," for the perception of a reflection is a normal physiologic function and is appreciated by the retina according to intensity, the same as light and shadow are recognized by the eye under any condition. To produce this phenomenon by reflection, we must demand of the corpuscle that it maintain a fixed plane or angle during its entire course, for in the phenomenon previously described by me under the title of "Corneal Corpuscular Activity," *the body is seen from the time it first makes its appearance, through its entire course, uninterruptedly, until it disappears.* A corpuscle in transit through devious capillary channels, must and does repeatedly turn over, and can not maintain a given axis for an instant, for its propulsion is dependent on its medium, and a reflection from such a body, were it possible for the retina to perceive a reflection from a microscopic body, could only appear as a series of interrupted successive glints.

A reflection from a reflecting surface consists of the projection of the object at the point of incidence. The reflecting surface itself does not project itself, *as itself,* except in specially prepared surfaces, such as mirrors, etc., and then in its entirety only in ratio to light intensity. In semitransparent bodies most of the rays are lost through penetration, so that reflection from a transparent body such as a corpuscle, could not under the happiest conditions project itself as a corpuscle, especially when we remember that the reflection from globular or convex bodies is always very much contracted, and linear in character, so that a phenomenon produced by reflection from corpuscles would in no way resemble what I described.

Dr. Hamilton Stillson[7], Seattle, Wash., in a recent article read before the AMERICAN MEDICAL ASSOCIATION, gives a number of most interesting experiments of subjective visual sensations. He assigns the bright bodies to the lymph channels of the vitreous and cornea, takes exceptions to the theory of capillary circulation, and in a letter to the writer, July 19, 1899, says: "since reading the reprint of your former article, I am constrained to agree with you that they represent the corneal circulation only."

The phenomenon in question[8] consists of bright moving bodies filling the field of vision. Their motion is most eccentric; they may appear in groups of two or three, but generally singly, and when grouped travel more slowly; they are independent of each other, some moving faster than others, and when moving faster appear elongated, which is an optical illusion caused by the falling of the lymph behind them.

Being microscopic[8] bodies, the ability of the retina to see them at all is dependent on the proximity of the lens to the cornea.

The fact that the cornea contains no blood-vessels accounts for the non-appearance of the red corpuscle, the interlacing lymph canals of the cornea forming the courses which resemble the capillary system. As previously stated in my original article, all the evidence is in favor of "these bright bodies" being the ameboid leucocytes circulating through the lymph canals of the cornea. A third and final paper on this subject will dwell on the theory[8] of chemotaxis and physiology of the white corpuscle, as studied from the cornea.

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EVISCERO-NEUROTOMY; A NEW OPERATION.*

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The subjects of evisceration and enucleation of the eyeball are just now commanding more attention than in the past, especially in view of the fact that they are to be made the subjects of special inquiry at the next meeting of the International Medical Congress at Paris. Barring special conditions and indications, both enucleation and evisceration have their advantages and disadvantages.

The advantages of the former are a rapid healing of the wound with the minimum of local reaction, and the absolute certainty that it will not be followed by sympathetic inflammation in the other eye. Its disadvantages are that it is more radical than necessary, in that it removes too much tissue and leaves a very poor stump for an artificial eye.

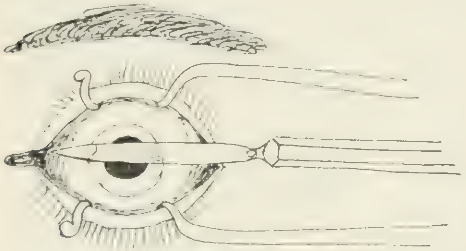

Fig. 1.—Amputation of the cornea.

The disadvantages of evisceration are just the opposite of the advantages of enucleation, viz., a considerable local reaction and an occasional case of sympathetic inflammation. Though the danger from this source is rare, yet it is not unknown, and the operation is to that extent objectionable. Its advantages are a more perfect stump for prothesis, especially when an artificial vitreous is introduced.

To obtain the advantages of enucleation, viz., absolute certainty that sympathetic inflammation will not occur; as well as the advantages of Mules' operation, viz., a good large stump for an artificial eye, I have originated the following method: Having obtained as aseptic a field of operation as is possible, the cornea is amputated and the opening thus made enlarged laterally by slitting the sclerotic up to the insertions of the internal and external recti muscles.

The contents of the globe are then removed in the same manner as for simple evisceration.

While an assistant keeps the mouth of the wound widely open, a pair of forceps is introduced into the inside of the ball, through the opening made by amputation of the cornea, and the sclerotic coat is caught about midway between the equator and the posterior pole, and button-holed with blunt-pointed scissors.

This opening is then enlarged laterally, parallel with the equator, until it has encircled one-half of the ball. A blunt, curved enucleation scissors is then introduced through this opening and passed back of the globe, and the optic and ciliary nerves are severed. Having thus loosened the eyeball posteriorly, this part can then be drawn forward up to the corneal opening by partly everting the sclerotic from behind by the aid of forceps, and that part of it, including the nerves, is removed by continuing the cut parallel with the equator until it extends entirely around the eye. In this manner the posterior segment of the eye, a section somewhat larger than the cornea is removed, and all nerve connection thoroughly and permanently obliterated, while the rest of the sclerotic with its muscle attachments is allowed to remain.

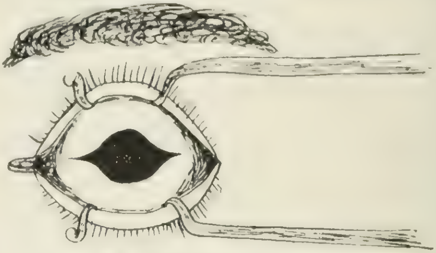

Fig. 2. After corneal amputation.

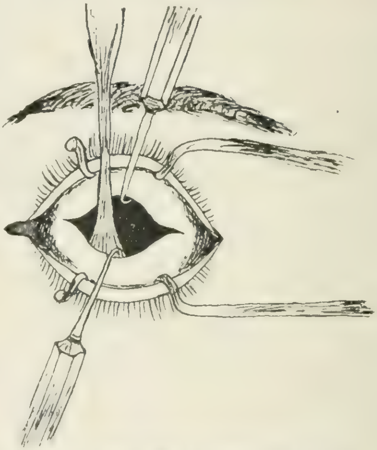

Fig. 3. Eviscerating the contents of the globe.

The introduction of an artificial vitreous is very desirable, notwithstanding the fact that it is not always retained and the difficulty occasionally experienced to obtain prompt and perfect union by first intention. Where such unfortunate conditions do not obtain, and they are in the majority, the results are so much better for prothesis that I believe this practice would be more generally adopted if some material could be obtained

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*Read before the Chicago Academy of Medicine, Dec. 8, 1899.

that is more suitable to the purpose than either glass or metal. This subject will be discussed in another paper later. However, the use of the fenestrated aluminium ball in connection with this operation, as advised by Bryant, in implantation, ought also to be followed by good results. As a segment of the sclerotic has been removed, there is no longer any reason why the inside of such a sphere should not fill in with new connective tissue, which, being continuous with that of the orbit, would prevent its extrusion.

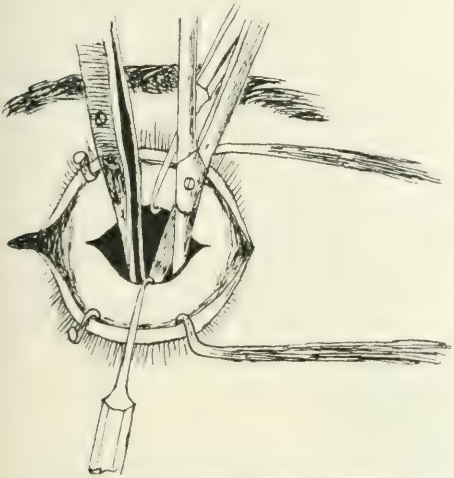

Fig. 4.—Removing posterior segment of eyeball

The wound is closed with five silk sutures, and the after-treatment is the same as in evisceration. The local reaction following this operation has in no case been as severe as that following simple evisceration. In fact, I should say that it has been no more severe than after enucleation.

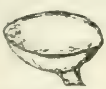

Fig. 5.—Posterior segment including part of optic nerve removed.

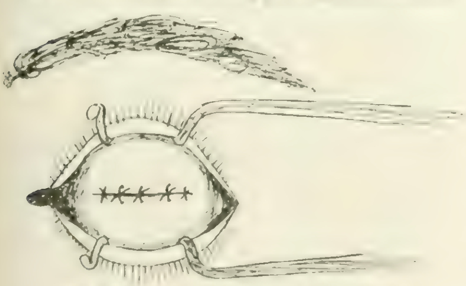

Fig 6.—Showing sutures and stump after operation

This operation is strictly in accord with what I consider one of the first rules in surgery, viz., to obtain the maximum in results by the removal of the minimum of tissue.

In conclusion: 1. This method, with the use of an artificial vitreous, leaves as perfect a stump as after Mules' operation. 2. It prevents absolutely the dangers of sympathetic inflammation. 3. The local reaction appears to be no greater than after enucleation. 4. We obtain the maximum in results by the removal of the minimum of tissue. 5. We obtain, besides this, all the advantages claimed for Mules' operation, as well as those of enucleation without their disadvantages.

100 State Street.

RAILWAY HYGIENE AND EMERGENCY EQUIPMENT.*

BY W. W. GRANT, M.D.
SURGEON CHICAGO, ROCK ISLAND AND PACIFIC RAILWAY CO.
DENVER, COLO.

Coming within the province of duty of railroad surgeons, it may be said with much probability that, unless they take a positive interest in the matter, slow progress will be made in the sanitation and hygiene of railway travel. So far we have devoted ourselves chiefly to the treatment of injuries and the consideration of litigation cases. Especially are the furnishing and ventilation of coaches and first treatment of the injured matters of supreme importance and always worthy of special interest and consideration. It is often a long time after the recognition of an evil before the successful remedy is discovered and applied. The best means in the accomplishment of a given purpose is generally the result of countless theories and suggestions, and careful, patient investigation. The comfort, health and safety of employees and passengers are cardinal elements that must command the serious consideration of railway corporations and the railway medical corps. Should we examine the air of a Pullman coach, with a spectroscope, the myriad living things to the square inch revealed, many inimical to health, would be enough to cause the shades of Schwann, Helmholtz, Kircher, Pasteur and Tyndall to weep for the living.

The ventilation of houses and public buildings has never been easily accomplished, but that of a moving car is a matter of more than ordinary difficulty. The transom-window near the top promptly admits more smoke, cinders and dirt than pure fresh air, and is not a very satisfactory device. The sudden frequent and extreme change of temperature—generally when passengers and porters are asleep—is a fruitful cause of colds and sickness. The current of outside air is much influenced by the motion of the train. The sudden displacement of a large volume of air by the train in rapid motion condenses and gives increased impetus to the air without, which rushes with unusual force through car windows and doors, and always prevents a uniform, comfortable circulation of air within the car.

I may suggest that it might be an improvement if the ventilator windows were opened and closed by a valve-like arrangement, made of the usual glass and wooden frame, and fastened by hinges at one end, preferably toward the engine, on the outside, while on the inside a similar one may be placed, with the fixed, or hinge, end in a reverse direction; a fine wire screen might be placed between. This arrangement would occupy as little space or less than the tilted window now in use. The force and volume of the air current would be broken, and the fresh air would be less subject to violent disturbance, and less smoke and dirt would enter the car.

The only perfect remedy for part of the evil is the more complete combustion of fuel and smoke, which is eminently desirable, not only as an economic measure of great value, but in behalf of the comfort and health of the traveling public. Railways and road makers will exhibit commendable concern for the well-being of employees and passengers and the protection of cars and equipment if the top cover of roadbeds is composed of hard dirt, or at least something better than cinders and fine gravel. Experiments now being made with crude petroleum may prove satisfactory in allaying this nuisance.

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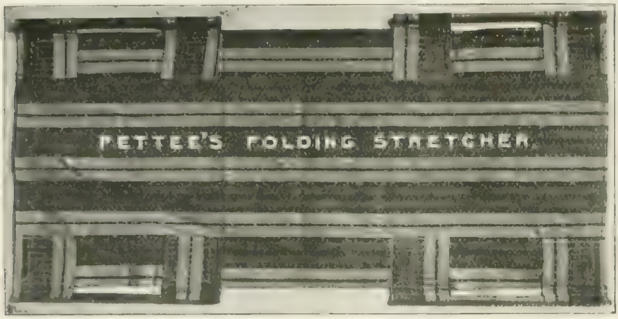
* President's Address, delivered before the American Academy of Railway Surgeons, Omaha, Neb., Oct. 12 and 13, 1899.

It may be of interest to state what few seem to know, how the furniture of cars is cleaned. It is done by compressed air forced through hose, with a nozzle, and a slit in the latter. By running this over cushions, blankets, drapery, etc., the dust and loose dirt are effectually removed. But this does not meet the indications as to disease germs and the prevention of infection. I have recently seen, on Pullman coaches, two cases, and they are common, which strongly illustrate the necessity of more positive action to protect the public against infectious diseases in railway transit. One was a patient with scarlet fever, lying in a berth all day, exposing every person in that car and in particular those who might occupy that berth soon after. The other, on another road, was a patient with advanced tuberculosis. She should never have left home, but like many others was, as a last resort, put on a Pullman car (at noon) and a berth prepared for her, as she was too weak to sit up. She was coughing and expectorating constantly. Nothing but boiling water, or fumigation with some antiseptic, such as formaldehyde gas, could make those berths safe for the next occupants.

In some investigation and correspondence as to what action is officially taken by the Pullman Company to protect the public from infectious and contagious diseases, I am able to state on the authority of the general superintendent, at Chicago, that "no printed regulations or instructions to employees, relating to hyygiene, protection of patrons from contagious diseases, nor in reference to car cleaning, have been issued, though it is admitted best that cars should be fumigated after being occupied by a consumptive. Instructions were issued to district superintendents, in 1898, that all cars running into Colorado and California should be fumigated at least once a month. My investigation and information is to the effect that employees report few cases of contagion or infection, even if recognized, which is not often; that blankets are seldom washed or fumigated, and that no complete or systematic effort is made by the company or corporation to meet the condition in either a scientific or thorough business manner. The whole question is treated in a perfunctory sort of way.



Besides, it must be manifest that the employees can only detect infection, if at all, in the most advanced or pronounced cases.

Fully half of the state boards of health, the American Public Health Association, and the General Baggage Agents' Association have formulated very rigid rules governing the transportation of dead bodies. Those dead of smallpox, cholera or yellow fever, can not be shipped. Those dying from ordinary infectious and contagious diseases can only be shipped after the thorough application and injection of antiseptics, the body put in an air-tight case. These rules are in the main commendable. With their execution there is no danger to employees or to the public. But I may be pardoned for noting the grave inconsistency in the treatment of those bodies for shipment and the transportation of the living subject. The time will doubtless come when people suffering from infectious and contagious diseases will travel in cars or compartments specially provided for them. At present there is but one considerate course for railway companies to pursue, and the only safe one for the public, and that is not only the cleaning, but the disinfection, of coaches and furnishings with every trip. This is of special importance to those roads going to the health resorts of the country.

The importance of renovating and disinfecting a house that has been inhabited by patients with a *contagium vivum* is not to be questioned, and the necessity exists with as great force, certainly, to the more closely confined and vitiated air of passenger coaches and Pullmans, containing at least a surplus of carbonic acid gas and a minimum of oxygen.

It must be conceded that the materials used in furnishing railway coaches—plushes and velvet cushions, woolens and draperies of every kind—afford the best possible nidus for the protection and preservation of germs, and they are also the most difficult to clean. Every consideration of hygiene and the public health demands their abolition for such purposes. Cars can be finished and furnished in material with a smooth surface, such as hard wood and leather, which can be more easily, perfectly and quickly cleaned, and yet be as elegant as the most refined taste could desire. Less carving and embossing, less plush and velvet and drapery that protect and preserve filth is the dictate of every principle of hygiene. The railway company, with its army of employees and passengers, should be fully abreast of the time in word and action in its humanitarianism, which demands that adequate and suitable preparation shall be made for the immediate care and comfort of the injured.

Railway accidents are common and injuries frequent, yet few roads are prepared to meet these exigencies promptly and well. Herrick, in *Railway Surgery,* recommends a small tin box with four roller and four triangular bandages, sterilized gauze and a solution of morphin and strychnin for every train. Litters are advised for certain stations.

Whatever conduces to the comfort and health of passengers evinces a thoughtful regard on the part of the company that is commensurate with its responsibilities. Such a sense of obligation is certain to meet an appreciative response on the part of the public. When a train starts on its journey, it should be supplied with a box containing at least half a dozen first-aid packets similar to those supplied to the army, besides a few roller bandages and splints of felt, or binders' board, and absorbent cotton. The emergency package should contain at least a folded strip of sterilized gauze about three inches wide and twelve inches long, a wad of absorbent cotton, an envelope with a dram or two of antiseptic powder, composed of salicylic and boric acid, in the proportion of about 1 to 4—as recommended by Senn—and a strip of rubber plaster one by eight or ten inches. The powder should be applied directly to the wound, covered by cotton, and a pad of gauze held in place by the plaster. The bandage may be applied over all. This should be done at once, in the car or on the ground, and employees should be instructed as to the use and application. It should be remembered that it is sometimes hours before the service of a physician or surgeon can be secured, and the prompt use of the first-aid dressing would undoubtedly be the frequent means of preventing infection of the wound, and in consequence assure an earlier recovery.

For handling and removing a patient to a place of safety, there should be a litter with every train. I have the pleasure of presenting for your inspection and consideration two simple, convenient and inexpensive emergency stretchers, the recent invention of an old soldier of the Civil War, Mr. William Pettee, of Denver. They have the endorsement of the regular army surgeons and officers of the Department of the Colorado, and of the surgeons and officers of the National Guard of Colorado. They will fill a useful place in certain army contingencies, in hospitals and in the medical department of the railway service.

The small hand litter is fifteen by nineteen inches, and weighs eight ounces. The large one is about six feet long and nineteen inches wide, and weighs about two pounds. The former can be used by one or two men, the latter by two or four. The large one can be so folded as to supply the place of the small one, which can be dispensed with. They are made of strong ducking, and have short, hardwood handles. This stretcher is the first of its kind and will especially fill a needed place in the surgical equipment of the railway service.

The improved ventilation, better and more uniform heating of cars, though the latter is largely a matter of management, clean water tanks and the occasional flushing of drains with antiseptic solutions, higher regard for the public health in the equipment and management of cars and the railway service as to infectious and contagious diseases, are matters of too much concern to be treated indifferently. These, with proper preparation and regulations for the treatment of the injured, I have deemed it appropriate to commend to the considerate attention of railway officials and surgeons. The criticisms and suggestions are made in the firm conviction that those who promote and manage railway enterprises have a conscientious regard for the public weal, and will correct evils when their existence is known; while the life, service and aims of medical men find them always willing advocates in every effort for the alleviation of suffering and the promotion of needed reforms.

OPERATIVE TREATMENT OF CHRONIC GLAUCOMA.*

BY ALEX. W. STIRLING, M.D., M.B., C.M. (EDIN.)
D.P.H. (LOND.).

ATLANTA, GA.

The subject of the operative treatment of chronic glaucoma was chosen for me by the worthy president of our Section. It is not that part of this symposium which I should myself have chosen, because it is a somewhat unsatisfactory one. There is so much diversity of opinion as to what constitutes simple glaucoma that when one surgeon speaks of it, another may be putting the same case down as optic atrophy. Then, in considering the results of treatment, there has been no agreement as to what is meant by iridectomy. To compare treatment by myotics with treatment by operation, which is the point of importance in this branch of the subject, it is necessary that we know exactly the nature of the operation, as well as the composition and use of the myotic. Especially is it important that a clear distinction be drawn between iridectomy and iridectome-dialysis, which in their relation to glaucoma are very different operations; and I would suggest again, as I have already suggested elsewhere[1], that in the future statistics, which it is important should be compiled, stress should be laid on this point. As it is, it is simply impossible in comparing treatments to give anything better than impressions; and as the opposing camps are markedly and not unequally divided there is no certainty as to the ultimate outcome of the disagreement.

In writing this paper I might have put down the various arguments at length, as I at first intended to do, but I find that that would occupy more than the allotted ten minutes, so I have decided to lay the matter before you in a condensed form, which will, however, suggest points of interest for discussion.

The subject is dealt with under the following heads: 1. The object to be obtained. 2. Operation *versus* myotics. 3. Iridectomy. 4. Sclerotomy. 5. Other operations. 6. Time to operate.

1. *The object to be obtained.*—It is important to bear in mind that though there may be no apparent rise of tension or shallowing of the anterior chamber, the tension may really be at times above the normal of the affected eye, and the invisible periphery of the iris may be in contact with the cornea. The primary object of both myotics and operation is to open the angle of the anterior chamber by separation of the iris from the cornea. When these are actually firmly adherent, neither treatment will be successful, but operation may benefit by establishing a new filtration area through the walls of the globe at the position which may include the adherent root of the iris. Fistulous openings are common after operation, and are then frequently due to the inclusion of atrophied iris or ciliary processes.

2. *Operation vs. Myotics.*—There is still great difference of opinion as to which of these gives the better re-

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*Presented in a Symposium on Chronic Glaucoma before the Section on Ophthalmology at the Fiftieth Annual Meeting of the American Medical Association, held at Columbus, Ohio, June 6-9, 1899.

[1] Glaucoma, Its Symptoms, Varieties, Pathology and Treatment. Jones H. Parker, St. Louis, 1898.

[illegible], and that because the outcome of neither has been brilliant. It is probable that in the majority of cases neither operation nor myotics have been used to their best advantage. Myotics have not been instilled at sufficiently short intervals, and iridectomy at least has been performed without a proper regard for the pathology of the disease. It is therefore impossible at the present time to state dogmatically which is the better procedure when properly employed, but the greater the consideration given to the subject, the greater to the writer's mind becomes the probability that operation will tend to replace myotics. At present we are dependent too much on mere impressions, and carefully compiled figures of results with myotics on the one hand, and the different operations on the other, are much to be desired.

3. *Iridectomy*, when done in the ordinary way, may in recent cases separate by traction on the iris and by the general commotion within the anterior chamber, the iris from the cornea, the iritic root being left to prolapse into the sclerotic wound or to become adherent at a later date. An iritic prolapse is dangerous to the future welfare of the eye, on account of the inflammatory action which it may induce, and the path which it opens for disease germs to the interior of the eye. At the same time it may, by keeping porous the wound in the sclera, so far accomplish our object as to prevent a recurrence of high tension. But in operating we desire to make, if possible, a permanent cure without the production of new dangers. We can think of no better procedure to this end than the removal of a part of the iris to its utmost periphery, so that there can in the future be neither adhesion nor prolapse. This can be done only by tearing the iris from its delicate root, snipping at the beginning and the end of the process alone, —iridectome-dialysis. Unfortunately, in old standing cases we frequently can not separate iris and cornea, and then we must trust to the formation of a porous scar.

4. *Sclerotomy* should never be performed where the iris does not contract well under a myotic. Wecker's method is the least likely to result in prolapse. Some surgeons believe that it is also less liable to diminish the size of an already much contracted field than is iridectomy, but that is doubtful, and where the wound lies in front of the iris it is difficult to see that it has any theoretic advantage over iridectomy, while in practice it is improbable that it has done so much good as has iridectome-dialysis.

5. Among other operations is Nicati's sclero-iritomy, by which communication is set up between the anterior and the posterior chambers by a knife, entered at first parallel to the iris, being turned and cutting perpendicularly to its base at the same time that incisions are made in the sclera by the near end and point of the knife. This, in Nicati's hands, has proved a better operation than sclerotomy, though not so good as iridectomy, by which he enters the posterior chamber and divides the iris along with the sclera, on which it rests. There is danger of wounding the lens in this operation. Each of these two operations, so long as the scleral wound is porous, puts the posterior chambers in direct communication with the subconjunctival tissue, and their beneficial action lies in the porosity of an imperfect union, for a good cicatrix is as impervious as the normal sclera. For this reason, and despite the danger of future infection and inflammation, some surgeons have even advocated the intentional formation of a cystoid cicatrix. Or, the operation may open up a direct communication between the posterior chamber and the normal filtration area.

6. *The time to operate* is, generally speaking, as early as possible. As chronic glaucoma is usually sooner or later, bilateral operation on the second eye is to be recommended as soon as the disease appears in it.

DISCUSSION.

Dr. Lyman Ware, Chicago.—Empty and vain words aside, we all know that Dr. de Schweinitz is nothing if not practical. We all know the importance, the absolute necessity of early diagnosis in glaucoma. Should these scotomata, to which Dr. deSchweinitz has called our attention, enable us to diagnose the disease before the stage of tension, excavation and pain, no one can estimate the value and importance of the point he has brought out in his paper. While surgical interference is of the greatest benefit in many cases, it is not by any means everything in all cases. We have all seen cases where operative interference has not only not stayed the disease, but seemingly hastened its course to certain blindness. Shall we in these unfortunate cases stand idly by and complacently confess that all has been done that could be done? Shall we descend to the level of our legal brethren who, when no exact cause can be obtained, consider it the act of God and give it not another thought.

Perhaps I can more clearly illustrate what I wish to state by briefly recalling one or two typical cases.

Mrs. M., aged 55, a widow, in 1884 consulted me relative to failing vision and pain in the left eye. She had all the pathognomonic symptoms of glaucoma—tension, pain, excavated disc, and widely dilated pupil. She was told that she could be relieved of pain, but vision could not be restored. Iridectomy was done the next day; pain perfectly relieved, but the eye remained sightless. She was told that if any of the symptoms she had just had in the left eye should occur in the right, which was possible, she must consult a specialist at once, the very day that any symptoms might occur. Vision in the right eye at this time was fully normal—20/20. In 1896 Mrs. M. again visited me, fearing her sight was beginning to fail, although she had little or no pain about the eye. Vision was 20/40; tension slightly increased. Immediate operation was advised, which was consented to and performed that day—upward iridectomy. Operation was uncomplicated, tension perfectly relieved, and the next day she thought her general vision better. On the second day there was a slight amount of blood in the anterior chamber, and vision was reduced to bare perception of light, and, what was still more unfortunate, she thought that she was about to have an attack of rheumatism, to which she was subject. She was at once placed on antirheumatics, and not only did her symptoms all subside, but her eye at once began to improve, and in a few weeks it was quite as good as before operation, and when last seen, a month or two since, was unchanged.

Mrs. H., a widow, aged 60, called on me in 1897. As she thought, vision was failing in the right eye, and as she had lost her left eye a few years before, she was very anxious to preserve what sight she had. The left eye gave all the history of chronic glaucoma, and was absolutely sightless. In the right eye, tension was somewhat increased; some pain in and about the eye, and all the symptoms of beginning glaucoma; vision 20/40. On further examination, well-marked tibial syphilitic nodes were found, and other undoubted indications of syphilis. She was at once placed on heroic antisyphilitic treatment, and the eye at once began to improve. In a few weeks the vision of the right eye was fully restored to 20/20, and has so remained. Had the diagnosis in these cases been correctly made and proper treatment instituted, could not the eyes have been saved? Certainly, in the first case reported, the operation, although successfully made and uncomplicated, was of no avail. Is not prevention better than cure? Does not the man who can prevent disease rank him who can cure, however perfect may be his cure.

Dr. J. L. Thompson, Indianapolis, Ind.—The treatment of

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[2] The other papers in the symposium, by Drs. G. E. de Schweinitz and S. O. Richey, are not printed in The Journal, having appeared elsewhere.

[3] An Abstract of Dr. de Schweinitz' paper may be found in The Journal, Dec. 9, 1896, ¶ 76, p. 1481.

glaucoma constitutes one of the most important features of this symposium, and as we have but five minutes each for discussion and as our Chairman has said we need not be confined strictly to the paper read, I shall confine my remarks to the operation.

As to the question "whether to operate in glaucoma simplex," it is a very difficult one to answer. In acute glaucoma we can promise much from operative interference. Iridectomy cures a very large majority, and it is the operation par excellence, but how different it is in the chronic variety. My experience has been that if we do not see our patients for many years after we have operated on them, we usually find that the sight has failed, but fortunately even in these we can in many still preserve some sight by the use of myotics and massage. These patients, however, are usually well-advanced in years, and death often comes to their relief before they are totally blind. How very applicable are the words of Solon to these cases. You recall what he said to King Croesus, who, on showing his treasures to him asked that sage if he did not consider him one of the happiest of men? "Count no man happy until he is dead," was the reply, and so it is in chronic glaucoma. Count no one happy who labors under this terrible disease, until he is dead.

Dr. Leartus Connor, Detroit, Mich.—There are two observations that have occurred to me and which have been of interest in every case of glaucoma of this nature that I have seen. If one eye was affected and the other not, the better eye and the other one too, so far as I could observe, always had a defect of neglected refraction at the time it came under my notice. The second point is that in all of those cases that I have seen there was that indefinite condition—call it rheumatic, gouty, defective assimilation, whatever you will—of imperfect transformation of food into tissues, and retention in the fluids of the body of an undue amount of abnormal material. For myself, in addition to the local treatment that has been alluded to, I have always corrected as carefully as possible the defective refraction, and done what I could to remove the constitutional condition, and, in so far as I have been able to observe them the results warranted the efforts made in that direction. To my own mind, without being able to demonstrate it, these are two factors in the causation and progress of this sort of trouble, which are tangible and for which something can be done.

Dr. Smith—So much depends on the early diagnosis of these cases that, for the benefit of the patient, something ought to be put down either in the text-books or in our teachings or discussions, to guide us in better diagnosticating simple glaucoma at an early period. It has been my experience to be taken to task by brother ophthalmologists with the remark, "Smith is wrong. This is only a case of asthenopia and not glaucoma at all." I have been in the habit of finding an uncorrected error of refraction and, if correcting does not relieve the symptoms and on more careful examination a slight degree of contraction of the field be brought out in a moderate light, I can diagnose simple glaucoma. I have found, in a number of cases, and I am glad to be substantiated by the experience of Dr. deSchweinitz, this contraction of a portion of the field almost as many times as the typical contraction, in fact it has occurred so frequently that I doubted my own diagnosis because I did not find the so-called nasal contraction. I have found it difficult to diagnose with the ophthalmoscope, the delicate saucer-shaped cupping, and in not every case does the disc become cupped to the very edge at first in this disease; very frequently there is a shallow cupping that does not reach to the edge of the optic nerve.

We often find that the tension varies, and I have found that in many of these cases it varied at different periods of the day. I have had patients examined in the morning, and I doubted the presence of any tension, and in the afternoon, on examining them again, I found a tension of +1 without any doubt.

For treatment I like deWecker's sclerotomy. For years I did a double sclerotomy, but when deWecker gave us his method I accepted it and have followed it with excellent results. I prefer it to iridectomy, for we can repeat it two or three times if we wish, and still resort to iridectomy later. Most people, particularly women, object to the deformity made by iridectomy. In the large majority of my cases I have had very satisfactory results.

Dr. F. B. Tiffany, Kansas City, Mo.—Since hypermetropia has received so much attention and has been so widely corrected during the last few years, we do not have acute glaucoma so frequently as before. When I first began the practice of ophthalmology, over twenty years ago, I often had cases of acute glaucoma; now I very rarely have them, and I believe the reason is that hypermetropia was responsible for this disease to a very large extent.

The treatment that has given me the most satisfaction in chronic glaucoma is the use of dry heat. I use electric heat, applying it uniformly by means of the rheostat. I also administer suprarenal capsule, exsanguinating the eyeball and treat locally with eserin or pilocarpin. I can, as a rule, stop the pain, check the disease and oftentimes restore some vision.

WHY THE NEGRO DOES NOT SUFFER FROM TRACHOMA.*

BY WARWICK M. COWGILL, Ph.B., M.D.
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PADUCAH, KY.

It is a coincident observation among oculists practicing in our southern states, where the larger proportion of our negro population lives, and where trachoma is a very prevalent disease, that the negro, except very rarely, is not affected with trachoma. Why the negro does not have it has been largely theorized on. Probably the explanation most largely entertained is that he is immune to this disease, that the conjunctiva of the negro does not present a soil suitable for the development of trachoma. To my mind this theory is untenable. The reasoning is loose and not based on facts to guarantee a correct conclusion. There is a rational, plain, scientific and simple explanation for the fact that negroes do not suffer from this disease, an explanation that does not call for some unique quality of construction in the negro; an explanation based on a line of reasoning, concurrent with that used in the development of facts in connection with other diseases, viz.: trachoma is a contagious disease, and the negro escapes it because he does not come in contact with the contagium.

The question as to whether trachoma is a contagious disease or not is one that, I know, is in dispute. Either side can boast of able supporters. Several have announced to the world, that they have discovered the germ of trachoma, but none have presented such conclusive proofs that their findings have been accepted by the profession. From my clinical experience I believe that it is contagious in the same way as gonorrhea and syphilis are contagious, and I will assume, for the sake of my argument, that such is the fact, and on this base my reasonings in support of my second proposition, that the negro does not have trachoma because he does not come in contact with the contagium.

I draw my conclusion from the study of this disease as it occurs among the people of western Kentucky, southern Illinois and a portion of western Tennessee, from which sections my patients usually come. Paducah, a place of 25,000 inhabitants, is the only city, and the center of this district. The remaining portion, including the smaller towns, hamlets and villages, I include with the rural districts.

In Paducah, with a negro population of probably one-fifth, trachoma is not often seen. In the surrounding country, where the negro population is one in eight or one in ten, trachoma is very prevalent. In fifteen years of practice I have seen no case occurring in a negro. Nor do I find this disease among the well-to-do class of whites. But it is extremely common among the poorer class of whites in the country districts.

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*Presented to the Section on Ophthalmology, at the Fiftieth Annual Meeting of the American Medical Association, held at Columbus, Ohio, June 6-9, 1899.

With these facts before us, if we look into the social relations and customs of the people, I think we can see a solution to our problem. It is a well-known fact that the negro in our southern states comes in contact with only the upper and well-to-do class of whites, in the position of servants. And as trachoma is but rarely seen among the upper class of whites, the negro has but little chance to come in contact with the germ from this source.

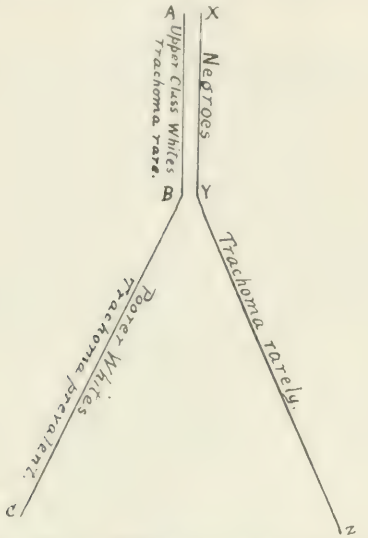

DIAGRAM.- The line ABC represents the whites; the line AB, well-to-do class of whites, among whom there is but little trachoma; the line BC, poorer class of whites, among whom trachoma is very prevalent; the line XYZ represents negroes. From X to Y the line runs parallel with the line AB, representing the approach of the negro to the well-to-do class of whites, but there is no immediate contact. The line Y to Z shows the constant divergence of the negro and the poorer class of whites, between whom there is absolutely no contact.

It is also a well-known fact that between the negro and the poorer class of whites there is a wide gulf fixed. They do not come in immediate contact with each other at all. This fact bars the negro from contracting the disease from this most prolific source. With the lower class of whites there is a custom of having one towel, which is used in common by all the members of the family, and also by the neighbors that visit them. The one towel used in common is the medium of conveyance of the trachoma germ from one to the other.

Burnett, in his article on trachoma, in the "System of Diseases of the Eye," by Norris & Oliver, mentions the fact that among the laborers on a railroad in east Tennessee, where Irish and negroes worked under the same hygienic surroundings, the Irish were much afflicted with trachoma, while the negroes were entirely free from this disease. I venture to assert that there was no immediate contact, in this instance, between the Irish and the negroes. I feel safe in saying that the negroes did not use the Irishmen's towel.

Statistics would show that but an extremely small percentage of virtuous maidens have gonorrhea, because they do not come in contact with the contagium of this disease. The people of Ohio do not suffer from yellow fever. Not because they are immune to this disease, for the cases in Gallipolis, in 1878, proved the contrary, but simply because they do not come in contact with the germs of yellow fever. The Hawaiians did not have syphilis until it was introduced among them by immediate contact with foreigners. I think the same line of reasoning holds good in regard to the negro and trachoma.

In order to transmit trachoma from one eye to another, the secretions from the diseased eye must be conveyed directly, while viable, to the unaffected eye. This conveyance could not be carried out more perfectly, when done in an unintentional way, than by the use of one towel in common by those who are affected with trachoma and those that are not so affected. We find, where trachoma is prevalent, the use of a towel in common is the prevailing practice.

The negro in this country, as a slave, or now as a freedman, has never in the past, nor does he now, come in immediate contact with the whites. Therefore the negro has not contracted from the whites this disease, trachoma, which can only be transmitted through immediate contact.

415 Broadway.

CONVERGENT STRABISMUS.

A CASE, OBSERVED IN THE CLINIC OF DR. LANDOLT, MEASURING 62°, AND ITS MANAGEMENT.*

BY WILLIAM B. MEANY, M.D.
LOUISVILLE, KY.

I desire to report an interesting case having a total apparent strabismus—convergent—of 62°; with a view to demonstrating *a* method* for this individual case by Professor Landolt, of Paris. From my clinical notes, taken at the time (1886), I present the following: A young man, 19 years of age, applied for treatment, "for loss of vision in the right eye." Ophthalmoscopic examination revealed:

Right and left eyes, hyperopia total, 3.5 D.

Right eye, convergent strabismus apparent, 52°.

Angle K (angle between the lens of fixation and the radius of the cornea, which passes through the pupil) +10°.

Therefore we have a case with a total convergent strabismus of 52° + 10° = 62°, an exceptionally high degree. The field of fixation, measured with Landolt's perimeter, was:

LEFT EYE.		RIGHT EYE	
Ext.	Int.	Int.	Ext.
32	47	47	34
INSTEAD OF NORMAL.			
47	47	47	47

It will readily be observed that the field of fixation is strongly limited to the outer side of both eyes. Binocular vision abolished, it was found impossible to provoke the union of the two stereoscopic images, or even the simultaneous vision of such with the stereoscope.

For prudential reasons, chloroform was administered, and a tenotomy of the internal and advancement of the external recti muscles was practiced in the right eye. The internal rectus muscle was found to be enlarged and exceedingly strong; the external rectus, very weak, narrowed and flattened—ribbon-like. A slight resection of the tendon was made. Atropin having been instilled, both eyes were securely bandaged, antiseptic dressings of mercuric bichlorid, 1 to 5000, being used. Both eyes were kept bandaged until the removal of the thread on the fourth day. The eye operated on was again bandaged; the opposite was left free, and provided with its correcting glass, +6 D.

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*Presented to the Section on Ophthalmology, at the Fiftieth Annual Meeting of the American Medical Association, held at Columbus, Ohio, June 6-9, 1899.

The fifth day after the operation the bandage was removed and a +6 D. lens provided for the right eye.

The hyperopia proved to be six diopters in each eye.

On careful examination of the eyes, a slight tendency to convergence persisted. The eyes were again examined the ninth day after the operation, and instead of a total apparent strabismus of 62°—as existed before the treatment—it was found to be one of 10° only.

With a Landolt stereoscope, furnished with a convex 12 diopters for each eye, the patient united the images when they were separated by a distance of 60 millimeters.

Stereoscopic exercises were ordered to be continued daily. After several days' use, the stereoscope, the patient having learned how to observe his optical impressions (one eye being covered by a colored glass), distinctly indicated a monocular diplopia for each eye. The two monocular images appeared to be very near each other, separated by 6 or 7 cm., when the object—a flame—is placed at a distance of five meters.

The eighteenth day after the operation, a colored glass revealed crossed diplopia, which was corrected by a prism of 4°, immediately afterward, without apparent change in the direction of the eyes, homonymous diplopia appeared; that was corrected by a prism of 10°, corresponding to a convergent squint of 5°.

Twenty-eight days after this patient was operated on, the apparent strabismus had practically disappeared; with a colored glass, though first seen in homonymous diplopia, the patient quickly united a distant flame with the two images.

The binocular vision persisted up to 14 cm., so that with hardly a month's treatment the patient obtained almost a normal amplitude of convergence.

R. C.=0 Ma. |
P. C.=7 Ma. | 7 A. C.=Ma.

The patient now unites the stereoscopic images with a distance of 73 mm., which shows the increasing strength of the diverging power, with simultaneous contraction of both external recti muscles.

A 1 to 200 solution of atropin has been dropped into the eyes daily since the operation.

The following is a record of the field of fixation:

	TEMPLE.	L. E.	R. E.	TEMPLE.
	Ext.	Int.	Int.	Exti
Before operation	32	47	47	34
After operation, 9th day	35	45	45	34
After operation, 18th day	37	45	45	45
After operation, 28th day	40	43	42	40

The writer is aware that Professor Landolt has for a number of years resorted to other methods than those adopted by himself and others in the 80's[1], as will be seen by reference to his chapter on "Motor Anomalies," written by him, for Oliver's "System of Diseases of the Eyes." I thought it well, however, to report a case successfully treated in the "old way"—with a view to provoke further discussion by the members of this Section, of a subject, the problem of which has yet to be solved.

Are the functions of the muscles of the eye of a chemical nature or a mechanical one, or both? Is the solution to be had only in mathematic research?

I would like to contribute my share to the world's recognition of the vast amount of scientific work which Professor Landolt has accomplished. The visitor to Landolt's clinic will find the anteroom crowded with patients from every part of the world, anxiously awaiting their turn.

Professor Landolt has a charming personality which impresses alike all who are so fortunate as to come in contact with him. He has a hearty and honest welcome for all his medical visitors—but especially so for those from America.

The high order which characterizes his classic publication, "Refraction and Accommodation" (1886), proves his title to recognition in the highest order of scientific authorship.

1608 Fourth Avenue.

MUCOCELE IN THE NEW-BORN.[*]

BY CLARK W. HAWLEY, M.D.

CHICAGO.

I am somewhat uncertain whether I have selected the proper term to apply to the cases I report. Of the first one there is no doubt, but to the others a more appropriate term might be suggested. Perhaps "abscess" would be quite proper, possibly "acute mucocele" might be a very happy term, though in my reading I have never run across it.

As I understand the term mucocele, it is applied to those chronic cases we so frequently see of stricture of the nasal duct, and where the tear-sac is chronically affected. Of the six cases, only the first has been chronic in character, while the other five were of very short duration, the condition being very readily relieved.

It is not my intention to give an extended account of the cases, but rather to report them briefly, along with the methods I adopted, so that they may be discussed thoroughly, and that I may go away better prepared to handle the next case that may fall under my care. When attending them, I kept no good record, for two reasons: One was because they were all but one seen at the patient's home, and the other because I at that time supposed they were of common occurrence, and that my not seeing a case either in the large clinics abroad or in this country was a mere coincidence, but when I began to read up on the subject, I found a poverty of material, many authors not mentioning and others very briefly noticing the fact that this was a condition that might occur. For that reason I regret that I did not make a more careful study of them. When I found how rare they were, the conclusion was formed that six cases in less than as many months would be sufficient excuse for presuming to take a little time here.

When my first call came, I was totally unprepared to do more than what my judgment suggested was the proper procedure. I knew nothing about the possibility or advisability of probing the nasal duct in a new-born babe, yet a painful condition confronted me, and something must be done at once. I proceeded to follow the rule of surgery: "where you find confined pus let it out." Here a question arose: Should I make a free incision or as small a one as possible? As the opening must come on a prominent portion of the face, a free incision must of necessity leave more or less of a scar. I decided to make just as small an opening as would allow emptying the sac, so I simply plunged my cataract knife into the presenting tumor and, as the cases went on, I found my small fistula had another decided advantage other than leaving no scar. I found that it assisted very materially in meeting one of the indications in treatment, e. g., I could readily cover the opening and attempt to force the pus into the eye or nose. The latter must be accomplished before a cure is established.

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[1] Observations cliniques sur le Traitement Chirurgical du Strabismus, par le Dr. E. Landoldt. Extrait des Archives d'Ophthalmologie, March, 1895; December, 1895; July, 1896.

[*] Presented to the Section on Ophthalmology, at the Fiftieth Annual Meeting of the American Medical Association, held at Columbus, Ohio, June 6-9, 1899.

The first case that presented itself was one in a babe nearly two weeks old. Very soon after birth, a tumor was observed over the situation of the tear-sac, which gradually increased in size and had reached such a proportion and become so painful that the family physician suggested that an oculist be called in consultation. I found a tumor of considerable size, presenting at the inner corner of the eye, very firm, and only by imagination could I detect fluctuation. The surface as yet showed none of the usual signs of an abscess, the reason probably being that as it was in a sac having normal mucous membrane as its body, that first must give way before necrosis could attack the skin. (This was the case also in the next four that came under my care before being opened.) That being the case and fluctuation hardly perceptible, the general practitioner can not be blamed for not recognizing the condition as one of abscess.

As suggested above, I plunged my cataract knife into the tumor, and a sudden and forcible rush of pus confirmed the diagnosis. By pressure, I thoroughly emptied the distended tear-sac, but made no attempt to wash it out. I then gave the nurse the following instructions: Several times a day she was to place the ball of her thumb or finger over the fistulous opening and press on the sac, the aim being to force the contents either into the nose or the eye. If the pus did not appear in either of these places, she was to empty the sac through the artificial opening. I very earnestly urged the necessity of following my directions carefully, and the reason for them and what was to be accomplished. As the child was in a very intelligent family, the instructions were faithfully carried out, and in a day or two, as soon as the swelling had subsided, we were rewarded by the pus appearing in the eye, and the fistula readily healed.

Then arose in my mind the subject of probing, as we were not successful in opening the passage into the nose. I am now of the opinion that the earlier this is done when you are fully convinced that the nasal passage remains closed, the better. In this case it was thought best to postpone the probing until the babe became more healthy, as it was of very low vitality. The discharge soon took on the characteristic mucous look of chronic mucocele, and gave so little trouble that it still remains unprobed. It has its ups and downs as a mucocele does in a grown person.

Of the next four cases there is little to report beyond the fact that a similar course was adopted in each, of making a very small opening, and of covering the fistulous opening while pressure was applied; and also in less than a week, in each the nasal canal was opened and a cure established.

The sixth patient came to my office, being referred to me by the family physician, who had made the correct diagnosis and opened up in the proper place, but made a somewhat larger incision than I should have done, making it much more difficult to meet the indications. Here he stopped, not appreciating the fact that the pus should be made to take the more natural course than out of the opening on to the cheek. I presume he expected me to probe the nasal duct, which I attempted to do without chloroform, and of course failed, as I could not even enter the puncta. I then instructed the mother how to proceed to apply pressure, which was faithfully carried out, and at the end of two weeks, the only progress to improved condition was in establishing drainage into the eye and closure of the fistula. I began to get discouraged, and very much dreaded to be forced to probe. But one day soon after, while the nurse was pressing on the rather distended sac, pus did not show in the eye as usual, but rather a gush of bloody pus was discharged through the nostril. From this time on a rapid recovery was possible.

The conclusions reached from the limited study of these cases are:

1. The disease is a rare one, and my having six cases so closely following one another is exceptional.
2. The indications are to establish drainage into the eye if it is not possible to cause flow into the nose.
3. These indications are best met by the following methods: Open the presenting tumor by a very small incision serving two purposes: one so as to easily cover the fistula to produce pressure for the purpose of establishing drainage into the proper channel; the other to avoid leaving a scar behind to annoy in the future.
4. Give an anesthetic and probe; this will not occur frequently if the above directions are carefully followed.

70 State Street.

DISCUSSION.

Dr. Horace M. Starkey, Chicago—Dr. Hawley seems to have had a unique experience in seeing so many cases of this unusual affection in so short a time. It is so uncommon as to have missed mention in most of the ordinary text-books. In a somewhat hasty examination of some of the older and more recent works in my own library, no reference whatever to this condition was found in the works of the following authors: Williams, McNamara, Meyer, Noyes, Norris and Oliver (text-book), Juler, Berry, Schmidt-Rimpler (Roosa), Fick and Swansey.

Solberg Wells, on the "Diseases of the Eye" (Bull), while not referring to mucocele in the new-born, says (p. 735): "It (acute dacryocystitis) sometimes occurs as a primary affection, being then generally due to exposure to cold or wet." Fuchs (Text-book of Ophthalmology, p. 521) says: "Children sometimes come into the world with a recent dacryocystitis, or they acquire one a few days after birth." DeSchweinitz (Diseases of the Eye, p. 554) says: "Disease of the lachrymal sac is rarely primary. In young infants, dacryocystitis, often double, arises without apparent cause *(Lachrymal Blenorrhea of Infants)*." Norris & Oliver (System of Diseases of the Eye, vol. iii, p. 150), say: "Primary acute dacryocystitis is said to occur occasionally in strumous children, and it may be produced by external violence or by the entrance into the sac of an irritant fluid. Cases of this character are, however, very rarely encountered."

Dr. Hawley is to be congratulated not only on seeing these cases, but on the success attending his care of them.

Dr. W. H. Wilder, Chicago—My experience in this condition is very limited, but I can recall having seen two cases, one in private and one in hospital practice. I was also impressed with the scanty allusion to this subject in the literature. I was not aware that the condition was so uncommon. Where there is an abscess presenting, the proper thing to do is to open it. The two cases I had recovered very promptly.

Dr. A. B. Hale, Chicago—I think Dr. Holmes would be inclined to dispense with the use of the probe and rely simply on incision, for I believe that in the case of a baby the probe can do nothing more than mutilate the parts.

Dr. A. A. Hubbell, Buffalo, N. Y.—I can recall four cases of inflammation of the lachrymal sac in infants, and in every case I have slit open the lower canaliculus, passed a probe, syringed the passage with 1 per cent. solution of silver nitrate, and have been surprised at the rapidity with which the patients recovered.

Dr. Bennett—I recall one case in which I opened the abscess and passed a No. 8 probe with a perfect cure within a week.

Dr. W. L. Pyle, Philadelphia—There has recently been published an extensive article on this subject, by Valude, and as well as I remember, he followed the treatment as given for adults, although he did not use a large probe, I believe seldom one larger than No. 2 in a child.

DR. CASSIUS D. WESTCOTT, Chicago—I saw two of these cases in the early years of my practice. I slit the canaliculus, passed a probe once, syringed the sac with boric solution, and after that simply expressed the contents of the sac until it was well. I happen to know that my old friend Dr. Holmes of Chicago has treated such cases successfully in this way, and he has seen a number of them.

DR. C. W. HAWLEY, Chicago—From my own experience I should be inclined to think that it is not necessary to use probes, and the same would apply to the cutting of the canaliculus. A cut canaliculus will always be more or less troublesome, for, in an infant I should imagine it would be almost impossible to make the typical incision of the canal.

THE MADDOX ROD OR PHOROMETER: WHICH?*

BY ALVIN A. HUBBELL, M.D., PH.D.

BUFFALO, N. Y.

The Maddox rod or suppressed-image or obscuration test in some of its forms, and the prism or diplopia test in some form of phorometer, are most commonly used in the determination of the co-ordination of the external muscles of the eyes. In this practice it is assumed that there is a functional position of rest for the eyes in binocular vision, and that in this position of rest, the lines of vision are both directed toward the point of fixation. It is not my purpose to discuss here the nature or limits of this co-ordination, the causes which disturb it, or the effects, or treatment of any disturbance of it. My only question is as to the comparative value of the diplopia test, by Stevens' phorometer.

Using Stevens' nomenclature, I assume that orthophoria is the strictly normal condition of ocular co-ordination, although I grant that there may be, within narrow limits and in relation to unusual accommodative or other forms of innervation, a condition of "physiological" heterophoria. I further assume that the object of co-ordination tests is to determine the presence or absence of orthophoria, and if absent, the amount of variation.

During the whole period of my ophthalmic practice, I have used, more or less, the diplopia test, and for several years, as the most convenient form of it, the Stevens phorometer. Since Maddox brought forward the rod test, a number of years ago, I have also used this, and have made a large number of comparisons of the results of both.

Dissociation of the images of the two eyes is the principle governing each of these tests. In the diplopia test, the dissociation is effected by changing the visual axis of one eye by means of a prism. The displacement of one image can not be done without associating with it, more or less, an impulse to some form of ocular effort. This may be very slight in some cases and considerable in others. It may affect one muscle or set of muscles in some, and another in others. Certainly, there is not a state of complete muscular rest.

In the obstruction or suppression test, no such effort is invited, no change of innervation takes place. Binocular fixation is suspended without it, and the eyes yield to the deviation tendency in accordance with the status of innervation of the acting and governing nerve centers. If this be true, it would seem that the Maddox rod should more correctly indicate the absence or presence and amount of heterophoria.

COMPARATIVE REPORT OF 100 CASES, SHOWING 140 MEASUREMENTS BY THE MADDOX ROD AND STEVENS' PHOROMETER.

EXOPHORIA

Maddox Rod.		Stevens' Phorometer.							
		Same Exo.	Less Exo.		More Exo.		Lateral Ortho.	Eso.	
Degrees.	No. Cases.	Cases.	Cases.	Degrees.	Cases.	Degrees.		Cases.	
¼	1	1							
½	6	3	1	¼	1	1½	1		
¾	1				1	1			
1	11	5	4	¼ to ¾	1	1½		1	½
1½	5	1	4	½ to 1					
2	5	1	4	½ to 1					
3	1		4	1½					
3½	1		1	2½					
5	1		1	2½					
7	1		1	3					
9	1	1							
	34	12	17		3		1	1	

ESOPHORIA.

Maddox Rod.		Stevens' Phorometer.							
		Same Eso.	Less Eso.		More Eso.		Lateral Ortho.	Exo.	
Degrees.	No. Cases	Cases.	Cases.	Degrees	Cases.	Degrees.	Cases.	Cases.	Degrees
½	5	1					2	2	¼ to 1
1	21		9	¼ to ¾			8	4	¼ to ½
1½	1		1	1					
2	11		6	¼ to 1			5		
2½	1	1							
3	6	1	4	½ to 1				1	¼
4	6	1	5	1 to 2½					
6	1		1	2					
9	1		1	1½					
	53	4	27		0		15	7	

RIGHT HYPERPHORIA.

Maddox Rod.		Stevens' Phorometer.							
		Same R. H.	Less R. H.		More R. H.		Vertical Ortho.	Left Hyp.	
Degrees.	No. Cases.	Cases.	Cases.	Degrees.	Cases.	Degrees.	Cases.	Cases.	Degrees.
¼	5	1					2	2	¼
½	2				1	2¼	1		
1	1						1		
2¼	1		1	1					
	9	1	1	1	1		4	2	

LEFT HYPERPHORIA.

Maddox Rod.		Stevens' Phorometer							
		Same L. H.	Less L. H.		More L. H.		Vertical Ortho.	R. Hyp.	
Degrees.	No. Cases.	Cases.	Cases.	Degrees.	Cases.	Degrees.	Cases.	Cases.	Degrees.
¼	12	7			1	½	4		
½	14	5	3	¼	3	¼ to 1½	3		
¾	1						1		
1	4	1	3	½ to ¾					
2	2		2	½ to 1					
	33	13	8		4		8		

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*Presented to the Section on Ophthalmology, at the Fiftieth Annual Meeting of the American Medical Association, held at Columbus, Ohio, June 6-9, 1899.

ORTHOPHORIA.

Maddox Rod.	Stevens' Phorometer.								
	Ortho.	Eso.		Exo		Right Hyp.		Left Hyp.	
Cases	Cases.	Cases.	Deg.	Cases.	Deg.	Cases.	Deg.	Cases.	Deg.
11	6			2	¼	1	½	2	½

DEGREES SHOWN: TOTALS.

	Eso.	Exo.	Rt. Hyp.	Left Hyp.
Stevens Phorometer	39¾	44¾	4¾	20¼
Maddox Rod	116	59	5¼	18¾

Again, if it be contended that there is no extraneous muscular effort in the diplopia test, then, in the absence of such effort in either method, the one which, in general, shows the greater amount of heterophoria must be the most correct. Dr. Stevens and others hold that the Maddox rod does not reveal the full amount of heterophoria because of the tendency to fuse the images of the two eyes. In this case it would generally show less heterophoria than the phorometer, but the contrary has been my experience.

As an illustration of my experience, I will give the results of my measurements in 100 persons, taken consecutively as they came to my office, irrespective of conditions of general health or refraction, and without glasses. In this series I omitted cases in which vision was less than 5/12 in either eye. The comparative tests were made at the same sitting, and at a distance of 5 meters, using a gas-flame about the size of that of a common candle.

In some of them, as will be inferred, the heterophoria was mixed, so to speak; that is, there was right or left hyperphoria with esophoria or exophoria.

In 53 cases in which the Maddox rod showed esophoria. Stevens' phorometer gave an esophoria of the same degree in 4, less esophoria and lateral orthophoria in 32, exophoria in 7, and more esophoria in none. In 34 cases in which there was exophoria by the rod, by the phorometer there was the same exophoria in 12, less and lateral orthophoria in 18, esophoria in 1, and more exophoria in 3. In 9 cases of right hyperphoria by the rod, the phorometer showed the same in 1, less and vertical orthophoria in 5, left hyperphoria in 2, and more right hyperphoria in 1. In 33 cases of left hyperphoria by the Maddox rod, the phorometer showed the same in 13, less and vertical orthophoria in 16, right hyperphoria in none, and more left hyperphoria in 4. In 11 orthophoric cases by the rod, the phorometer gave orthophoria in 6, exophoria in 2, right hyperphoria in 1, and left hyperphoria in 2.

Thus it will be seen that in the 140 measurements the two tests gave the same results in 36. In the heterophoric cases there was less heterophoria or, what was the same in effect, lateral and vertical orthophoria, by the phorometer than by the rod in 71, and in 8 there was more. The opposite form of heterophoria was shown in 10, while in 7 of the orthophoric cases by the rod, there were exophoria and right and left hyperphoria by the phorometer. In view of the fact that by the rod test there is introduced, absolutely, no extraneous impulse to muscular contraction, and as its findings are in the large majority of cases equal to, or in excess of, those of the phorometer, I am forced to believe that, in connection with other contributory muscular tests, it is a more precise and trustworthy guide in daily practice than the phorometer.

The foregoing table shows more fully the comparative results of the 100 cases above referred to.

DISCUSSION.

Dr. A. G. Blincoe, Bardstown, Ky.—Dr. Hubbell's conclusions are in the main correct. In my refraction work I have generally used the Stevens phorometer because I have considered it the simplest and most convenient method. I often find more difficulty in using the rod test. I have noticed, however, that after using the phorometer a number of times in the same case, there will sometimes be an appearance of orthophoria with it when the rod test will still show some heterophoria. It would thus appear that the rod test is the more accurate of the two, but if in these cases the rod test had been used first, it might be that the phorometer would show want of equilibrium after orthophoria had been reached with the rod test, as the patient may soon learn to exercise some effort in fusing dissimilar as well as displaced images. We will all probably agree that it is generally better to use several tests and vary them occasionally or frequently.

In diagnosing and treating muscle errors we always have to supplement these methods by the duction tests. In testing the adduction in a case recently, I found that with a prism base out before the right eye, the patient fused 25 degrees, while with the prism base before the left eye, he only fused 15 degrees. With the Stevens phorometer he showed 5 to 7 degrees of exophoria in one eye and orthophoria in the other, the exophoria appearing sometimes in one eye and sometimes in the other. With the Maddox rod before the right eye he had 2 degrees of exophoria, and before the left, 1.5 degrees. His abduction was about 15 degrees in each eye. It was a question with me to which eye the weak internal muscle belonged. The tropometer in experienced hands would probably have decided the matter.

By putting a red glass before the left eye while testing the adduction with a prism before the right in this case, the patient said the red image seemed to move toward and fuse with the other, and the same thing occurred in making the abduction tests.

In making some tests in my own person soon afterward, sitting twenty feet from a candle flame, before a dark background with a prism before one eye and a red glass before the other, I found the results both for abduction and adduction, in either eye, were the same. So it would appear from these tests that in making the right and left lateral duction tests, when a prism is held base in or out before the eye, we are testing the strength of the muscle of the other eye.

In another case of esophoria since then, the white light moved to the red with the weaker prisms, but when approaching near to the strongest fusing point, the red light seemed to move to the other one.

As these are points about which there is probably not a perfect unanimity of opinion in the profession, I should like very much to hear the views of any members present who have settled convictions in regard to them, and especially from any one experienced in the use of the tropometer in such cases.

Dr. W. L. Pyle, Philadelphia—When I first started to practice ophthalmology I used the Maddox rod. Later, I bought an optometer, which is really a Stevens phorometer, with two adjustable Risley prisms for duction measures, and on this I had the instrument-maker place a rotary Maddox rod. I made a number of tests with both phorometer and rod during a period of four months, and I concluded that the rod showed from 1 to 3 degrees of esophoria when the phorometer measured orthophoria. I feel perfectly satisfied with the use of the phorometer now, because I believe the finding of the Maddox rod will always tend from 1 to 3 degrees toward the esophoric side, from the finding of the phorometer.

Dr. Lucien Howe, Buffalo, N. Y.—This subject lies rather near to my heart, and if you ask which of the two methods we shall trust implicitly I should say neither; that neither of these instruments will give the same readings in tests made at different times is due to the unconscious muscular effort that is made; this is usually accompanied by contraction of the pupil, and may be demonstrated by watching the constant action of the pupil as shown by the horizontal microscope.

DR. G. C. SAVAGE, Nashville, Tenn.—There is a reason for everything, whether we know that reason or not. It seems to me very clear that there is a field of binocular fixation, and if any part of the image falls on that field while making the muscle test there must necessarily be an error. The Maddox rod has come to stay, and it is going to do good service, but it will be especially in measuring the oblique muscles. So far as the older phorometers are concerned, the Stevens and the Wilson—and the latter is the better—neither one is built on the right principle. To do the work properly we should have a monocular phorometer, and I shall demonstrate one at the close of this meeting. I think I can show that it is more accurate than any phorometer heretofore.

DR. H. V. WÜRDEMANN, Milwaukee, Wis.—I noticed in the series of cases given by Dr. Hubbell, that these eyes were all measured *without* the ametropia being corrected. In my opinion it is essential to correct this and make the eye emmetropic before an accurate estimate of the balance of the ocular muscles can be obtained, for the unreliability of our tests lies largely in the point brought out by Dr. Howe, the unconscious accommodation and convergence.

DR. C. E. NORTON, Lewiston, Me.—I have found one great difficulty with the Stevens phorometer, which was to make the patient comprehend the situation and estimate the relative height of the two lights. After using it for some time I became convinced that it was not an accurate instrument, for the results obtained with it vary from time to time, to a considerable extent. I afterward combined a Maddox rod with a series of prisms, and found this a much more satisfactory instrument. Later I invented a more convenient instrument, consisting of a Maddox rod and a prism mobile; instruments essentially identical were invented by two ophthalmologists and were placed on the market before I got mine done. I therefore purchased one of each kind and have used them for many years, and have found them much more satisfactory than the Stevens instrument.

DR. A. A. HUBBELL, Buffalo, N. Y.—I agree almost entirely with what Dr. Würdemann and Dr. Howe have said, with the exception of their reference to accommodation. I have not been able to make up my mind that the patient accommodated more in the rod test than in the diplopia test. My purpose has been simply to make a comparison between the Maddox rod and the phorometer, as to their immediate results, without any reference to treatment. Whether the eye was emmetropic or not, the conditions were the same during both examinations. I shall be very glad to hear more about Dr. Savage's phorometer.

TREATMENT OF SEPTIC CONDITIONS IN CHILDREN.*

BY EDWIN ROSENTHAL, M.D.

PHILADELPHIA.

The presence of streptococcus pyogenes as a complication or sequel to many of the diseases of infancy or childhood exerts an influence on the course, duration or character of the disease so far as to give rise to new symptoms, utterly at variance with the initial malady, and significant of a dangerous, if not a fatal, result. As an independent affection the streptococci or the staphylococci are found so very frequently that they have given distinctive diseases.

Under the name "septicemia" is presented that complex disease which has for its origin the entrance of either of these microbes into the circulation, and by it is understood a poisoned blood. The term was originally employed by Koch for a condition of microbic blood infection, in which the microbes multiply in the blood, and cause a rapidly fatal disease. The true name of this infection might be termed "strepto-infection" or "strepto-septicemia," or in the language of the bacteriologist, "streptomycosis." Whether the disease be a primary one, or whether it be a complication of, or a sequel to, another disease, this fact always remains: the strepto-infection is at first essentially a local disease; it is later that it becomes a blood infection.

The knowledge of its origin, thus shown, exerts an influence on the treatment, and it makes little difference whether the septic condition be a disease primarily, or a grave complication. The chief and certain rule is prophylaxis.

As a primary disease we may meet with septicemia in the new-born as well as in the older children, and as it is an infectious disease all the rules that govern such affections must be implied.

As the medical treatment, by which I mean the modern methods of combating sepsis, depends essentially on a true knowledge of the cause, it is necessary to make the diagnosis early and with the assistance of one who can make a bacteriologic test. As, however, it is not in the power of all to obtain a bacteriologic diagnosis, I will briefly summarize the clinical varieties of septic diseases that may be termed primary, whilst the same manifestations may hold good as a secondary sequel of the various infectious conditions.

The most frequent cases met with are in the new-born, and we meet them as follows:

Omphalitis: inflammation of the umbilicus, and cellulitis of the abdominal wall in the immediate neighborhood.

Inflammation of the umbilical vessels: in this condition, peritonitis, suppuration of the joints, erysipelas, multiple abscesses of the cellular tissue, sometimes suppurative parotitis, and atelectasis are common; pneumonia is also a common complication.

Peritonitis: this is the most frequent pathologic processes in pyemic conditions, and is often the cause of death.

Pneumonia: the most common form is the pleuropneumonia.

Pericarditis: rare and usually associated with pleurisy.

Endocarditis: this is very rare; Hirst reported a case.

Parotitis: I have seen this in an infant 4 days old; the mother was also so affected.

Meningitis: this is suggestive of injury during parturition.

Gastro-enteritis.

Pseudomembranous inflammation of the throat: this is not so rare, as instances have been reported by many; I have seen three cases, and in two I have seen membranous inflammation following on the operation of circumcision; in children 9 and 10 days old.

Osteomyelitis: when the septic condition has existed for some time, this may occur.

Joint suppuration: this is the same as in older people.

Abscess in the cellular tissue: this is the most frequently met with, and generally ends favorably.

Erysipelas: this, the cause of cellular abscesses, is met with in almost all cases of septic infection; not alone found in the umbilicus and neighboring tissues, but independently elsewhere, notably on the genitalia, simulating to a great extent syphilis congenitalis, and causing, in many instances, death by the swollen tissues pressing on the urethra and mechanically preventing urination, resulting in uremia and death. In the male I have seen circumcision a necessity, whilst in the female I have seen death resulting from the urinary infiltration following ulcerative action.

Septicemia as a secondary disease is most frequently found as a complication of diphtheria and scarlet fever, whilst no infectious disease can be said to be exempt. Whether the sepsis be a primary or secondary disease, the following treatment may be said to give promise of better results than any heretofore pursued.

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*Presented to the Section on Diseases of Children, at the Fiftieth Annual Meeting of the American Medical Association, held at Columbus, Ohio, June 6-9, 1899.

We may divide the treatment into local and constitutional, and we may add that the earlier in the case it is begun, the more certain the result.

Local Treatment.—This is generally following the rules prescribed under the principles of surgery. Pus, when found, must be at once removed. Asepsis in the first place, and antisepsis later, is the only safe and certain rule to follow. After this, whatever the indications be, they should be treated. For a beginning cellulitis use lead water and laudanum; in further advanced states, an antiseptic poultice. For erysipelatous inflammation I have always found a 30 per cent. ichthyol ointment, with lanolin and cosmolin as a vehicle, and oil of gaultheria, in the following proportions, to be good.

℞	Ichthyol	10
	Lanolin	15
	Cosmolin	5
	Ol. gaultheria	1

Misce et Signa: Apply locally.

For other manifestations of the disease, such local applications as are most desirable, or which are more familiar to the physician—as the wet-pack for the pneumonia, etc.—should be used.

Constitutional Treatment.—This is the early and free use of the antistreptococcic serum. The same rules as are given for the use of the diphtheria antitoxin hold good with this serum. The manner of its use is similar. The quantity chosen for the case is injected hypodermically. The method is as follows: The side of the loins or chest is cleansed with alcohol soaked on corrosive cotton or gauze, and after the injection the aperture made by the needle is hermetically sealed with iodoform-collodion. The method of its use is different from the antitoxin. Where in the antitoxin the minimum quantity is first injected, followed by proportionately increasing doses, in the antistreptococcic serum a large initial dose is first injected, followed by the same dose or a lesser amount. The time to give the injection is also different. In the antitoxin any time will be the same. In the serum; early in the day, or when the temperature begins to rise, has been the time found best. As in antitoxin, so with the antistreptococcic serum; any quantity can be administered, as it has been found wholly free from any dangerous consequences. The quantity given as a commencing dose is 10 c.c. This I have given to an infant suffering from erysipelas, and this dose I have repeated in the same infant—aged 7 months—three times, and now record a cure. Larger quantities than this have been recorded, and in one case of septic pneumonia—the streptococcus having been found in the sputum—35 c.c. has been administered, with a record of recovery. The temperature should be the guide for the repetition of the dose.

If after an injection, the fever should recur, whether it be on the same day, or one, two or three days following, the serum should be given, and always at the time when the fever begins to rise. There is no reaction from its use, and if the action be favorable, there will be a decline in the temperature and pulse-rate, and they will remain at normal. This decline may be quite rapid, or it may only follow after a second or third injection, but most generally—if the remedy be used early enough—the normal temperature is reached on the third day.

The cases most suitable to the use of the serum are those which are primarily streptococcic, and in those uncomplicated and before there be destruction of tissue. When clinical evidence of infection exists, and the bacteriologic examination proves the cause, the serum should be used at once, for then it will not only cure the beginning disease, but will prevent any sequel, as suppuration and the like. Where the infection is a complication to another disease, as scarlet fever or diphtheria, the serum is indicated, and its use does not forbid the proper collateral treatment, which is always in order. In puerperal cases, the efficacy of the serum is most marked. As here we have early clinical evidences of this specific infection, we can more promptly apply the remedy, even before the bacteriologic tests. Therefore, in these cases I should advise the early and free use of the serum, being certain, by experience, of its favorable results. Preventive medicine, however, is the rule, and our means should be directed to prevent the disease, and also for this purpose as an immunizing agent, this serum is indicated, and its action has frequently been proved by its use in surgical operation, an immunizing dose of 5 c.c. being injected previous to the operation, with the most gratifying results. Especially has this been proved in operations on the throat, tongue or mouth, so that in those diseases of infancy which have their site in the throat or mouth, such as post-pharyngeal abscesses or the like, the diagnosis of which is so well understood, I have often given the serum with most gratifying results. Concluding, I would advise its use in all suspected cases of septic infection, and as it is so harmless, I would use it as an immunizing agent in those cases, the sequel of which may possibly be a septicemia.

DISCUSSION.

Dr. Dillon Brown, New York City—I am surprised to find that Dr. Rosenthal has such confidence in antistreptococcus serum. It does not seem to be possible that an antitoxic serum can be of benefit in this class of patients, for there is present in these cases not only a toxic poisoning due to the streptococci, but the streptococci themselves are in the blood. Under such conditions it seems to me impossible to cure streptococcus infection by antitoxins made according to the present theory of serum therapy.

Dr. G. M Blech, Chicago—With reference to antistreptococcus serum made by Parke, Davis & Co., with one exception I have seen very favorable results from it, and it has been my sheet-anchor in the treatment of streptococcus infection. Reliable authorities have reported many cases which would have apparently proved fatal without the treatment, and in which the temperature rapidly sunk after the first injection, and reached normal after the second one. That this sudden fall does occasionally take place in cases of streptococcus infection can not be denied, but it does not materially affect the argument. Where death follows in spite of the injection, I believe the infection is a mixed one, and that the staphylococci and other bacteria are to be held responsible for the fatal ending.

Dr. Rosa Engelmann, Chicago—As to the efficiency of streptococcus serum, I can not speak personally from a large experience, but it has seemed to be useful in a few instances. From the literature of the subject, I infer that its therapeutic value is questionable by reason of the great variety of the streptococci. It is not probable that the serum obtained from the streptococcus of pus will prove useful in all cases. The necessity of using immunizing doses of the serum seems to be rather a reflection on the surgeon. In reply to another gentleman I would say that in diphtheria we do not find the bacilli in the blood, but simply the toxins, whereas in streptococcus infection the streptococci themselves are in the blood.

Dr. A. C. Cotton, Chicago—For a century we have been practicing medicine along lines we can not demonstrate, and now, just as the time arrived when we could demonstrate, by *a priori* reasoning, the theory on which we administer a remedy, the profession rose up and demanded the most explicit demonstration ever called for or thought of. Had we yielded to that, diphtheria antitoxin would have been choked off in its inception. You remember the experiment with Koch's tuberculin. Fortunately we had a little patience, so that finally many of us were convinced, in spite of our prejudices, and against our will, that the most powerful therapeutic agent ever introduced for the prevention and cure of disease had been placed at our disposal, i. e., the antitoxin of diphtheria. Now, let us have a little patience until it has been demonstrated that absolute harm comes from the injection of the antistreptococcus serum. I believe it is the duty of every physician, in the present status of our knowledge, to use this serum in every case that seems appropriate, and we should not be held strictly to account if we can not demonstrate the utility of each dose. There are records accumulating all over the world which show that the tendency is toward the use of antitoxin treatment in streptococcus septicemia. If the epidemic that we have just passed through in Chicago is resumed, I expect to use twice as much of the serum as I did last winter.

Dr. E. Rosenthal, Philadelphia—The remarks of Dr. Dillon Brown are true in certain respects. In some cases of streptococcus infection, I have seen the cocci in the blood, and in the pus from the wounds, yet after three or four months the patients have recovered under the use of the serum. What influence the serum has, if any, may be questioned. In such cases as described by Dr. Brown, the serum can do us little good; but, there is no contraindication to its use. And whilst the objections are well known to us, they are the same as with the diphtheria antitoxin. With the antitoxin, we have been taught, its use on the fifth day is valueless, because the blood is already poisoned, and this does not cure the results but prevents them. In a case of a well-known obstetrician of Philadelphia, the serum was used, when the cocci were found in the blood, and too late to be of much avail. There are three kinds of serum in the market: one made by Marmorek, one by Professor Biggs of the New York Board of Health, and one by Parke Davis & Co. Most of my successful work was done with the latter. A great deal depends on the kind of remedy used. If we use a serum of proper quality, we will get good results, but if we use any kind of serum, we will soon find ourselves rejecting all kinds of serum.

With 10 c.c. of the third make of serum in cases of puerperal septicemia, or in septicemia of children—as erysipelas—you will get an amelioration of the symptoms, and an early cure. After the symptoms lessen, you may employ the usual remedies to restore health. Surgical cases were the first recorded, both as to curative uses and as immunizing agents. Operations on the tongue and mouth were almost invariably followed by septic pneumonia, but where the immunizing doses were used, pneumonia was wholly unknown after such operations. I think Dr. Cotton speaks truly and to the point, regarding serum therapy.

EOSINOPHILIA IN DERMATITIS HERPETIFORMIS (DUHRING).*

BY MARK A. BROWN, M.D.
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AND
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Of late years the study of the morbid changes in the blood has become a most important aid to diagnosis in many varieties of disease. Leaving out such diseases as leucemia, pernicious anemia and chlorosis, the recognition of which depends absolutely on the blood examination, medicine has been aided in malaria by the finding of the plasmodium of Laveran, in typhoid and some other acute infections by the agglutinative or "clump" reaction, in surgery in appendicitis and other suppurative affections by a pronounced leucocytosis; in gynecology, where some doubt might exist as to the exact location of a tumor, certain states of the blood would point toward the ovary as the seat of the trouble, while again the hematologic examination might lend some aid in determining its malignancy or non-malignancy. Indeed, there is no branch of medicine in which the examination of the blood might not at some time be of service. Of the many ways of examining the blood, one of the most important is the differential count of the leucocytes. Normally they exist in the following relative proportions (Cabot):

Small lymphocytes	20 to 30 per cent.
Large lymphocytes	4 to 8 per cent.
Neutrophiles	62 to 70 per cent.
Eosinophiles	.5 to 4 per cent.
"Mast cells"	.025 to .5 per cent.

Not unnaturally it was thought that any great variation from the normal, as tabulated above, might, if constant, lend some aid in diagnosis at least, and an immense amount of work has been done in this line in preparing tables referable to various diseases. With the progress of time, work has gradually centered about the old cells, or eosinophiles, as they are called. This has probably been greatly due to the fact that they are normally in such small numbers that any marked increase would quickly attract attention, as they are, when stained, among the most striking of microscopic blood pictures. The eosinophilic cell is as a rule quite large, and contains a polymorphous nucleus; its chief characteristics, however, are the remarkable affinity with which its granules take an acid stain, especially eosin, and the looseness with which these granules and their nucleus are connected. An increase in the number of these cells, or eosinophilia, as it is termed, occurs in a considerable number of affections, as described by Neusser: disease of bone, as osteosarcoma; certain diseases of the skin, as pemphigus and the disease under consideration; some affections of the female organs of generation, particularly the ovaries; and in disturbances of the sympathetic system, rather a heterogeneous group. The percentage of eosinophilia is as a rule not high, probably the most pronounced being in active cases of trichinosis reported by Osler, Atkinson, Brown and others, where 50 per cent. was not uncommon and, indeed, led in several instances to examination of pieces of excised muscle during life and the demonstration of the trichinæ. In diseases of the skin, very little of this work has been performed, though the writers have seen slight eosinophilia in pemphigus, so that the following case of dermatitis herpetiformis (Duhring) from the service of Dr. A. Ravogli, dermatologist to the Cincinnati Hospital, may prove of interest:

A. I., aged 50, a native of Switzerland and a laborer, entered the house June 6, 1899. This was his fifth entrance for this affection during the last three years. He has lived in America for 28 years. There is no history of ordinary diseases of childhood. He has not used alcohol for the last twelve years, and denies venereals absolutely. He had eaten raw meats considerably before coming to this country, and also to some extent here, but not at all during the past two years. He eats pork but rarely. He has had the present skin disease for the last twenty-seven years, always vesicular, sometimes bullous, sometimes pustular, always on the hands, sometimes on the feet, over the scapulæ, and on the inner aspects of the thighs. The attacks always come on with considerable itching. The disease was almost continuous for a number of years, but more recently there have been longer or shorter ones. The skin of the palms and dorsal surfaces shows vesicular eruption, the vesicles being of various sizes, from a small pea to a dime. Some have clear contents, others purulent. Some are surrounded by inflammatory areolæ, and in some areas desquamation is taking place. Scratch marks are very noticeable. The feet show a similar condition. During his prolonged stays in the house almost everything in the way of treatment has been tried; at the best with only temporary relief.

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*Read before the Society of Original Research, Cincinnati, Ohio, Oct 12, 1899.

BLOOD RECORD—JUNE 12, 1899.

Reds	5,128,000
Whites	14,000

DIFFERENTIAL COUNT—JUNE 12, 1899.

Eosinophiles	29.2 per cent.
Neutrophiles	32.8 per cent.
Small lymphocytes	32.8 per cent.
Large lymphocytes	5.2 per cent.

DIFFERENTIAL COUNT—JUNE 17, 1899.

Eosinophiles	44.3 per cent.
Neutrophiles	31.3 per cent.
Small lymphocytes	20.3 per cent.
Large lymphocytes	4.1 per cent.

DIFFERENTIAL COUNT—JUNE 25, 1899.

Eosinophiles	36.25 per cent.
Neutrophiles	29.25 per cent.
Small lymphocytes	32. 5 per cent.
Large lymphocytes	2 per cent.

JUNE 30, 1899.

Reds	5,163,000
Whites	9,000

DIFFERENTIAL COUNT.

Eosinophiles	39.25 per cent.
Neutrophiles	39.25 per cent.
Small lymphocytes	19 per cent.
Large lymphocytes	2. 5 per cent.

A few days after this the patient left the house and did not re-enter until early in September. He had asked for his discharge on account of his great improvement, and applied for readmission on account of the onset of a fresh attack.

SEPTEMBER 5, 1899.

Reds	5,808,000
Whites	9,700

DIFFERENTIAL COUNT.

Eosinophiles	29.3 per cent.
Neutrophiles	36 per cent.
Small lymphocytes	31.3 per cent.
Large lymphocytes	3.4 per cent.

In all these counts the so-called transitional forms have been classified with either the small or the large lymphocytes, depending on the size of the cell and the size and staining activity of its nucleus. The September count has shown but one marked difference from the observations of June: while in June the eosinophiles were very small, with their granules closely packed together and the nucleus somewhat deeply stained, those of the last observation are normal in size and in the distribution of their granules, many indeed being apparently broken down, with the granules widely separated from the cell and nucleus. Looking on the small compact cells as "young" eosinophilia, and taking into consideration the fact that the patient was improving greatly in June, we would advance the theory that the improvement of the dermatologic condition was accompanied by strenuous attempts at regeneration of the blood. Bearing in mind the trichinæ eosinophilia, a piece of muscle was excised from the gluteal mass and carefully examined for this parasite, after hardening, but no evidences of its present or former residence could be found. So far as we have been able to find, but one other similar case is on record, that of Cabot[1], and his eosinophilia is not nearly so great as in our own case. It is as follows:

Eosinophiles	19 per cent.
Neutrophiles	47 per cent.
Small lymphocytes	25 per cent.
Large lymphocytes	8 per cent.
Myelocytes	1 per cent.

While we do not claim that this one case, even when taken in conjunction with that of Cabot, is conclusive in any way as regards the possible blood changes of dermatitis herpetiformis, we have wished to place the case on record that similar investigations may be made by others and a definite working basis be established.

HAVE WE IN NATURE A BASIS FOR A SCIENCE AND ART IN MEDICINE.*

BY H. J. HERRICK, M.D.

CLEVELAND, OHIO.

Inasmuch as medicine has to do with natural forces, and as natural forces are uniform and according to law, the inquiry has often come to mind, have we a basis for a science in medicine? Other sciences, as physics, chemistry, astronomy, navigation, etc., have come to their present position through long years of struggle and search. Now they present themselves before the tribunal of public opinion, and find universal acceptance. No one would question the validity of the principles on which they rest; no schisms exist among their followers.

It is the purpose of this paper to show that the conditions with which the physician deals have such uniformity of phenomena and facts that the subject may be properly termed a science, and that such conclusions may be reached, and practical results attained, as to be unquestioned by any intelligent inquirer, and that when those principles are applied to practical use for the curing of disease, it may appropriately be styled an art. Hence the terms "science" and "art" of medicine are properly applied to these studies, so that when the principles are fully accepted, all will be guided by them.

In former years the curriculum of a medical course was styled the science and art of medicine. Have we grown beyond this division, or not reached it yet? It is an accepted fact that these questions pertain, first and all the time, to the conduct of a vital force, the nature of which is beyond our knowledge. Yet the laws by which it acts and the uniformity of its results are such as to establish the basis of our claim, corresponding with other kindred sciences as before stated. I am aware that in these reflections I present nothing new, or bring forward no new laws; I only attempt to so present the facts already established as to afford hope for more scientific and classified arrangement of the principles involved. A science is man-made. It is formed from a knowledge of the laws of the phenomena of Nature. It grows and grows, slowly, as the range of knowledge is extended. It grows not by the study and search of one, but of many. It is the agreement of repeated testimony that interprets phenomena and establishes principles. Therefore the subject of medicine takes in a wide range of knowledge, and includes principles from all the natural sciences. All sciences may be called on to pay tribute to the science of medicine. It is the most composite of all. Its origin dates from the earliest of the world's records. It gathers in its march every available principle, and any material that contributes to the maintenance of living tissues in their normal way. Hence Nature makes no special provision for either forming or repairing the different parts of the body. She has her type for every tissue and in her beneficent design seeks to maintain the type of every organ and part, as also the whole organism.

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[1] Cabot: Clinical Examination of the Blood, 2d edition.

*Presented to the Section on Practice of Medicine, at the Fiftieth Annual Meeting of the American Medical Association, held Columbus, Ohio, June 6-9, 1899.

The question raised is: Have we in Nature a foundation for the science of medicine? This question does not find an affirmative answer among all. Even many of the most learned, in other and kindred sciences, look on the practice of medicine as one of empiricism, having no established principles on which the art rests.

To further develop this question, we say that a science must rest on principles or laws of Nature, which all recognize as established. Have we such laws directing the forces of life, that the science of medicine can rest on them? If so, what are they? No one to-day doubts this, as observed in the facts of anatomy. Every species of living being in its anatomic structure presents uniformity. The geologic processes also, which are but the forces now acting, are equally uniform. The scientist observes that all matter exists under law; that all vital phenomena are the resultant of a force which acts according to law, always uniform where the conditions are uniform. The laws of life are present, and have been from the very earliest dawn of creative power. Hence Pope uttered the accepted scientific truth. when he said:

> The Almighty cause
> Works not by special, but by general laws.

It is the province of the scientist to observe the facts of phenomena, and detect the laws which govern them, which laws become the corner-stone of the science.

Physiologic science, together with histology, sees the cell as the prime spark in which all life starts. It is endowed with the life principle of all biotic changes, as the atom is endowed with the force and law of all physical changes, as observed in the science of chemistry. The science of medicine becomes intelligent, when it interprets physiology as a discourse on the combined biotic changes observed in all living tissues. It sees the little pellucid vesicle by a power of its own, when fructified and warmed by a system of cell activity, undergoing segmentation, forming the germinal membrane, which by mysterious foldings and unfoldings and growth, repeats in the being, the story of its ancestors.

Histologists have shown that all tissues of the body are but a combination of cells, and that the tissues combine to form organs. They also show that each cell has a life of its own, and the cell takes on normal change through the process of nutrition. The different organs are therefore normal and perform their appropriate function. If the conditions of nutrition exist throughout the organism, there is health. This statement seems to be conclusive without argument. If in certain cells or groups of cells, the conditions are not favorable for normal nutrition, there is change from the normal; there is disease. The doctor is required. Has he any law or systematic guiding principles that will assist him in guiding the life forces back into the normal?

This simple mental picture of the power that directs all life processes becomes the prime subject of inquiry. It does not matter that we can not analyze the essential power that started and continues the process. We can not analyze the essential powers of magnetism, of heat, light, electricity, chemical affinity or crystallization. Yet, regarding the phenomena produced by each of these agencies, we form principles or laws of their action, and reason of the several processes, and call that scientific. We know of the uniformity of life processes and the laws that govern them, and quite fully understand the conditions of their activity. In these facts we find the foundation for the science of medicine.

Thus far we have been dealing with Nature and her laws, and we do not question the scientific principles noted. The science of medicine in its principal application is for correcting defects in the living processes. It constitutes the art of medicine, and like all other arts finds its guiding principles traced in the laws which underlie the science. If there are no principles, no laws of phenomena, the art is blind, and the attempt to administer relief is empirical.

Such was the art of medicine before the accessory sciences were established. This was a dark period in the history of medicine. Mankind suffered great distress, having no guiding principles. Then there was the "pestilence that walketh in darkness." Plagues prevailed on the earth, uncontrolled. We know the essentials of life and health. In them we have the principles on which must rest the art of medicine, and the science of hygiene.

The art of medicine involves the treatment of disease under scientific guidance. The first problem that we meet is, "What is Disease?" To answer this question we can only give a negative reply, as compared with the normal. When all of the organs of the body perform their functions normally, there is health. When any organ or group of organs ceases to functionate normally, there is disease. Nutrition is a term which indicates a complex, and yet an elementary, process in all the living tissues. If nutrition is normal in every part, there is health. No part can be affected without its disturbance. Any agent which disturbs the nutritive process or any part is a cause of disease. In our physiologic knowledge of the minute processes of life, we can determine the conditions of this essential and elementary process. If so, and if our reasoning is correct, this becomes the first step toward the settlement of all problems as to the treatment of disease. Herbert Spencer and Sir James Paget have accepted this reasoning and hypothesis. Paget has shown from specimens in the Pathological Museum of London such tracings as illustrate defects in the several agencies involved in the process.

The sciences of anatomy and physiology present the health conditions and functions. Pathology notes the diseased changes which occur because of certain abnormal conditions. The art of medicine is called on to discover the disturbing agent, remove it, and apply such therapeutic means as can be devised for correcting the disturbance. This would seem to be a simple problem, yet its answer involves a large range of inquiry, and includes research in all the different sciences.

Suppose one attempt to treat an abnormal process by name, having no knowledge or regard for the normal; it is obvious how blindly his course would lead him. Here have been found the most serious errors in the art of medicine; in the arbitrary naming of a disease we tend to lose sight of the normal process of which the disease is a departure.

Then, too, it is not uncommon in practice to confine treatment to the leading symptoms, and seek their relief without tracing back the symptom to its course and seeking to relieve the primal cause of the trouble. The modern, popularly named disease, "la grippe," is an illustration. In it many a poor victim has succumbed to its on-march, because the symptoms or the name have been treated, ignoring the primal organic difficulty in disturbed secretions which, having been relieved, afford a substantial cure.

The name and character of a disease should be correlated with the organ or group of organs suffering.

When all the organs perform their functions normally, there is health. If one or more organs cease to perform their functions normally, there is disease; call it what you choose. You must guide the abnormal back to the normal. If one would intelligently treat disease, he must know the normal structure and function. Bichat defined life to be the "sum of the forces that resist death." He recognized the complex process of construction and destruction going on, and in the balance of one or the other was life or death. Both are natural. It is as natural to die as to live. Histologists have shown that all tissues of the body, of whatever composition or texture, are made up of the cell, and that each cell has a life of its own. The vital force as manifest in it is not different from that shown in the whole body. In the growth and development of the cell, the tissues are formed. From the tissues, organs are formed, and in the combinations of organs the organism is formed, through which the complex functions of life are produced. In the elementary cell there is growth, development, and assimilation, which process extends with the cell to the different tissues of the whole organism. This process is spoken of in physiologic language as nutrition, and includes the whole complex process of life—metabolism. If nutrition, with all that it includes, is normal, there is health; if abnormal, there is disease. This statement is properly regarded as a truism, and may be accepted as fundamental in the succeeding inquiries.

The next step in our inquiry is: Are the conditions of nutrition so definitely known that we can analyze and detect the *materies morbi?* This inquiry is a rational one. The conditions of normal nutrition, as given by Paget and others, are: 1. The right state of the blood, which involves the processes by which all nutritive material is transformed into blood, the blood-making and blood-purifying organs. 2. A near supply of blood to the part to be nourished. 3. A normal and nondisturbing environment. 4. A constant continuance of the nerve relations with the different parts of the body. No part can maintain an independent existence apart from the whole organism.

We recognize these statements as general principles which no one would question; and when these conditions are all present, the normal physiologic functions will be carried on, and the condition is one of health. If any of them are disturbed, or not present, normal nutrition is disturbed: there is disease. The disturbing influences are not uniform, neither are the life forces or resisting forces uniform in the different persons; hence the phases of diseases are not uniform, and can not be classified with scientific accuracy as one would classify the plants of a garden. The same symptoms are not met in the same form of disease: they are as varied as the changing figures in a kaleidoscope, hence unreliable for scientific guidance of treatment. One must, therefore, treat disturbed organs, rather than various symptoms; for it is essential in the art to consider the differences in each case and adjust treatment to correspond. In the art of medicine one of the most difficult problems is the adjustment of the therapeutic means used, to the differences observed in each case.

Are not the same problems present in every art? The photographer adjusts the sensitive plate in the camera to the varying shadings of light; the seaman, because of differences in currents of air and water, can not abandon his compass and chart of reckoning. Rather, in the storm and danger, they become his only hope and require constant consultation. The physician deals with matter and force, and as differences appear, judgment must detect and modify them so as to meet the conditions of health.

The cause of disease may be in the blood, yet the most minute search may fail to detect it; yet the discriminating power of the tissues records it with precision.

The theory of disease must rest on physiology; or, as the term implies, the joint forces involved in the living tissues in nutrition. So far as the science of physiology is established, the principles to be used as a guide in the art become known. Before physiology became a science, the art was necessarily empirical. The conditions were favorable for all forms of superstition, which did prevail, and even do to this day where the empirical methods prevail. Since physiology has become established, all therapeutic guidance should be found in it as indicating all of the biotic processes. The names given to disease are in no sense guides to the treatment, unless there is associated with them the nature of the disturbed process. Disease is not an entity to be exorcised by charms, or antidoted by some specific. As all life processes are slow in accomplishing their purposes, so diseases come on slowly. The antecedent may have come on gradually, though with slight defects, when by certain exposure the explosion takes place which calls into requisition the care of a physician. This is a common oversight among patients, and often among physicians. Then it is essential to name the disease to the comprehension of patient and friends. The name may be so misleading as to create many misapprehensions as to its real nature. The name commands the whole attention, so that the abnormal phenomena are lost sight of in treatment.

Referring now to the scientific principles which are applicable for guides in administering to the relief of those parts that suffer, we must constantly carry in mind the conditions of normal nutrition, of which the disease is a defect. This involves attention to the blood-making, the blood-purifying organs, proper and digestible food for nutriment, right secretion and excretion, right digestion, right air for the lungs, pure water to meet the constant demands as a vehicle and accessory agent for all the phenomena. In a very large sense we are water machines. The particles composing the regularly formed crystal can not be carried to their place in the crystal, except they be held in solution and free to move. Food, water, air, are in never-ceasing demand. All or any of them being absent or inappropriate in quality, or insufficient in quantity, become a cause of disease. If disease exists they become unquestioned remedial agents, and meet a common demand from all living tissue.

What is a medicine? Any agent which is required to secure or aid the normal function of the organs of the body in health or disease. A therapeutic agent is an assistant rendering service to one suffering. The doctor, who is familiar with the science of anatomy, histology, physiology and pathology, has laws and principles which make him capable—if he has judgment—of applying scientific means as therapeutic agents for relief of the diseased parts. He is an artist, even if he only administers advice and the use of the most common articles of diet. He advises it scientifically, according to accepted principle. If he imposes on the credulity of his patient, or ignores the authority of established principles, he is not to be regarded as a rational physician, but a quack.

There is a common error among some doctors, many patients, and commercial medical men, that doctors or medicines cure diseases; that unguents heal; that poultices draw; that quinin cures ague, mercury, syphilis; that specifics cure diseases which have been arbitrarily named with no reference to the nature of the disease or the cause which produced it. This notion is so absurd as to hardly merit condemnation; yet the idea is so common in journals and in practice that it is worthy of attention. Medicines modify functions; Nature heals. The doctor adjusts the broken bone and keeps the fragments at rest; Nature unites them. He provides the conditions; Nature is the beneficent healer. It is well if he consents to patiently study Nature's way, and then kindly acts as a therapeutist in its literal and liberal sense.

Reverting to the conditions of normal nutrition, and recognizing disease as resulting from a change in those conditions, we can, if we critically examine these disturbed conditions, detect the cause of the disease, which at once presents the indication for the first principle of treatment—the removal of the cause. In attempting this we are, in all idiopathic disease, shut up to physiologic inquiries. Here our guiding principles give assistance. The right state of the blood holds the first place as a factor of nutrition.

We now pass in review the blood-making and blood-purifying organs, and inquire if each of the silent processes of secretion and excretion, assimilation, imbibition, is normally carried on. Unquestionably, in these elementary processes there is the most common cause of idiopathic disease. The chances are that, except with the greatest scrutiny, the beginning of the disturbance may be missed. The most minute special care, therefore, becomes essential. Because of the passive character of these processes, they become easily disturbed when the whole chain of metabolism becomes disturbed and the results are revealed in distinct and remote parts. No class of organs is more important for the general health than the digestive; none are more obviously under the control of the physician. The right supply of blood to the part is not interfered with, except by obvious causes. The first being normal, the continuance is probable, except by some defect in the physiologic processes named.

The third condition of nutrition, as given, pertains to the environments, which are usually quite subject to the care of the doctor. He can so adjust the essential conditions as to avoid excesses and accidents; maintain appropriate temperature, and so adjust the activities as to promote the most perfect growth and development toward the type of being for which we were designed. Every individual has his own type of being. Every individual has a certain quantum of energy at his command, and it becomes his privilege and duty to so use it as to secure the highest development, and the most perfect use of the powers given. Every mechanism has a certain capacity for use. Every fiddle-string has a certain number of vibrations, when it breaks; every engine, a certain number of miles to travel, barring accidents. It is said that a well-designed and well-constructed engine has a capacity of about 400,000 miles, then it undergoes general repair, after which it is put to inferior service. Having run about 300,000 more, its destiny is the scrap-pile. This is, to a certain extent, a type of human life. The biography of an engine of which an accurate record is kept becomes one of the most interesting comparisons with the individual life. The engineer becomes an important therapeutist in administering to the efficiency and endurance of the engine. His care for the engine is not unlike that of the doctor to the human body. He is not alone called on to give medicine, or remove a diseased part, but so to advise and instruct as to avert sickness and calamity. The life processes which are disturbed require correcting.

The fourth and last duty of the physician, to maintain nutrition and health, is the maintenance of the nerve influence throughout the different parts of the entire organism. Here are the most obscure and incomprehensible relations. The entire mechanism, with its automatic or God-given forces must work in harmony. It is through the nervous system that this harmony prevails. The cerebrospinal, ganglionic and special sense nerves, with the various reflexes, become the only physical means for interpreting the mental and spiritual influences in man.

Science has not given all we may yet hope to know of these mysterious relations. In a general way we may claim that the whole life phenomena are subject to and under the control of the nervous system; yet we may with equal force maintain that if all the other functions are normal, this will also be normal, or disturbed by some external influence. Hence we must always note the mutual relations of the different organs or parts, as they affect each other.

It seems to me that if from the preceding my thought is grasped, you will be able to catch a glimpse of the indications for treatment of every form of disease in its relations to the physiologic processes, in which the law of life is fully presented. With such established principles and unquestioned theories, can any one question the scientific basis of the principles of medicine? How can there be any schism? If any one can find a new guiding principle, it finds its place and is gladly welcomed. If the principle, so-called *similia similibus curantur,* is a law of Nature, it should be demonstrable, and I am sure all scientific students should be able to perceive and appreciate it. Laws of Nature are not alone revealed to a certain class, but become manifest to all seekers.

Having thus in a very general way pointed out the phenomena of the life forces of the body, we claim that in them we gain a knowledge of the scientific principles to which we may appeal in our attempt to avert or control disease. This is the art of medicine.

In these inquiries it must be borne in mind that neither medicine nor any agent at our command can produce a new force, or bring any new agency into use. It can only modify, diminish or increase the activity of the forces now acting. Medicine does not, in any but a very limited extent, antidote a poison or cure disease. It modifies certain functions and contributes, to a very limited extent, to the increase of excretion and the elimination of poisons. The laws of astronomy, of physics, of navigation and electricity are apparent and simple, when discovered. On them the whole sciences pertaining to those subjects rest. As physicians we need not worry lest some fad, as homeopathy, osteopathy, hydropathy, "Christian Science" or faith cure impede the triumph of medical science, and seek the field of legislation for protection. The people are able to see when we treat on the laws of certainty for scientific guidance. The most sacred interests of man are involved. Therapeutics has always been, and is to-day, a very obscure subject; obscure because few or no guiding principles have directed to the remedy or remedies to be used. There has always been the empirical method in use. To-day we ought to have reached the period of the rationalists, in which the truly scientific physician recognizes the departure from the normal, and has at hand means that give rational assurance of appropriateness for relief. If the therapeutic means given are guided by [illegible] physiologic principles, the ground of all controversy would have been removed. As well might the sailor attempt his art by ignoring the science of navigation. Empiricism under such guidance would give way to the rational methods. Schools should lay first and deep the foundations in the essential scientific principles, and then allow the student to apply them in following the art. Such a standard for the art of medicine would reduce the number of doctors, by exacting greater requirements and extending general intelligence among the people, and put the practice of medicine where it belongs, on rational grounds.

In this scheme I present, in outline at least, a survey of the science of medicine as it is to be under scientific [illegible]

Therapeutics.

Cold Water Irrigation of Large Intestine for Catarrhal Jaundice.

Simon Baruch, the author of "Hydrotherapy," has found an excellent adjunct in the treatment of catarrhal jaundice in irrigation of the large intestine. He was led to its application in this disease by the publication of Dr. Krull, who treated eleven cases of catarrhal jaundice by simple cold water irrigations of the intestines. After failure with other treatment, which almost invariably had included the Carlsbad waters, these irrigations succeeded, first, in relieving the constipation, and later, in re-establishing the hepatic norm. Dr. Lowenthal reports, in the *Berliner Klin. Woch.*, 1886, forty-one cases of catarrhal jaundice, of which all but one demonstrated good and rapid effects from intestinal irrigations. Four irrigations of one or two quarts, at a temperature varying from 54 to 64 F., increasing three degrees daily—one quart sufficing for children—were needed on an average for each case. In all cases the fecal evacuations, sometimes diarrhea, followed the irrigations: these ceased if the succeeding irrigation was of a somewhat higher temperature. Gray or colorless clay-like masses were evacuated after the first treatment; after the third, the feces became slightly yellowish, and after the fourth usually brown. Gastric pains and oppression, headache, etc., ceased and appetite returned; the icteric hue disappeared once after the first, twice after the second, irrigation. In seven cases pruritus disappeared after from the second to the fourth treatment. The skin began to clear up, but continued dark for a long time. Other reports of similar results are found in recent literature, confirming the value of this *hydriatric measure*, so that it may be regarded as established.

He can testify from personal experience to its beneficial effect in catarrhal jaundice, and to its failure in jaundice from gall-stones. Contrary to Krull's method, he has begun with tepid water, and reduced its temperature daily, and this method has recently been approved by Stadelmann, who has investigated the "cholagogue" action of these irrigations. Once in twenty-four hours, Baruch places the patient in the knee-elbow position and pours from one to two quarts of water of 70 F., into the rectum, from a fountain syringe. The patient is induced to retain the fluid as long as possible. On the following day the temperature of the water is increased two degrees and this decrease is continued until 60 F. is reached. From two to six irrigations are sufficient to produce the desired result. The gastric and hepatic pains ceased after the first injection, appetite soon returned and jaundice disappeared more or less rapidly, but that most distressing symptom, pruritus, was not relieved.

Dr. Robert C. Kemp, who has done so much for the perfection of rectal irrigation, its rationale and its clinical applications, offers the following deductions from his observations for clinical purposes:

When increase of pulse tension is to be avoided in irrigations, the temperature of the water should be 101-104 F.

When a rapid increase of pulse tension is desired, together with improvement of cardiac action, rectal irrigation at 110, gradually increased to 120 F., is advisable.

Cold irrigation being a temporary stimulant, increases blood-pressure, but later depresses. Hence it should be employed with caution. Irrigation with cold water is dangerous when prolonged. Low irrigation is useful in proctitis, prostatitis, etc.

In hemorrhage, irrigation at 110-120 F. secures the most rapid result, improves the pulse, and relieves shock.

In duodenal jaundice, cold high irrigation for a very short period, alternated with hot irrigation with the glass-tube irrigator, as suggested by Dr. Minor, has proved useful, as well as in chronic constipation.

Treatment of Tubercular Glands.

The following practical rules for the treatment of tubercular glands are given by Sebileau in the *Journal des Praticiens*, September, 1899 (*Ther. Gaz.*, January, 1900):

Bicycle exercise for an hour in the morning followed by a cold sponge with dry friction and a breakfast of boiled milk, bread, butter and eggs. Several hours are then to be spent quietly in the sunshine. Before and after each lunch the patient may walk a short distance. The diet should consist largely of roast and boiled meats, fish, boiled milk, and eggs; green vegetables should be partaken of sparingly. After an afternoon nap there should follow an alcohol rub and passive exercise to the muscles of the trunk.

Two or three drops of Fowler's solution is beneficial once or twice a day. A small dose of cod-liver oil should be given fifteen minutes after lunch and dinner. If this causes indigestion, pancreatin will allay it. As a nerve tonic, the following is of value:

℞. Glycerini	℥ii
Sodii phosphati	ʒii
Calcii phosphati	ʒii
Ext. cinchonæ	ʒiv
Vini malagæ	Oii

M. Sig.

Surgical intervention will undoubtedly be necessary in the disease, but this treatment is beneficial in building up the system.

Fluid Extract of Lemon in Malarial Infection.

E. Dimattei has been testing the value of fluid extract of lemon as a prophylactic in malarial regions, in Catania, Italy, the entire personnel of the railroad having been placed under his orders for several years. He announces that the results are most encouraging (*Gazzetta degli Ospedale*, January 7). From 1890 till 1894 the number of persons in the service of the railroad who were affected with malaria amounted to 66 per cent. With lemon treatment the percentage fell to 32 in the next three years, and to 25 in 1898.

Tabetic Atrophy of the Optic Nerve.

DeWecker asserts, in *Ann. d'Ocul.*, 1899, 1, that specific treatment does not affect tabes favorably. It even accelerates its development during the incipient stages. In every patient with gray atrophy who has taken a course of specific treatment, the sight diminished at once. This coincidence is too frequent and too striking not to signify that the treatment is directly responsible for the lowered vision.

Irritable, Hacking Cough of Phthisis.

℞. Codeini	gr. iv
Acidi hydrocyanici, dilut	ʒss
Spts. chloroformi	ʒiss
Syrupi limonis	℥i
Aquæ, q. s., ad	℥iv

M. Ft. emulsum. Sig. A teaspoonful frequently when cough is troublesome.

—*Murrell.*

Spray for Room Occupied by Consumptive.

R. Guaiacol	10 parts
Eucalyptol	8 parts
Acidi carbolici	6 parts
Menthol	4 parts
Thymol	2 parts
Olei caryophyli	170 parts

M. Mix and dissolve.

This, used freely, in addition to free ventilation, purifies the air and is very refreshing.

—*Yonge.*

Constipation in Children.

J. P. Crozer Griffith, author of "The Care of the Baby," finds this a very frequent condition in children and especially in infants. Those fed on the bottle are the most disposed to it. The passages may be too infrequent, or too hard, and generally are both. In treating the affection, the cause of the difficulty should be sought and removed, and laxative drugs be kept as a last resource. As an increase of the fat in the food is often needed, a larger proportion of cream can be added to the bottle, or, in case of breast-fed babies, be fed from a spoon. A teaspoonful or less of olive-oil given once a day, or of drug-store "syrup" two or three times a day, is harmless and often effectual. The employment of oatmeal water instead of plain water in preparing the food, or of brown sugar, or a syrupy malt extract for sweetening it, may have the desired laxative effect. When this does not answer, a small quantity of oatmeal itself or of other starchy food may be added instead of oatmeal water, but this should only be done by a physician's advice. In children over one year of age, a little stewed fruit or a baked apple may be tried carefully. Strained stewed prune juice is often excellent. The juice of an orange is frequently very serviceable, and a little may sometimes be given with advantage even to a younger baby. In still older children the diet should contain plenty of fluid and foods that are somewhat laxative.

The very early culture of a habit of regularity helps to prevent constipation. At a certain fixed hour—best after one of the principal meals, generally breakfast—the baby, as soon as old enough, may be supported on its nursery chair and kept there for five minutes at least, but never permitted to strain. A daily cool bath, followed by a brisk friction, is of decided benefit. Daily massage of the abdomen is an excellent remedy, practiced just before the hour at which an evacuation is desired. The palm of the hand should be applied with gentle pressure just above the right groin, and be carried in a horseshoe shaped curve up the edge of the ribs, across to the left side and down toward the left groin, thus following the course of the large intestine and propelling its contents toward the opening. The hand should be warm, a little sweet-oil or vaselin should be used, and the massage should last about ten minues.

The treatment detailed is intended for habitual constipation. For the immediate unloading of the bowel one of the simplest and least harmful methods is the giving of one or more enemata of warm water, containing salt in the proportion of a teaspoonful to a pint. Soapy water may be used instead, if something stronger is needed. The amount to be injected varies with the age. For young babies, one or two ounces is sufficient, and for those of 2 years, two or three times this amount. Either the hard-rubber syringe or the infant's syringe may be used. A useful injection consists of half a teaspoonful of glycerin in full strength. This is best given from a small hard-rubber syringe holding not more than half an ounce. The opening in the nozzle should be larger than ordinary, as the glycerin does not flow readily. If the mass in the bowel is large and hard, an injection of warm sweet-oil, retained some hours if possible, is better than anything else. It should be followed by an enema of soapy water. In some cases it is necessary to insert the finger or a small spoon-handle into the bowel and break up the masses carefully.

Glycerin suppositories—glycerin and soap—of a size for children are often excellent for opening the bowel. Gluten suppositories are also serviceable in many instances. A more economical plan is to employ little home-made suppositories of castile soap, or, in place of these, a soap stick, which can also be made at home and which has the value of lasting for repeated usings. It consists of a smooth conical stick of firm castile soap two or more inches long, half an inch thick at the base and tapering toward the other end to the thinness of about one-quarter of an inch. It should be greased with vaselin before using, inserted part way into the bowel and held there until a tendency to an evacuation shows itself.

If none of the methods described is effectual, laxative drugs must be employed. Their use, however, ought to be deferred as long as possible, and is much better left to a physician. Probably the best and least harmful of drugs is cascara in some form. There is made a cascara cordial which has a pleasant taste and is very effectual. Another very useful preparation is the syrup of senna, which is easily taken by children as its taste is agreeable. Little sugar-coated pills, each containing 1/10 grain or less of aloin are sometimes of service, one being given daily to a child of 2 years. A small quantity of manna, about 5 grains, can be given to a baby of six months once a day or oftener, dissolved in the milk, as its taste is sweet, or 10 grains of phosphate of soda may be used in a similar manner. Magnesia or spiced syrup of rhubarb answers very well, but only for occasional use.

Arsenic and Iron in Chloroanemia and Tuberculosis.

Martinet asserts, in a recent communication to the *Presse Médicale* of January 6, that the combination of arsenic and iron enhances the effect of each and, judiciously administered, prevents intolerance. It is especially beneficial in chloroanemia verging on the pernicious form, and in torpid, apyretic tuberculosis and the ganglionary form. He reviews the various methods of administration current in various countries, in connection with his own extensive experience, and states his preference for the alternate administration of protoxalate of iron and an arsenical water (Bourboule), a month each; or equal parts of tincture of iron and Fowler's solution—four to twenty drops in beer or milk, in the middle of the morning and noon meals, or the administration of arsenic of iron. He cites numerous observations of the efficacy of this combination.

Ingestion of Oil in Constriction of Pylorus.

Cohnheim proclaims that the systematic ingestion of oil should be tried in every case of constriction of the pylorus before considering surgical intervention, as it may render the latter unnecessary (*Berlin Klin. Woch.*, No. 49). In a case under observation at Boas' clinic there was dilation of the stomach resulting from stenosis of the pylorus due to cicatrization of a traumatic lesion. The symptoms of gastrectasia were only partially relieved by lavages of the stomach, but a liqueur glass of linseed-oil morning and evening arrested all the symptoms. By the end of five weeks there were no further digestive disturbances, and the oil is now only taken occasionally as a precautionary measure after table excesses. It evidently not only lubricates the alimentary canal and thus facilitates the passage of food, but has also a soothing effect on the irritation of the pylorus—the cause of the spasm, which adds its effect to the organic stenosis.

Diabetic Pharyngitis.

There is no tumefaction and no fever in diabetic pharyngitis, but in other respects it resembles pharyngeal erysipelas. Two observations have recently been described by Verdos, in *Oto-Rino-Laryngol. Espanola*. The symptoms were merely dryness of the throat and difficulty in swallowing and in removing the tenacious accumulations of mucus on the pharyngeal walls. The urine contained 30 to 50 gm. of sugar to the liter. Besides the general treatment of the diabetes, mentholized sprays, alone or combined with an astringent powder such as sodium borate, proved most effective. He observes that in rebellious cases he would not hesitate to apply an iodin solution to the entire surface of the affected mucosa.

Cough in Phthisis.

R. Codein .... gr. iss
Terpin hydrat............................ gr. xv
Ext. hyoscyami .... gr. iss
Ext. belladonnæ......................... gr. 1/4
Mas. cynoglossi .... gr. viiss

M. Ft. pil No. x. Sig. One four times daily.—*Jour. des Pratic.*

Neuralgia of the Face.

R. Butyl chloral hydrat
Spt. vini rect. āā ʒiiss
Glycerini ʒv
Aquæ, q. s. ad ℥v
M. Sig. A teaspoonful once or twice daily.

Formol for Inoperable Cancers and Moist Gangrene.

A. Ranelletti calls attention to the advantages of a solution of formol in transforming mortified tissues into eschars which put an end to all absorption of putrid products and thus minimize septicemic infection. The *Semaine Méd.* adds to his announcement that 20 per cent. formalin has the maximum desiccating effect.

Current Medical Literature.

Titles marked with an asterisk (*) are noted below

New York Medical Journal, February 3.

1.—*A Visit to the Plague Districts in India. Lewellys F. Barker and Joseph Marshall Flint.
2.—*Malarial Hematuria. Bat Smith.
3.—Development of Female Genitals and Their Life History. Byron Robinson.
4.—*Experimental Research on Tensile Strength of Sciatic Nerve. George W. Crile and William F. Lower.
5.—Aneurysm of Subclavian Artery and Its Treatment. A. H. Barkley.
6.—*Use and Abuse of Poultices. Samuel E. Earp.
7.—*School Hygiene. G. D. Hamlin.
8.—Case of Neurosis of the Heart, Palpitation. Abraham Goltman.

Medical Record (N. Y.), February 3.

9.—*Significance of Intraocular Hemorrhage as to Prognosis of Life. Charles Stedman Bull.
10.—Gastrectomy for Adenocarcinoma; Recovery. H. Beeckman Delatour.
11.—Report of a Severe X Ray Injury. Patrick Cassidy.
12.—*The Tonometer, a New Instrument to Determine the Amount of Blood-Pressure. Henry L. K. Shaw.
13.—*Mucinemia, and Its Rôle in Experimental Thyroprivia. I. Levin.
14.—*Gonorrhea in Its Relation to the Male Adnexa. E. Wood Ruggles.
15.—*Chemical Relationship of Colloid, Mucoid and Amyloid Substances (a Preliminary Communication). P. A. Levin.

Medical News (N. Y.), February 3.

16.—*Prophylaxis in Gynecology. Henry C. Coe.
17.—*Etiology and Prevention of Uterine Disease Before and During Puberty. W. Gill Wylie.
18.—*Prophylaxis in Gynecology: Obstetrics. James Clifton Edgar.
19.—Diagnosis of a Case of Cerebral Tumor; Operation. O. M. Stellensen.

Boston Medical and Surgical Journal, February 1.

20.—*Intestinal Indigestion and Its Relation to Pulmonary Disease. Chauncey Rea Burr.
21.—Cases of Cholecystotomy. Edgar Garceau.
22.—*Some Points Suggested by Clinical Study of One Hundred and Eighty-six Cases of Valvular Heart Disease. Richard C. Cabot.
23.—Epilepsy. Walter E. Paul.
24.—Notes from the Neurologic Department of the Massachusetts General Hospital: 1. Case of Combined Superior and Inferior Polioencephalitis. G. L. Walton.

Philadelphia Medical Journal, February 5.

25.—Medical Commission to the Philippines. L. F. Banker.
26.—*Latent Cancer of the Stomach. William Osler and Thomas McCrae.
27.—*After-History in Case of Successful Total Extirpation of Stomach. Charles Brooks Brigham.
28.—Notes on Total Removal of Human Stomach, and on Gastroplication with a late History of Two Cases. G. Childs MacDonald.
29.—*Perforating Gastric Ulcer and Its Surgical Treatment. Martin B. Tinker.
30.—*Syphilis of the Stomach. Max Einhorn.
31.—*Remarks on Diagnosis and Surgical Treatment of Perforated Gastric Ulcer; with Illustrative Cases. Maurice H. Richardson.
32.—Acute Dilation of the Stomach. Henry Ward Bettmann.
33.—*Histologic Studies Relating to Early Diagnosis of Carcinoma of the Stomach. John C. Hemmeter.
34.—*Newer Applications of Gastroenterostomy in Treatment of Diseases of the Stomach. Robert F. Weir.
35.—*Gastroplication for Dilated Stomach. Randolph Winslow.
36.—*Direct Electrization of the Stomach, Especially by High Tension Faradic Currents. Boardman Reed.
37.—*Motivity of the Stomach. Fenton B. Turck.
38.—*Diagnosis of Gastric Ulcer, with Report of Cases. Frank H. Murdock.
39.—Surgical Treatment of Diseases of the Stomach. William J. Mayo.
40.—*Stricture of the Esophagus Resulting from Typhoid Ulceration, with Report of a Case Introducing a New Method of Treating Esophageal Strictures. John S. Pyle.
41.—*Indications for Surgical Interference on the Stomach. James H. Dunn.
42.—*Gastrosuccorrhea. H. W. Lincoln.
43.—*Autoinsufflation of the Stomach: A New Method. C. D. Spivak.
44.—Case of Vertical Stomach. George Macy Ekwurzel.
45.—Case of Traumatic Stricture of Esophagus Treated by Electrolytic Dilation. Albert G. Minshall.

Cincinnati Lancet-Clinic, February 3.

46.—*Some Benefits of Vivisection or Experiments on Living Animals. E. Stuver.
47.—Admissibility of Syphilitics to Life Assurance. Thos. C. Minor.

Medical Review (St. Louis, Mo.), February 3.

48.—Some Remarks on the Report of the St. Louis Asylum for 1897-1898. [illegible]

Medical Age (Detroit, Mich.), January 25.

49.—[illegible] and Remote Effects of Nasal Obstruction. F. R. Reynolds.
50.—Rare and Interesting Bullet Wound; the Bullet Splitting in Halves, as Shown by the Skiagraph. Angus McLean.
51.—Angiotribe in Practice. W. P. Manton.
52.—Serum-Diagnosis of Typhoid Fever. J. Howe Adams.

Columbus Medical Journal, January 5.

53.—*M[illegible] Typhoid Fever. George Murray Water[illegible]

54.—Necessity of Using Atropia or Hematropia in Determining Refraction of the Eye. J. G. Grant.

American Gynecological and Obstetrical Journal, January.

55.—Acute Inversion of Uterus. A. Lapthorn Smith.
56.—*Improved Method of Treating Prolapse of Uterus and Bladder. I. S. Stone.
57.—Treatment of Complete Prolapse of Uterus and Vagina. X. O. Werder.
58.—Results of Conservative Surgery in Some Recent Cases of Serious Pelvic Disease. Hiram N. Vineberg.
59.—Intraligamentous Growths. Thomas H. Hawkins.
60.—*Etiology of Nausea and Vomiting of Pregnancy. David J. Evans.
61.—*Further Experience with Operative Treatment of Anteflexion. W. L. Burrage.

Ophthalmic Record (Chicago), January.

62.—Case of Rhinitis Circinata. G. E. deSchweinitz.
63.—Case of Irido-Cyclitis Involving Hemorrhage and Hypopyon, and Extensive Deposits in the Vitreous, with Final Restoration of Good Vision. Edward J. Brown.
64.—Case of Congenital Incomplete Ophthalmoplegia Externa. F. W. Marlow.
65.—*Relation Between Choroiditis and Rheumatism. T. Edward Converse.
66.—*Electrolysis in Granular Disease of the Eyelids. T. D. Myers.
67.—*Two Cases of a Peculiar Visual Perversion. F. C. Hotz.
68.—Hemorrhage Into the Eyeball. A Clinical Note. H. F. Hansell.
69.—Abnormally Acute Vision. C. M. Culver.

The Post-Graduate, January.

70.—Old New York Hospital. B. St. John Roosa.
71.—Neuralgia of Rectum. Samuel G. Gant.
72.—Cutaneous Burns by Heat. Robert T. Morris.
73.—Septic Pneumonia. Ramon Guitéras.
74.—Some Neurologic Notes. Philip Meirowitz.

International Medical Magazine (Philadelphia), January.

75.—*Treatment of Acute and Curable Forms of Melancholia. Warren L. Babcock.
76.—*Some Ocular Inflammations of the Newly-Born and Their Treatment. Frederick Krauss.
77.—What are the Doctor's Duties to Pregnant Women Before Labor? Edward A. Ayers.
78.—Nervous Manifestations in Diseases of Children. John Madison Taylor.
79.—Stricture of the Urethra. J. D. Thomas.
80.—Nervous Dyspepsia (Gastric Neurasthenia). Boardman Reed.

Journal of Alumni Association of College of Physicians and Surgeons (Baltimore, Md.), January.

81.—Material Needs of Medical Education. William H. Welch.
82.—Case of Tetanus Treated with Anti-Tetanic Serum Resulting in Recovery. Edward V. Murphy.
83.—Advice to Gonorrheal Patients. W. L. Champion.
84.—Treatment of Syphilis by the General Practitioner. Harvey P. Jack.

Medical and Surgical Bulletin (Nashville, Tenn.), January.

85.—Cancer of Intestine. M. C. McGannon.

Obstetrics (N. Y.), January.

86.—Conditions which Govern Success in the Sänger Cesarean Section, from the Standpoint of a Personal Experience of Fourteen Cases Without Mortality. Edward Reynolds.
87.—Causes and Treatment of Abortion. W. J. Aldrich.
88.—Chorea with Report of Case Complicating Pregnancy. T. W. Gallion.

Medical Mirror (St. Louis, Mo.), January.

89.—*Address in Surgery; The Essential Requirements of a Modern Surgical Procedure. Lewis S. McMurtry.
90.—*Surgical Tolerance and Results. F. F. Bryan.
91.—Alcoholic Gastritis. J. A. Hofheimer.

Therapeutic Gazette (Detroit, Mich.), January 15.

92.—*Therapeutics of Tuberculosis. Lawrence F. Flick.
93.—*Experience in Treatment of Tuberculosis by Drugs. Dr. Holland.
94.—Use of Creosote in Pulmonary Tuberculosis. Irwin H. Hance.
95.—*Use and Abuse of Drugs in Phthisis Pulmonalis. G. W. Schauffler.
96.—*Electrolysis for Aortic Aneurysm; Another Case and a Report on One Previously Reported. H. A. Hare.
97.—Treatment of Gonorrheal Rheumatism. Charles H. Frazier.
98.—Chloretone as a Safe Hypnotic. W. M. Donald.

Southern California Practitioner (Los Angeles), January.

99.—Operative Treatment of Hernia with Report of Cases. W. W. Beckett.
100.—Report of Case of Acute Osteomyelitis of the Tibia: Treatment and Final Result. A. S. Parker.
101.—Obstruction of Nasal Duct. Geo. J. Lund.
102.—Acute Rhinitis. W. S. Fowler.
103.—Care of Mouth in Sickness. L. E. Case.
104.—Surgical Treatment of Rice Bodies. Fred Shurtleff.

Cleveland Journal of Medicine, January.

105.—*Fractures of the Skull. N. Senn.
106.—Case of Hairy Mole on the Face. F. E. Bunts.
107.—*Normal Position of Uterus in Pelvis, Considered in Relation to Its Physiologic Mobility. Hunter Robb.
108.—Fibromyoma Occurring in Left Labium Majus. Benjamin O. Coates.

Buffalo Medical Journal, February.

109.—*Clinical Thermometer as a Germ Carrier. W. L. Conklin.
110.—Presentation of Patient Sixteen Months after Modified Kraske's Operation for Extirpation of Rectum. S. L. Elsner.
111.—Sensory Phenomena in Megrim. J. C. Clemesha.

112.— Incineration of Garbage and Excrement at Military Camps. W. G. Bissell.

113.—*Sterilization of Catheters. Byron H. Daggett.

Interstate Medical Journal (St. Louis, Mo.), January.

114.— A Clinical Lecture: Gas Poisoning, Followed by Pneumonia and Acute Parotiditis. George L. Peabody.

115.—*Some Suggestions in Care of the Tubercular. William Porter.

116.—*Non-Medical Treatment of Chronic Constipation. H. G. Nicks.

117.— The Clitoris. Byron Robinson.

118.— Neurasthenia and Nuclein Therapy. Arthur E. Mink.

119.— Report of Case of Severe Renal Hemorrhage which Closely Resembled Bleeding from the Bladder or Post Urethra. Bransford Lewis.

120.— Premature Burials. Henry J. Garrigues.

121.— Sarcoma of Conjunctiva, with Remarks on Metastatic Sarcoma and Carcinoma of the Choroid. James Moores Ball.

Colorado Medical Journal (Denver), January.

122.— Diuretics in Renal Dropsy: Their Indications and Uses. E. R. Axtell.

123.— Chronic Pneumonia. E. R. Axtell.

Medical Sentinel (Portland, Ore.), January.

124.— Ventrosuspension of Uterus. R. C. Coffey.

125.— Fracture of Olecranon. Wm. Jones.

126.— Puerperal Eclampsia. J. W. Gunn.

AMERICAN.

1. **Plague Districts in India.**—The article by Barker and Flint is a very interesting description of personal observations in the plague-ridden districts in India, full of details.

2. **Malarial Hematuria.**—Smith's article is to be continued. In the present instalment he gives the history of the condition, which he credits to malarial toxemia of long standing; the anatomic changes and symptoms.

4. **Tensile Strength of Sciatic Nerve.**—Crile and Lower report experiments made on cadavers and dogs, to test the tensile strength of the sciatic nerve, which has been sometimes stretched for therapeutic purposes. They criticise Wertheim's former results as being faulty in the method, a long time being employed and the nerve being removed from the body. He finds the average weight required to rupture the nerve in the human cadaver to be 140¾ pounds. Out of 14 cases, 6 broke at or near the point where the hook was applied. In the other 8 the nerve itself did not break, but its connections with the spinal cord and its membranes were detached. The summary of his experiments on dogs, 72 in number, is given in detail. The right sciatic was found the stronger in 29 out of 51 cases, where both were tested, the left the stronger in 11 and both equal in 11. The average ratio of weight of dog to tensile strength was as 3 to 4. In only 4 cases was the tensile strength less than the weight. The average ratio for small dogs, weighing from ten to fifteen pounds, between weight and sciatic tensile strength, was 3 to 5. In dogs weighing from sixteen to forty pounds, it was 2 to 3, while in dogs of forty-one to fifty pounds, it was 6 to 7.

6. **Poultices.**—The use and abuse of poultices is discussed by Earp, and he summarizes the benefits as follows: 1, to relieve congestion; 2, to reduce inflammation; 3, to promote absorption, favor resolution, or hasten suppuration; 4, to diminish tension; 5, to soften incrustations; 6, to encourage tissue relaxation; 7, to stimulate healthy granulations; and 8, to perform the office of a deodorant and, in a sense, of an antiseptic.

7. **School Hygiene.**—Hamlin's paper is intended to call attention to the fact that the thorough knowledge of school conditions will be of great value to physicians in assisting in the diagnosis of children's diseases. He thinks there is great need for radical improvement in the environments, a simplification and abridgment of our school curriculum, and more advantages for physical development.

9. **Intraocular Hemorrhage.**—This condition is described by Bull, who sums up, as conclusions drawn from his experience, as follows: 1. Hemorrhages into and beneath the conjunctiva are of little importance in the young, as they usually occur as the result of violent muscular effort, as in coughing or long-continued sneezing. The vessels in the conjunctiva, having little or no support in the loose connective tissue, readily give way to petechiae of violent expiration. In the aged they occur spontaneously and point to a general weakened condition of the vascular walls. 2. Hemorrhages in the interior of the eye are always of prognostic significance. In senile angiosclerosis retinal hemorrhages are very frequent, and point significantly to the probable occurrence of cerebral apoplexy. 3. Recurrent retinal and subhyaloid hemorrhages in the young are of slight prognostic importance, especially if due to syphilis, whether inherited or acquired. 4. Hemorrhages into the vitreous in the young are of grave prognostic importance, especially if due to general vascular degeneration. 5. In chronic interstitial nephritis and in diabetes retinal hemorrhages are of very grave prognostic significance and, independently of the presence of exudative rhinitis, point to a fatal termination of the disease. The mere presence of thrombosis of the central retinal vein and hemorrhages in the retina should arouse suspicion of the existence of albuminuria, and if this suspicion is confirmed by urine analysis the prognosis in the case is more unfavorable than in those cases in which the hemorrhages do not exist.

12. **The Tonometer.**—Shaw describes Gärtner's tonometer, which consists of a pneumatic ring, mercury manometer, rubber ball and tubing. The ring is made of metal, about one inch in diameter and one-half inch in height, lined with very thin rubber tightly wired above and below on the outer surface. A piece of rubber covers the outside, so that air can only enter through the rubber tube attached to one side. The ring is plaсed on the bloodless finger, avoiding joints, and over the digital arteries so that no blood can pass through. The pressure in the ring is gradually reduced, and the instant it is equal to or a little less than that in the arterial system, the blood will flow through the arteries and the finger tip will become hyperemic. The manometer records the exact amount of pressure exerted on the finger, so that when the finger tip becomes red, the amount registered in the manometer is approximately the amount of blood-pressure in the digital arteries. The conditions in which this may be clinically employed are enumerated. The most important one is so-called idiopathic cardiac hypertrophy. Others are arterial sclerosis, nephritis, chronic lead poisoning, and toxemic conditions. Shaw thinks the state of pressure in the arterial system plays an important rôle in medicine which is always recognized by the physician and that in this instrument we have a simple, practical and accurate clinical instrument for determining the amount of arterial tension, of value not only in scientific investigation, but also in the daily practice of medicine.

13. **Mucinemia.**—Levin has studied the relation between mucinemia and the thyroid, on rabbits, and finds that mucin accumulated in or introduced into the blood of a normal organism produces a certain depressive effect on the central nervous system; that it is not fatal to a normal organism, and is decidedly fatal to one deprived of its thyroid. Mucinemia then, one may conclude, is the pathologic condition of the organism resulting from the absence of the thyroid function; but this conclusion does not exclude the possibility of other abnormalities arising from the same cause.

14. **Gonorrhea.**—The complications of gonorrhea: inflammation of the testicle, epididymitis, vas deferens, ejaculatory ducts, seminal vesicle and prostate are noticed by Ruggles, and cases of some of them reported in detail. In many the prostate may be affected and the condition not easily recognized. The microscopic finding is the only means for obtaining satisfactory results.

15. **Chemical Relationship of Colloid, Mucoid and Amyloid Substances.**—In this preliminary communication, Levin finds that the acid radicals of these three substances are very similar to each other. The investigation into the question as to whether they are only similar or identical is still in progress.

16. **Prophylaxis in Gynecology.**—The necessity for the proper comprehension of pelvic diseases is pointed out by Coe, and he regards it as a hopeful sign of progress that the need of preparing young women for their duties and responsibilities is more clearly recognized than ever before. The special points he mentions are the dangers from gonorrheal infection, the general application of the principles of antiseptic midwifery, and he seems hopeful of the future even as regards malignant disease, though at present, from a prophylactic standpoint, it is as hopeless as ever. The old methods of local treatment are mentioned simply to criticise them.

17. **Prevention of Uterine Disease.**—Wylie holds that up to the age of 9 or 10 years girls and boys should be treated on the same general principles, but between the ages of 10 and 18

[illegible]

18. **Prophylaxis in Gynecology: Obstetrics.**—Edgar [illegible] among them, attention to the exercise and proper nutrition, limiting the duration of labor, prompt surgical treatment of traumatisms from this cause, asepsis and the management of the puerperal period. He describes and illustrates a binder, [illegible]. As regards drugs, he notes the favorable influences of strychnin administered both in the latter part of pregnancy and during the puerperium, and the advantage of "rotation of the puerperium." As regards posture during the lying-in state, he condemns the practice of keeping the patient on the back for any length of time. By "rotation" he means change of the patient's position in bed, equally divided between the dorsal, abdominal, right, and left lateral postures during the twenty-four hours, and he also advises the abdominal posture in early pregnancy in anticipation of the requirements of the lying-in state. Another point which he calls attention to is the advantage of the early use of the vessel in bed, or the commode at the side of the bed early in the puerperium, in hastening involution, favoring uterine drainage, and in the avoidance of pelvic congestion.

20. **Intestinal Indigestion and Pulmonary Diseases.**—The departure from the normal causing an autointoxication may be either from the liver or the small intestine. In the case of the latter, instead of being a sterile tube it becomes a breeding-place for every variety of micro-organisms, giving out their toxins. The liver cells are poisoned, and the circulation is flooded with these toxic bodies. If there is hepatic insufficiency, the same results may be brought about. There are three avenues of exit by which the blood purifies itself, the skin, lungs and kidneys. In severe cases all three may show signs of distress, the skin functions be disturbed, congestion occur in the lungs and kidneys inducing the inflammatory diseases in these parts. Besides these organs, the toxic shock seems to especially affect the nervous system and the blood, causing headache, labored respiration, disturbed cardiac action, etc. Organic changes occur if the irritation is long enough continued and in the blood a hemoglobinemia develops. Burr calls attention especially to the pulmonary aspects, and points out that from the nervous system the pneumogastric is affected, the respiratory center is interfered with, and in some cases the phrenic may be involved. The toxins may embarrass the respiration, weakening the epithelial cells of the alveoli of the lungs and endothelial cells of the capillaries so they no longer efficiently exercise their functions of phagocytosis. The patient who begins with intestinal indigestion becomes finally poisoned in his lungs. The practical conclusion the writer draws is that changes can be made to advantage in the traditional treatment of pneumonia and consumption. The greatest care should be given to the condition of the digestive tract, and he recommends, as especially useful, calomel and podophyllin, and the addition of the chlorids, which are lacking in pneumonia. In conclusion he reports a case where marvelous benefit occurred from the use of a small quantity of salt solution injected under the skin in a far-gone case of consumption.

22. **Valvular Heart Disease.**—The first points noticed by Cabot are his method of recording cases, and localizing the apexbeat. He thinks we should include, in the definition of this, those cases where there is a systolic retraction instead of an impulse; next, the place of maximum intensity for the regurgitant murmurs, which he thinks is most commonly on the left of the sternum. His fourth point is simply the question, on what evidence should we base the diagnosis of aortic stenosis? Is the presence of a tactile thrill in addition to the loud systolic murmur sufficient to warrant the diagnosis? In his study of 186 cases, he has found it reasonable to deny that there is any one form of valve lesion constantly associated with hypertrophy or the lack of hypertrophy of the right ventricle. He calls attention to the worthlessness of epigastric pulsation as evidence of right ventricle hypertrophy. Lastly, he notices the difficulty of diagnosis of aortic regurgitation in the presence of a continued lesion of the mitral valve, and he asks whether it is justifiable to make a diagnosis of mitral stenosis in every case where we are sure there is an aortic regurgitation.

26. **Latent Cancer of the Stomach.**—Osler and McCrae recognize three groups of latent cancer of the stomach: 1. A very small one in general hospitals, a very large one in almshouses and asylums, comprising cases in which the symptoms are those of a gradual enfeeblement without any indication of local disease—as Oliver Wendell Holmes puts it, in the "One Horse Shay," "a general flavor of mild decay, but nothing local." 2. Cases in which, with an absence of gastric symptoms, the lesions of associated disease seem sufficient to account for the condition. In this group were four of their cases. In two the diagnosis of nephritis was made; one had advanced pulmonary tuberculosis with pneumothorax, and the fourth showed profound anemia with multiple venous thrombi. Cases of each group are reported. The authors call attention to the extent of the condition, with practically no symptoms appearing. In 3 of the cases a very large part of the stomach was involved, in 2 the cardiac orifice, and in 2 the pylorus. In 1 the growth involved the esophagus, and in 1 to a slight extent the duodenum. In 3 instances there was ulceration, and in 5 metastases were present.

27. **Extirpation of the Stomach.**—The history of Brigham's successful case of gastric extirpation is given with an account of the patient's present condition, including a blood examination.

29. **Perforating Gastric Ulcer.**—Tinker tabulates and analyzes seventy-six cases of operation for perforating gastric ulcer performed during the past year. While admitting that there may be many unfavorable cases not reported, he thinks the number of recoveries is such as to be encouraging.

30. **Syphilis of the Stomach.**—The syphilitic affections of the stomach are grouped by Einhorn as follows: 1. Gastric ulcer of syphilitic origin. 2. Syphilitic tumor of the stomach. 3. Syphilitic tumor of the pylorus. Cases of each are described. The first is the one chiefly noticed in the literature, the second has received but scant mention, and the third, while its recognition is of the greatest importance, has not, he thinks, heretofore had a clinical description. It is well, for therapeutic and other reasons, in cases of intractable gastric disease, to keep in mind the possibility of a syphilitic origin.

31.—See abstract in The Journal of Nov. 4, 1899, p. 1166.

32.—Ibid., Nov. 25, 1899, p. 1359.

33. **Early Diagnosis of Gastric Carcinoma.**—Hemmeter, after noticing the value of the examination of detached fragments from the stomach walls and the varieties of malignant neoplasms that may occur there, says that all the facts thus derived contain possibilities of error and that the early diagnosis must be expected to be difficult. He then calls particular attention to the abnormal mitoses, hypo- and hyperchromatic, with other pathologic varieties that are found only in the malignant neoplasms, which may afford a logical early diagnosis. Only one case (Lubarsch) exists in the literature where it is claimed asymmetric mitoses were found and the diagnosis of cancer not confirmed. Three are here given in which an early diagnosis was made by this method.

34. **Gastroenterostomy.**—Weir notices the conditions for which this operation has lately been recommended: obscure gastralgia, ulcers, hemorrhages from ulcers, and atony without pyloric narrowing. It places the organ at rest and allows recovery in many of the cases. Three are reported illustrating his remarks, and the method of operation is described.

35. **Gastroplication.**—Winslow reports a case of Bircher's operation for dilated stomach with good result.

36.—See abstract in The Journal of February 10, p. 264.

37. **Motivity of the Stomach.**—The symptoms, causes, pathology and treatment of gastric motor insufficiency are described by Turck.

38. **Diagnosis of Gastric Ulcer.**—Murdock discusses the symptoms of gastric ulcer, reporting two cases, and concludes that we may diagnose ulcer of the stomach in patients with dyspeptic symptoms very positively in one of three ways: 1. By the occurrence of hemorrhage from the stomach. 2.

By the presence of severe pain relieved by orthoform. 3. By discovering a small, constant, circumscribed spot of tenderness in the epigastrium, with or without a corresponding tender spot to the left of the one of the lower dorsal vertebræ.

40. **Stricture of the Esophagus.**—Pyle describes and illustrates a new method of treating stricture of the esophagus. The apparatus consists of a rubber tube about the size of a No. 12 male catheter, containing in its composition silk fiber, a wire guide bearing an olive point, two tissue-rubber digital-shaped sacs, one very fine digital-shaped silk sac and a force-pump, including the necessary trimmings. Piano-wire is used for the guide. The distal end bears a small, brass olive-point to avoid puncturing the digital-shaped sacs. The wire guide is placed in the rubber tubing and secured at its proximal end by the metal trimming used for connecting the rubber tubing to the force-pump. The delicate rubber and silk digital-shaped sacs are secured to the rubber tube by means of strong linen thread, which is wound round the tube and securely tied over a metallic fitting inserted in the distal end of the rubber hose. The olive-pointed guide is used to carry the digital sac through the narrow opening bounded by the stricture. When once engaged, water, preferably warm, is forced into the sac by means of the pump. The sac above and below the stricture will expand to the limits of the silk covering between the rubber coverings. The stricture causes it to assume the shape of an hourglass. At this juncture, if additional water is forced into the dilator, the entire pressure will be exerted upon the contracted portion, compelling the stricture to yield to the internal pressure. Graduated sizes may be used. The entire thickness of the tissue-rubber and that of the delicate silk used adds but very little to the diameter of the olive-pointed guide. He reports a case thus treated successfully.

41. **Gastric Surgery.**—Dunn believes that in case of cardiac obstruction, gastrostomy is clearly indicated, and when early recognized, pyloric obstruction also calls for exploration at least, and such subsequent measures as are indicated. In cancer a considerable percentage of cases are permanently cured by early and radical excision. The proportion of cures increases *pari passu* with the earliness of the operation and the thoroughness and skill with which it is done. In gastric ulcer, if severe symptoms continue after eight or ten weeks of careful, competent, dietetic and medical treatment, it is wise to counsel surgical interference, provided proper facilities and skill are available.

42. **Gastrosuccorrhea.**—Lincoln's paper is simply a description of this condition in its acute and chronic forms, its causes, symptoms and treatment.

43.—See abstract in THE JOURNAL of Dec. 23, 1899, p. 1613.

46. **Vivisection.**—Stuver discusses the advantages derived from vivisection, and criticises a recent hostile publication.

53. **Mild Types of Typhoid.**—Waters protests against the statement by Osler referred to Bartlett, that any or all of the usual symptoms may be absent in typhoid. He thinks that any one, two or three may be lacking, but there is no typhoid when there are none. He admits the occurrence of various types of typhoid and reports two aberrant cases.

56. **Prolapse of Uterus and Bladder.**—The improved operation described by Stone includes the following steps. 1. Incision of the vagina over the cervix. 2. Separation of the bladder from the uterus and adjoining tissues. 3. Suture of the vagina to a higher point on the anterior surface of the uterus; closure of the space made by the separation. 4. Opening of the abdomen and further separation of the bladder and suture of the reflexure to the scarified surface of the uterus near fundus, uterofixation or suspension. 5. Closure of the abdomen. 6. Posterior colporrhaphy and perineorrhaphy.

60. **Nausea and Vomiting of Pregnancy.**—The following are the conclusions of Evans' article, embodying his theory here advanced. 1. There exists more or less of a rhythm in the paroxysms of nausea and vomiting in pregnancy. 2. There must also exist a rhythmic exciting cause for these paroxysms. 3. There is a rhythm in the contractions of the uterus which occur throughout pregnancy. 4. The essential exciting cause of the paroxysms of nausea and vomiting of pregnancy is frequently the physiologic contraction of the muscular fibers of the uterus.

61. **Anteflexion.**—From his operative experience, Burrage prefers dilatation, curetting and Dudley's operation in unmarried women in uncomplicated anteflexion. With retroposition and shortened utero-sacral ligaments or posterior adhesions he would also divide these by colpotomy. In either case amputation of the cervix may be performed if the uterus is very large or the crown of the cervix is extensively eroded. If in anteflexion, ovarian or tubal disease exists, with or without retroposition, it will have to be attended to and suspensio uteri be resorted to in addition.

65. **Choroiditis and Rheumatism.**—Converse speaks particularly of that form of choroiditis due to rheumatism, excluding that caused by syphilis. He thinks that examination of the urine will often aid us in finding the cause of the trouble, and proper treatment for the constitutional condition will give relief.

66. **Electrolysis in Disease of the Eyelids.**—Myers describes his method of treating granular disease by applying electricity to the supplying vessels of the granulation. He thinks this is the only method that will reduce the hypertrophies in the conjunctiva, without injury to that membrane. The current required is a very weak one, but to insure steadiness, a battery of not less than thirty ordinary ammonia cells should be used. A reliable milliamperemeter is an absolute necessity. A current of 1½ or 2 milliamperes is sufficient. The needle should be placed in the tissues, which must be well under the effects of cocain before the contact with the positive pole is made. It must be kept in place until the effect of the electrolysis is evident by the escape, from the sides of the needle, of a white pasty mass. Three or four punctures should be made in each hypertrophy, but the number required depends entirely on the extent of the thickened tissue. In eight years he has never seen a reaction result which could alarm the most timid operator, and has made as many as twenty to thirty punctures at a single sitting many times. He has treated hundreds of cases by this method and has almost altogether ceased to use copper and silver. He does not believe in the use of the flat electrodes on the granulations as he has seen scar tissue result time and again from this practice.

67.—See abstract in THE JOURNAL of January 27, p. 237.

75. **Melancholia.**—The treatment of acute melancholia consists largely, according to Babcock, in: 1, combating sleeplessness; 2, keeping the patient well nourished, and 3, when autointoxication is believed to be present, the use of laxatives and intestinal antiseptics. The impulse to suicide should be looked after carefully, and tonic treatment, exercise, and diversion should not be neglected. In agitated melancholia sedatives may be required and artificial feeding may be needed in any form. The prognosis is worse in the agitated forms. In stuporous cases the condition is more favorable, though feeding is often required and autointoxication must be specially looked for.

76. **Ocular Affections in the Newly Born.**—The subject of Krauss' paper is the catarrhal disorders of the conjunctiva, which are easily managed, and ophthalmia neonatorum, which is a more serious condition. Its treatment is, first of all, absolute cleanliness, and, by way of prophylaxis, the vaginal tract should be thoroughly cleansed with a 1 to 1000 bichlorid solution before labor is advanced. Later, solutions of 1 to 10,000 may be used to keep the tract clean. Immediately after birth, the exterior of the child's eye should be carefully cleansed with a weak bichlorid solution, which should later also be used in cleansing the whole body of the child. The conjunctival cul-de-sac should be thoroughly cleansed with a saturated solution of boric acid, freely applied by the physician. After thorough cleansing, one or two drops of nitrate of silver should be dropped into the eye. It is essential to keep the pupil free from pus, and the lids should be separated every half hour to allow its escape, and there should be free instillation of boric acid. Ice compresses should be used and Krauss employs a 2-grain atropin solution whenever the cornea is slightly hazy, and one twice that strength if the severe complication appears. If the destruction of tissue has not been too great, the everted lids are painted daily with a 2 per cent. nitrate of silver solution as soon as the discharge becomes purulent, the excess being removed with boric acid or normal salt solution. A weak solution of potassium permanganate may be freely used, especially in the early stage.

86. **Cesarean Section.**—The experience of Reynolds has led him to believe that when conditions favorable to operation exist Cesarean section is no more dangerous to the mother than any other simple abdominal operation. When, however, her vitality is lowered by sepsis, exhaustion, complicating disease, etc., it is only justifiable as a last resort. He tabulates sixteen cases with two deaths.

89.—See abstract in THE JOURNAL of Oct. 14, 1899, p. 979.

90.—Ibid., Oct. 21, 1899, p. 1042.

92. **Therapeutics of Tuberculosis.**—Flick considers the most important factor in the recovery from tuberculosis to be the resisting power of immunity, and whatever aids this makes for recovery; hence, the value of keeping the functions of the body normal and attention to its nutrition. The medicines he uses are strychnin, digitalis, animal and vegetable digestive ferments, mercury, nitroglycerin (in hemoptysis), mineral and fruit acids, vegetable tonics, bismuth, charcoal and diffusible stimulants. It is impossible to make a direct attack on the tubercular bacillus, but for the establishment of immunity, he thinks iodin the most valuable drug. Arsenic has had a reputation, but he is not able to personally testify as to its value, nor is his experience sufficient to enable him to pass judgment on the value of the nucleins or serum treatment, sometimes recommended. In conclusion, he remarks that we need more exact knowledge about the indications for the use of drugs in tuberculosis, and if we paid less attention to specifics and more to adjuvants, we would accomplish more in our struggle against the disease.

93. **Treatment of Tuberculosis by Drugs.**—Holland is skeptical as to the value of drugs in tuberculosis. In his opinion the best results are obtained by abundance of food and pure air, and he has abandoned the use of drugs.

95. **Phthisis Pulmonalis and Drugs.**—Schauffler discusses the various remedies suggested, and thinks that the drug treatment is overdone. He would not dispense with any of the time-honored remedies, but wishes to place himself on record as in favor of smaller doses and a much more careful suiting of the individual remedy to the particular case.

96. **Electrolysis for Aortic Aneurysm.**—Hare reports on a patient previously reported, and gives an account of a new one in whom the wire treatment was used on two occasions. In the second, with two applications, twenty feet of gold wire were introduced and left in the aneurysm. The results were excellent and the present symptoms are comparatively slight. He thinks it is the only case in which more than one introduction has been made into the same sac, and certainly the only one in which two operations have been performed at one sitting. The patient formerly reported died some months after the operation, from a second aneurysmal growth pressing on the lungs, and autopsy was refused.

105.—See abstract in THE JOURNAL of February 3, p. 296.

107. **Normal Position of Uterus.**—Robb describes and illustrates the position of the uterus under various conditions of full and empty bladder and rectum. He insists on the importance of keeping in mind the wide range of physiologic mobility of the organ before diagnosing malposition.

109. **Thermometer as a Germ Carrier.**—This paper insists on the necessity of a more than mere macroscopic cleansing of the clinical thermometer in daily use. The graduated marks and possible scratches and inequalities of its surface afford ample opportunity for the lodgment of germs, and as proof of this Conklin gives an illustration of these magnified 1200 times, together with a 6000-times-magnified bacillus of tuberculosis and of diphtheria. He also reports a series of experiments with six thermometers, four of which had been washed but not sterilized, and on which were found micro-organisms of different varieties. Two had been washed and placed in a case containing bichlorid solution and were found free from micro-organisms.

113. **Sterilization of Catheters.**—In this lecture, delivered before a school for nurses, Daggett mentions the possibilities of danger in unsterilized catheters and describes various means of asepticizing them. The method he prefers is, assuming that they are clean when used, after using and before he lays them down, to dip them into boiling or steaming water, then into odorless naphtha or gasolin. After the catheter is dropped into the latter the finger is placed over the distal end so that it is left partially filled, and then he inverts the instrument so that it runs out at the other end. Before putting it away this procedure may be repeated, and when satisfied that the catheter is clean, it should be rolled up in naphthalated gauze with an external wrapper of oiled silk.

115. **Care of Tubercular.**—Porter first notices the incipient signs of tuberculosis, especially long expiration heard at the apex of the lung, which may precede any other physical or subjective sign. The point he makes as regards the care is the necessity of prevent[illegible] sputa. He thinks that much of the hectic or afternoon exacerbation is due to this form of auto-infection. He recommends, therefore, attention to the intestinal secretions. The second point he makes is that the heart should receive more attention. A small weak heart is the rule in long-continued tuberculosis, and he would add digitalis and strychnin to the medication, and believes he has prolonged life by this practice. As regards climate, he believes the best results have lately been obtained at home, and the special sanatorium will eventually take the place of the hunt for climate. Lastly, he speaks of the serum treatment, in which he has faith.

116. **Constipation.**—The causes of chronic constipation in women are neglect and the corset, according to Nicks. The non-medical treatment recommended is the cultivation of habit, the cautious, occasional use of enemas, suitable diet, sufficient water drinking, exercises to improve the movement of the blood and incite peristalsis, and massage.

FOREIGN.

British Medical Journal, January 27.

Remarks on Pure Air Treatment of Phthisis at Home. ARTHUR RANSOME.—The question of the home treatment of consumption, taken up by Ransome, includes the discussion of the questions of the climate, house and furniture, the individual treatment of the patient, and the prevention and treatment of accidents. Ransome thinks that any home where the outdoor, pure-air treatment is to be carried on should be protected from strong winds, and especially from strong sea breezes. He adds to this the importance of a low degree of humidity and a small rainfall. The house should be thoroughly disinfected, the cellar thoroughly cleansed, as impure air from the latter is often drawn up into the house. The walls should be capable of being cleansed and like the furniture surface, smooth, and all ornaments or crevices that may lodge dust be avoided. The necessity of excluding all pathogenic organisms is evident, as consumptives are especially vulnerable to these. As regards individual treatment of the patient, one of the first considerations is rest, which avoids disturbance of the inflamed tissues, facilitates warmth, conduces to the gain in body weight and aids the blood-making organs, increasing hemoglobin. It should be accompanied, however, with graduated exercise under medical supervision. The next important point is thorough nutrition. It is not a question of mere fattening, and passive exercise like massage may be combined with other treatment. All possible accidents, especially in the way of infection, must be guarded against, and not the least important of the requirements is diversion and suitable entertainment. He concludes with the statement that it is impossible to carry out all the stringent conditions of successful pure-air treatment except with constant supervision of a medical man and the services of a well-trained nurse or an intelligent trustworthy attendant, but he thinks that none of the conditions are unattainable, except in the homes of the very poor, and for these suitable sanitaria should be provided at the public expense.

Continuity of Toxic Process in Fatal Cases of Diphtheria. JOHN BIERNACKI.—The author has studied the blood-pressure in diphtheria and credits most of the fatal symptoms to its lowering. The gravity of the diphtheria may be explained in part by the diverse action of its toxins, which first cause a fall in the blood-pressure and next a change in certain tissues, of which the cardiac and renal are the most important. One result of the lowered blood-pressure is the lessened excretion of urine. As the urine contains the toxin, the latter accumulates in the blood and causes a further fall of pressure aggravated by heart failure. Sickness and diarrhea may take an active part in this process. He thinks that undoubtedly toxic changes in the renal tissues to some degree affect its excretion, but that it is not a main factor. It is noteworthy that albuminuria is not always present in fatal cases. As to the question whether uremia may not be an intercurrent lethal factor, he believes that when the duration of the fatal case is short, oliguria supervenes and is followed by suppression. When, however, the patient is very near death, the latter condition can have but little effect if the fact that a healthy patient does not show symptoms of uremia until suppression has existed for at least two days is accepted. In prolonged cases, however, when suppression has lasted several days, the possibility of uremia is evident. One of its symptoms, myosis, is almost invariably present under such conditions. It is possible that the final aggravation of sickness has a similar source. On the other hand, the absence of headache, stupor, coma and convulsions is striking, and admitting that the uremic poison is complex, Biernacki suggests that it is possible that the specific toxin counteracts the effect of some of the elements, and thus maintains the continuity of primary symptoms.

The Lancet, January 20 and 27.

Some Points in Natural History of Uterine Fibroids. F. H. Champneys.—The author gives a statistical study of the occurrence, symptoms and mortality of uterine fibroids in several of the London hospitals, and conludes that deaths from these, apart from operation, appear excessively rare. If the surgeon's practice is to operate only when life is threatened, the death must be credited to the disease; otherwise to the operation. The justifiability of the operation depends, however, on other conditions than those threatening life. They may produce conditions which make life unbearable: hemorrhage, pain, incapacity for work. There has been a confusion, he thinks, between operation for ovarian and uterine tumors; the natural tendency of the ovarian is to death and, therefore, operation is essential. A cystic fibroid should be treated as an ovarian tumor and so classed from an operative point of view. In closing his paper, he remarks on the too free tendency at the present time to remove fibroids, and says that in these cases we should put ourselves in the place of the patient when deciding on the operation.

Results Which Have Been Obtained by the Antityphoid Inoculations. A. E. Wright.—This paper includes the results of antityphoid inoculations made in India in the end of 1898 and the beginning of 1899. The total number of soldiers inoculated was 2835, and these are compared with 8460 soldiers not inoculated. The statistics as regards cases of enteric fever and deaths from the same are in favor of inoculation, the percentage of cases among the inoculated being .95 and among the uninoculated 2.5. The deaths among the inoculated were .2, among the uninoculated .34. It should be remembered that the inoculated were men fresh in the country, while those uninoculated were older and more seasoned and less liable to the disease. Moreover, the inoculations were made in part during an epidemic of typhoid fever, and it is more than likely that in some cases they were made during the incubation stage of the disease. In conclusion, Wright mentions the possibility that antityphoid inoculations may afford a certain protection against malaria, and gives certain figures indicating this. In 121 men who had previously suffered from fever and ague, 111 declared themselves to have been quite free since, and the others said they were practically free six months after the operation. He suggests that in spite of the *a priori* improbability, this may be worthy of attention.

Plague in Relation to Singapore. Maximilian F. Simon.—The facts as regards the introduction of plague into Singapore are related by Simon, who concludes that the experience there up to the present date seems to indicate: "1. That plague is not readily transmissible by sea far south of localities in which it is epidemic or endemic, and that should it in later years spread more toward the equator, it will do so probably by slow extension overland, the germ becoming gradually acclimatized; 2, that when removed from endemic environment, the disease is not of itself readily communicable from person to person; 3, that the danger of conveyance of infection by cargo and baggage for any distance by sea, at all events below what has been thought its boundary of latitude, is practically nil, and I put this indication I submit with a certain amount of diffidence—that, unless a patient has received a very strong dose of infection, or unless the morbid process in the body has reached a certain point prior to embarkation, when a patient leaves the infected environment and travels by sea toward the central tropical zone the disease has a tendency to abort. The bacilli either disappear in some way or become modified or inert, leaving the patient to gradually lose the fever which has been deprived of its specific exciting cause, and to recover from the glandular affection, which, having also lost the specific cause of its access and increase, tends to resolve in the same way as after ordinary inflammation."

Clinical Lecture on Sleeplessness. William H. Broadbent.—After giving a definition that "sleep consists of a suspension of the functions of the higher centers of sensation, or rather perception, involving inaction of the corresponding motor centers," Broadbent remarks that its treatment does not resolve itself solely into a choice of drugs. To compel sleep by opiates or sedatives is not to cure sleeplessness. The drug induces a tolerance so that larger and larger doses are required, and its effects are not confined to producing sleep. One effect of all drugs is that they diminish the resistance and impair the manhood. The patient will not endure a deprivation of sleep which he formerly considered trivial, with fortitude. The author finds the effects of sulphonal and trional even worse than opium, and remarks that the introduction of syrups and tabloids containing them is very unfortunate. The essential preliminary in the treatment of sleeplessness is the recognition of its cause. Individuals vary greatly in their habits in this respect. Some are naturally bad sleepers, and such are greatly to be pitied. He would hesitate to give drugs, except an occasional dose to parry the effect of any unusual excitement or fatigue. If the pulse tension were high, chloral would be indicated, if it were low, paraldehyde or bromid. If sleep is unrefreshing, he would use bromids if possible, as they can be taken indefinitely without serious injury. He next notices the conditions of the circulation which interfere with sleep. Some patients suffer from cold feet, and rubbing is an excellent expedient for such. This may be due, however, to an exactly oppositive subjective feeling. Other conditions of the circulation causing sleeplessness are high arterial tension keeping up the cortical circulation, or low arterial tension, which may make sleep in a horizontal position difficult or impossible. The treatment here must be tonic. The most common cause of sleeplessness, however, is indigestion in its various forms, and he notices the special treatment of dyspeptic insomnia. One of the simplest methods for relief is to drink a tumbler of hot water at bedtime, but he would not even advise this as a routine practice. No treatment should be continued for more than a week at a time as the response of the stomach becomes imperfect. Tea and coffee are credited by some with causing sleeplessness, and he thinks it may be true to a certain extent, but less so than is popularly supposed. Afternoon tea, however, is a very common cause of flatulent dyspepsia, and in this way may be responsible for insomnia. Finally, he speaks of the sleeplessness from influenza, which must be treated as an acute infection, and unless there is speedy improvement under such tonics as arsenic, phosphorus, strychnin, and quinin, opiates may be given, and he would prefer a combination of these with carminatives to sulphonal, chloral, etc. The sleeplessness of alcoholic excess is mentioned; its treatment is total abstinence, with considerable doses of nux vomica or strychnin, and perhaps digitalis.

Process of Digestion After Resection of About Six Feet of Small Intestines. Carl Schlatter.—In the case reported, nearly two meters of the ilium was removed in a powerful, well developed man 23 years of age, without any subsequent derangement of health while in the hospital, excepting an urticaria which appeared over his whole body the fifth day after the operation. The later history of the case, however, showed that serious disturbance of digestion and nutrition took place. The patient was obliged to be very careful of his diet, could take no solid food, and there has been a loss of three kilograms in his weight. Schlatter, accepting the dictum of Dressmann that resection of less than two meters of the intestines does not provoke digestive disorders excepting with complications, asks whether this case can be considered under this head. He says that the recent observation as to the late stage of the case may serve as a warning against too hasty or too [illegible] regarding the [illegible] question of [illegible] of the [illegible].

Use and Abuse of Preservatives. Samuel Rideal.—This [illegible] Dr. Annett [illegible] with different results. He finds that [illegible] would take [illegible] At the [illegible] which is [illegible] Dr. [illegible] says that, regarding Dr. Annett's experiments in the most [illegible] and [illegible] in quantities largely in excess of those which would be possible in a milk diet under regulations (1 in 2000 boric acid and 1 in 50,000 formaldehyde and compulsory declaration) which he [illegible].

Myoidema in Pulmonary Tuberculosis. Hugh Walsham.—The author refers to a symptom first described by Stokes and later the subject of a monograph by Lawson Tait, which was considered by the latter as diagnostic of pulmonary tuberculosis. In consists in a quivering tumor caused by percussion on the pectoralis major, passing away in a few seconds. Walsham has never found it in an early case, and it only becomes well marked when the wasting has advanced beyond a certain degree. He concludes as follows: "I think that cases of pulmonary tuberculosis may be divided into three classes with respect to this sign, corresponding closely to the three classical stages of the disease. In the first class I should say that the sign was absent in the vast majority of cases, although a faint fibrillar contraction may occasionally be obtained. In the second class the fibrillar variety can always be obtained and frequently the nodular variety, and in the third class the nodular variety may nearly always be produced, with the exception stated above (in some cases of great emaciation). I think that myoidema is nearly valueless as an early sign of pulmonary tuberculosis. It only becomes well marked when other physical signs leave no doubt about the diagnosis of pulmonary tubercle. The sign is of value, I think, as indicating the condition of the muscular system of the patient and as showing approximately the amount of wasting that has taken place."

Archivos de la Policlinica (Havana), January 28.

Amblyopia From Malnutrition. E. Lopez.—Our Cuban confrère restates the facts in regard to the gathering of the rural population of Cuba into the garrisoned towns by the Spanish authorities during and after 1896, which resulted in a peculiar kind of anemia among the reconcentrados, from the lack of wholesome food, the ingestion of indigestible substances and wretched hygienic conditions. This slow and progressive anemia was characterized by partial or generalized edema, bloating, etc., and death without any special lesions, although malarial parasites were found almost constantly in the blood of the 300,000 victims of this inhuman decree. The anemia also affected the eyesight to such an extent that the condition was known among physicians as "blockade amblyopia," as it reached its highest point during the four months of the blockade of Havanna. It affected all races, sexes and professions, but was never observed in those under 20 years of age. Vision fell to one-third, one-fifth, or even to less than one-tenth of normal. The amblyopia was always bilateral, but with varying intensity in the two eyes. Most patients were restored to normal with a month of good food and tonics, but in two of the twenty observations cited by Lopez, the condition was permanent and no improvement could be noted with months of treatment. The pathologic picture is the same as with amblyopia from any cause: first congestion and then pallor of the optic nerve without alteration of the vessels, retina or any portion of the interior of the eye.

Revista de Med. y. Cir. (Havana), 1899, 18 and 19

Peculiar Inguinal Adenopathy Observed in Havana. J. M. Espada.—The writer had six cases under observation at the time of his communication. The lesion might be described as hypertrophic and unilateral sclerosis of the inguinal ganglion. The first period of painless induration may last from a few weeks to twenty years. The ganglion is conglomerated into a single or two or three masses. The skin is intact and smooth. When it softens, the fluctuation is only in spots and the suppuration does not involve the ganglion matter proper. The softening is complete in a few days or weeks after it commences. When the lesion is opened very little pus escapes, and the soft, friable, hypertrophied ganglionary matter is seen to the depths. Espada considers the suppuration a secondary process, the effort of Nature to expel the ganglionary matter which has become transformed into a foreign substance. Neglect may lead to secondary infection and suppuration, but when protected and the tendency to proliferation combated, the lesion heals over in a few days or weeks. The subjects are usually young working-men. A peculiar feature of the affection is that gonorrhea, syphilis or a traumatism may start its development, but it always retains its special characteristics and never assumes those of the concomitant affection.

Presse Medicale (Paris), January 24.

Original Classification of Fistulae of the Anus and Other Lesions. Stoyanov.—Visiting St. Mark's Hospital at London, which is exclusively devoted to diseases of the rectum and anus, the writer noticed a peculiar classification in use there, which he thinks might be usefully adopted for many other kinds of lesions. The field is assumed to represent a clock-face, and the lesion is located by the figures. A "3 o'clock lesion" would be directly to the right of the anus—the subject on his back, with limbs drawn up—the xii and vi being always vertical. A long sentence would be required to describe the location of a fistula, accurately described by "6 o'clock; 5 mm. from the limb.

Resection of Hip-Joint in Coxalgia. Calot.—After being a partisan of resection of the hip-joint in case of suppurating coxalgia, Calot has become convinced that resection is useless and does not put an end to suppuration, while this not being suppressed, leads to secondary infection through the wound, and the death of the patient sooner or later, besides always leaving a distressing infirmity. For the past three or four years he has not made a single resection in his 250 cases, and his results have been satisfactory in every respect. He proclaims that a tuberculous focus must never be opened nor allowed to open, under any circumstances. If the patient arrives with an open abscess, resection should be avoided. The only case in which it is permissible is when continuous, threatening fever urges, and then the operation should be as saving of tissue as possible. Puncture with fine needles and injections of iodoformed ether and camphorated naphthol, constantly aiming to maintain the limb in a good position, is the method he has been following with fine results for the past four years. He has thus restored several patients with a fistula persisting since a previous resection by some other operator.

Treatment of Delirium Tremens with Artificial Serum. Masbrenier.—Quénu has been treating delirium tremens for several years with subcutaneous injections of artificial serum, as not only a powerful tonic but a rapidly effective diuretic. Three observations are described in detail showing the prompt benefit derived from injection of a liter or 1500 grams of serum; no alcohol. The injections were repeated two or three times, although the excitement subsided after the first, as polyuria was established.

Adulteration of Sausages. H. Martel.—The writer is sanitary veterinarian of the Seine district and states that the adulteration of sausages has assumed very large proportions during the last few years. It consists in the addition of disinfectants, salt in excess, deodorizers and coloring matters; also of starch, flour, bread crumbs, etc. Tainted to putrid meat is also incorporated, and meat from animals killed on account of disease; also parts of the animal not usually used for food, and horse, cat and dog meat. Bancon stated, in 1895, that dog meat was being sold for mutton by some butchers.

Deutsche Medicinische Wochenschrift (Leipsic), January 18 and 23.

Arrow Poison. Brieger.—Analysis of the poison used by the Wagogos of East Africa, to tip their arrows, shows that it contains a rapidly fatal poison identical with the Wakamba poison which Brieger has previously described, the source of which is unknown, and also another poison derived from the candelaber euphorbium, which does not kill guinea-pigs in less than an hour. He suggests that as no vegetable antidotes seem to be known as yet, possibly serum therapy might supply antidotes to these poisons. (See "Syphilis of Spinal Cord," The Journal, February 10, p. 362.)

Dural Infusion. P. Jacob.—Clinical and experimental tests of the subarachnoid infusion of therapeutic substances have been carried on at von Leyden's clinic for four years. The results have established that the fluid introduced in the lowest portion of the subarachnoid space spreads very rapidly to the cerebrum; also that if a certain amount of cerebrospinal fluid is withdrawn, and the same or a larger quantity of another fluid introduced, the substances dissolved in the latter remain for a time in the subarachnoid space, and are taken up by the substance of the central nervous system before they are finally completely eliminated. In none of the experiments and tests were any symptoms ever observed such as are induced by pressure on the brain. If any were noted at all, they were merely a rise in temperature and pulse, and more or less violent pain radiating from the back into the lower extremities. In a few cases nausea and vomiting occurred. A woman of 29, with severe puerperal tetanus after ten days' incubation, was treated the sixth day of the affection with 10 c.c. of Behring's antitoxin, introduced after lumbar puncture and withdrawal of about the same amount of cerebrospinal fluid. (The latter was not found at all toxic while tetanus was induced in mice with injections of a few c.c. of blood from the patient.) Two grams of Tizzoni's serum were injected subcutaneously at the same time. No improvement was perceptible, and the dural infusion was repeated twice, each time with .75 gram of Behring's antitoxin. Improvement was evident the next day, and speedy recovery followed. The only symptom noted from the infusion was a rise of temperature to 39.8 C., after the first infusion and a slighter increase after the second. Jacob reviews the experiences of others in this line, and asserts that further attempts are fully justified. He also reports three cases of cerebrospinal syphilis treated by dural infusion of 25 c.c. of a .04 per cent. solution of sodium iodid. One, a woman of 49, with indications of a gumma in the left hemisphere, showed considerable improvement for two days, but the coma returned and death ensued in three days. The two others were cases of myelitis luetica. The first, a woman of 30, was treated with a single infusion of 50 c.c. of a .05 per cent. solution of sodium iodid. Pains, headache, nausea and vomiting followed, but the complete ptosis previously noticed was permanently abolished. A peculiar feature of this case was the glycosuria that followed the infusion for three days. The paralytic phenomena subsided more and more until, in fourteen days after the infusion, exercise in the "walking chair" could be commenced, although the upper extremities showed less improvement than the lower. The other patient required three dural infusions before improvement was noted, each following an interval of one to two weeks. No glycosuria was observed in this case, and the other symptoms following the infusion were less pronounced with each repetition. Jacob considers these results so remarkable that they impose dural infusion of solutions of iodin in certain cases of cerebrospinal syphilis; when there is immediate danger to life and the necessity for bringing the therapeutic agent immediately and directly in contact with the region of the lesion; also in cases rebellious to the usual methods. He mentions that traces of iodin were observed in the fluid withdrawn fourteen days after the first infusion. He would also extend this method of treatment to meningitis, but has no personal experience as yet. He considers the symptoms which follow infusion due to the chemical irritation of the substance introduced. His experiments with dogs testify to the extreme sensitiveness of the substance of the central nervous system to chemical irritation: dural infusion in dogs, of 25 c.c. of a .2 per cent. solution of iodin, induced severe intoxication, while they had previously taken 2 to 5 grams a day *per os* without showing a trace of iodin poisoning.

Mechanical Support for Heart. ABEE.—THE JOURNAL has mentioned (xxxiii, p. 911) the truss devised by Abee to support the heart and relieve the distressing dyspnea in certain heart affections. It has proved very effective in twenty-nine cases. He finds that the heart is pushed up by the pad, as much as 2 to 3 cm., and twisted on its axis, and the lung expands 1.5 to 2 cm. downward on the right, while the pulse is retarded a maximum of ten beats a minute. These changes occur in two or three minutes after application of the truss, with consequent relief, but the previous conditions return as soon as the truss is laid aside. In one case intense pains persisted after pericarditis with *cor mobile;* the application of the truss abolished them completely. In another case, however, the heart truss increased the pain, probably owing to adhesions. The pad can be fastened to the corset or to a band around the shoulders aside at night or not, as desired. They should never be applied, or body. Some have been worn several months. They are laid Abee states, until after a certain consolidation of the heart has occurred. Among the patients benefited were 2 with aneurysm of the aorta; valvular insufficiency, 3; mitral insufficiency and stenosis 2; morbus Basedowii with left hypertrophy of the heart, 1, and the rest arteriosclerosis and myocarditis, with hypertrophy of the left ventricle. One patient writes that she has no further need for digitalis since wearing the truss.

Specific Immune-Serum Against Spermatozoa. MOXTER.—The summary of the research described in this communication from the Berlin Institute for Infectious Diseases, states that preliminary treatment of rabbits with spermatozoa from sheep, injected into the abdominal cavity, results in the production of an immune-serum destructive to spermatozoa in the animal organism, while entirely ineffective outside it. The spermatozoa are not dissolved, but paralyzed, and rapidly swallowed by the leucocytes. The immune-serum possesses also a specific dissolving power for the red corpuscles of sheep. The immune-body is fastened by the spermatozoa and the erythrocytes, but has greater affinity for the former. The immune-serum has also a transient agglutinating effect on sheep's spermatozoa. It also agglutinates the erythrocytes of sheep, but only when the hematolytic substance in the serum is removed or rendered inactive. Normal rabbit serum has also a destructive effect on spermatozoa, but much less than the immune-serum. This spermatocidal substance in normal serum is identical with the hematolytic.

New Copper-Silver Test for Mercury in Urine. F. ESCHBAUM.—The soluble metals recently introduced into therapeutics have been studied by the writer in respect to their elimination through the urine. He finds that they appear in the urine in the same way as ordinary metals, and ponderable amounts of mercury can still be distinguished six weeks after treatment. He has devised a simple and accurate method of determining the amount of mercury in the urine. It is attracted to copper—a net or braid of very fine, pure, copper wire—released again by heating in a small test-tube, and then accumulated on a small, thin, silver plate inserted in the tube, which is turned around until the plate has come in contact with the sides of the tube all around. Weighing the silver plate before and after determines the amount of mercury.

Wiener Klinische Rundschau, January 14 and 21.

Epiploitis Consecutive to Operations. J. SCHNITZLER.—Four personal cases are added to the twenty-four in literature, and all are tabulated, showing the particulars of the inflammation of the omentum in each. Only one death occurred in the whole number. The inflammation and tumor spontaneously subsided in eleven. The treatment was iodin or rest and ice. Silk threads had been used in all but one.

Pediatric Studies. W. CAMERER.—The weight and growth of 250 infants are tabulated in this communication. The tables show that the weight at the end of the first year depends more on the weight at birth than on any other factor. The growth is less during the first four months with artificial feeding, but this is compensated by the increased growth of the next four months and following weeks. Other tables show that after the rapid growth of boys during the first years, the increase falls off to about 5 cm. a year between the ages of 4 and 12, increasing again between 12 and 16 to 6.5 or 7 cm. a year, and stopping with the end of the seventeenth year. Girls grow 4 to 5 cm. a year between the fifth and tenth year, increasing to 6 cm. a year and stopping after the fifteenth. If the height increases after this age, this retarded growth must be referred to disturbances in growth which occurred during the period of physiologic development. Tables of the chemical constitution of the new-born show much more water and fats than in adults, and less nitrogenous elements. The total lecithin in the infant body amounted to [illegible]

Indication for Occupation Therapy in Functional Nervous Diseases. O. VOGT.—The occupation must be strictly individualized and is rather an element of hygiene for nervous persons than a therapeutic measure. It [illegible] therapy is to divert the attention from the ego, to satisfy the craving for something to do and to dispel depression when these results are not accomplished by the present occupation of the subject. It is contraindicated in exhaustion, but it is sometimes difficult to distinguish between this and suggested fatigue. Imperfectly nourished subjects with pronounced anæmia are more liable to actual exhaustion, while the long persistence of the condition speaks against it. In case of distress, angor and hypochondria occupation therapy has rendered but slight service in the writer's long experience, which includes observation in Binswanger's and Forel's clinics. It is especially beneficial for persons who have in fact recovered from neurasthenia, although psychically the symptoms still persist. Appropriate occupation may prove a most efficient means of curing severe hysteria and many cases of psychopathy, but it is merely a subordinate measure in case of fixed ideas, and is useless in nosophobia.

Iatrike Proodos (Syra, Greece), Oct., 1899.

Chylous Pleurisy. Panagiotatos.—The writer describes a case of pleurisy with effusion, in which a milky-white fluid, obtained by puncture, contained 2 per cent. fat, 4 per cent. globulin and 9.7 per cent. albumin, with numbers of fat globules and leucocytes. Death soon ensued and the pleura was found much thickened with dilated vessels and polypoid outgrowths in which were found eggs of the Bilharzia in various stages of development. She is inclined to ascribe the case of chyliform ascites recently described by Ceconi to the same cause, the presence of the Bilharzia. (See The Journal of February 3, p. 300, for recent contributions on milky ascites, also p. 390, this issue.)

Gazzetta Degli Ospedale (Milan), Dec. 24, 1899, and Jan. 14.

Epidemic Pleuritis with Effusion. G. Ciaceri.—Four cases occurring about the same time in persons residing near together, all running the same course and recovering with the same treatment, impose the epidemic character of the affection reported. The treatment was vesication alternated with painting with tincture of iodin; quinin in the morning and potassium iodid the rest of the day, with plenty of milk.

Pathogenesis of Suppurative Hepatitis. B. de Vecchi.—Numerous experiments on dogs, guinea-pigs and rabbits showed that a pathogenic germ introduced into the liver would develop and induce the formation of an abscess in case of stasis of the bile, otherwise not. In physiologic conditions the liver resists invasion, and it only succumbs when weakened by any cause, such as obstruction to the flow of bile, which in turn affects the liver cell injuriously. The abscess may even be produced in case of stasis of the bile by introduction of germs into the intestines, afterward found in the liver. Connective tissue proliferation was also noted in the liver after introducing extremely virulent bacilli coli into the intestines.

Echinococcus Cyst of Pectoralis Major. G. Palmieri.—The observation reported is notable on account of the entire absence of characteristic symptoms, merely radiating pains from the mamma, and apparently an incipient boil in the axillary region. But the fever rose alarmingly and an exploratory puncture of the supposed furuncle revealed its true character.

Rare Malarial Manifestation. Graffagnini.—The right kidney had been removed from a woman, 29 years of age, on account of nephrolithiasis, hemorrhage and pains, but an obstinate cystitis persisted for three years. At the end of this time micturition suddenly became painful, and the desire recurred every ten minutes. This continued for some time, slightly improved by copious ingestion of seltzer water, when blood was noticed in the urine in considerable amounts. The morning urine was clear, but every afternoon the hematuria recurred, much debilitating the patient; no other symptoms were observed. The periodicity in the appearance of the blood suggested a malarial origin, and the administration of quinin soon banished the phenomenon permanently.

Antiseptic Soaps. C. Tonzig.—Tests with disinfecting soaps—creolin soap in particular—disclosed that the disinfecting power is about the same as that of plain soap, or a trifle less, while the disinfecting substance in this combination loses its specific bactericidal power and becomes transformed into inert combinations. Pure soap, as free from water as possible, is the desideratum.

Meditsina (St. Petersburg), 1899, Nos. 24 to 30.

Articles Left in Abdomen After Operations. F. Neugebauer.—The damage suit against two prominent surgeons of Warsaw, for having left a forceps in the abdomen of a patient, mentioned in The Journal of Dec. 16, 1899, has led to the compilation of this article, which includes a number of hitherto unpublished cases. Many of the names mentioned are famous. Forty-two of the 100 patients cited died, generally from sepsis immediately after the operation. The articles forgotten were a sponge in 29, a tampon or compress in 28, a drainage-tube in 4, a ring, a clamp and a piece of a broken glass irrigator, once each; artery forceps in 19 and unknown in 17. In 3 patients two articles were overlooked. The arteria iliaca was fatally injured by a forceps in 1, the intestines were perforated in 6 and the bladder in 1. Most of the articles were discovered at the autopsy, but 2 sponges, 5 compresses and 3 forceps worked out through an abscess. Ten tampons or compresses were spontaneously evacuated *per anum*, also 3 forceps. In a number of cases the wound was reopened at once. The ring was extracted years later through the posterior vaginal fornix, and a tube through the Douglas sac.

Societies.

COMING MEETINGS.

American Medical Association, Atlantic City, N. J., June 5-8.

Medical Society of the Missouri Valley, Hamburg, Iowa, March 15.

Medical Association of the District of Columbia, Washington, April 5.

Western Ophthalmological, Otological, Laryngological, and Rhinological Association, St. Louis, April 7-9.

Tennessee State Medical Society, Knoxville, April 10.
Florida State Medical Society, Orlando, April 11.
Mississippi State Medical Association, Meridian, April 11-13.
Medical Society of California, San Francisco, April 14-16.
Medical Association of Alabama, Montgomery, April 17.
South Carolina Medical Association, Charleston, April 18.
Medical Association of Georgia, Atlanta, April 18.

Louisiana State Medical Association, New Orleans, April 19-21.

Medical and Chirurgical Faculty of Maryland, Baltimore, April 24.

Texas State Medical Association, Waco, April 24.

Omaha Medical Society.—At a recent meeting, this Society elected officers as follows: president, Harold Gifford; secretary, J. M. Aiken; treasurer, W. R. Lavender.

Clearfield County Medical Society.—The following are the newly-elected officers of this Society, which met at Clearfield, Pa., recently: president, A. D. Bennett, Mahaffey; vice-president, B. E. Leipold, Clearfield; secretary, J. S. Kelso, Woodland.

Marion County Medical Society.—This Society held a meeting at Marion, Ohio, February 6, and installed the following newly-elected officers: president, Ambrose Ogan; vice-president, D. O. Weeks; secretary, E. O. Richardson; treasurer, O. W. Weeks.

Henry County Medical Society.—The annual election of officers of this Society was held at its meeting in Newcastle, Ind., recently, resulting as follows: president, George W. Burke; vice-president, Samuel Pickering, New Lisbon; secretary and treasurer, C. E. VanMater.

Chicago Medical Society.

Feb. 7, 1900.

LIGATION OF FIRST PORTION OF RIGHT SUBCLAVIAN FOR ANEURYSM OF THIRD PORTION.

Dr. A. E. Halstead reported a case of this and exhibited the patient, Mrs. F. W., American, aged 44, married. She was referred to him by Dr. J. E. Best of Arlington Heights, Ill. Her family history was negative. She had three children, the first two being twins; one died at the age of three months from some unknown cause, the other at 6 years, of diphtheria; the third lived two weeks. She had no miscarriages nor premature labors; no illnesses excepting the ordinary diseases of childhood, and diphtheria at the age of 19 years. She denied having had venereal disease, although she underwent treatment for some uterine trouble.

The present illness began insidiously, about nine months ago, without any known cause. She first noticed a feeling of numbness and tingling in the ring and little fingers of the right hand. After about three months she began to have cramp-like pains, referred principally to the inner side of the arm and forearm. This was soon followed by shooting and throbbing pains along the posterior surface of the arm and in the right shoulder immediately under the inferior angle of the scapula. These were at first paroxysmal in character but lately have become nearly constant so that her rest has been broken and her appetite impaired.

Examination showed a fairly, well-nourished individual, with a somewhat rapid and irregular pulse. Just above the right clavicle in the subclavian triangle was a tumor, more prominent when the patient was erect than when reclining. This was somewhat smaller than a hen's egg, globular in shape, soft and easily compressible. On palpation a well-marked expansile pulsation, synchronous with the systole of the heart, was felt, and on auscultation a distinct bruit was heard. The radial pulse on the right side was perceptibly slower and smaller than on the left.

An operation was performed Nov. 8, 1899, at the Chicago Policlinic Hospital, by Dr. Halstead, who was assisted by Drs. J. E. Best, F. S. Coolidge and P. F. Morf. A curved incision with the convexity downward was made, beginning just above the suprasternal notch and ending externally about 2 cm. above the deltoid tubercle of the clavicle, the lowest point being about 3 cm. below the clavicle. A flap consisting of skin, platysma, and fascia was reflected, fully exposing the subclavian triangle and the origin of the sternomastoid muscle. This muscle, with the sternohyoid and sternothyroid was divided, transversely just above the clavicle, and the internal jugular vein and carotid artery exposed. The carotid artery, the pneumogastric and recurrent laryngeal nerves were retracted outward, exposing the lower part of the scalenus anticus muscle. Close to the inner edge of this muscle, but considerably deeper, the vertebral artery could be located. The thyroid axis was found three-eighths of an inch external to the vertebral. This was traced downward until the subclavian was reached. The sheath of this subclavian was incised for a distance of about one-half inch just internal to the point of origin of the vertebral. An attempt was made to pass a ligature about the artery at this point. In doing so the posterior wall of the artery ruptured, giving rise to a profuse hemorrhage which completely obscured the operative field. Several attempts were made to pass the ligature, but as soon as pressure was removed from the artery the hemorrhage recurred. This necessitated the ligature of the artery some distance below the point of rupture, which could not be accomplished without resection of the clavicle. Accordingly the clavicle was divided about two inches from the sternoclavicular articulation, the sternoclavicular ligaments severed and the clavicle reflected downward. This did not seem to materially improve the situation, so the inner fragment of the clavicle was removed and with it the upper angle of the sternum. This gave ample room. The artery could now be exposed for a distance of about two inches from the internal border of the scalenus. All of the structures in relation to this portion of the vessel could be easily identified. Three catgut ligatures were quickly placed about the artery and tied, two of these being proximal, and one distal, to the point of rupture of the artery. The distal had to be placed very close to the vertebral artery. The two ligatures proximal to the point of rupture were placed about three-quarters of an inch apart, and were all tied so as to occlude the vessel, but not to rupture its coats. After the ligatures of the vessel had been completed and the operation wound sponged dry, the artery could be traced downward and backward for a distance of about three inches from the inner border of the scalenus anticus. In place of there being a common trunk, from which the carotid and subclavian were given off, the latter seemed to pass behind the carotid and come directly from the arch of the aorta. No brachiocephalic trunk could be seen. The relation of the origin of the subclavian to that of the carotid could not be determined. The divided muscles were sutured and the wound closed without drainage. The patient's temperature never rose above 99.5 F.; the pulse, which had, previous to the operation, ranged from 118 to 130, gradually dropped to normal during the first ten days. The skin sutures were removed on the fifteenth day, when the wound was found healed by primary union. The patient complained some of the arm and hand feeling cold during the first two weeks. The pain in the arm and hand, which was so annoying before the operation, completely disappeared, and there is no radial pulse, nor any return of pulsation in the aneurysm up to the present time—seven weeks after the operation.

Several points in connection with this case are worthy of consideration:

1. The aneurysm involved the entire third portion of the subclavian, and encroached slightly on the second portion, so that the only rational method of treatment was ligation of the first part.

2. The anomalous position of the subclavian vein, which was found above the artery throughout its whole course: Owing to this position of the vein, it was torn while endeavoring to retract it downward so as to reach the artery external to the internal jugular. As a result of this accident a considerable amount of time was consumed before the hemorrhage could be controlled by lateral ligation of the vein.

3. The anomalous origin of the right subclavian and the unusual depth of this vessel were for a time very confusing.

4. The possibility of having to resect the clavicle was considered before the operation. Dr. Halstead had determined to ligate the vessel without, if possible. He now considered it a necessary step and strongly recommends preliminary resection of the clavicle and a portion of the sternum in all cases. In his opinion it makes very little difference whether the portion of the clavicle which is resected is restored or not. In the case just reported the patient had an almost perfect clavicle at the end of six weeks although the inner third, together with the upper end of the sternum, had been removed.

5. The ligatures employed in this case were of formaldehyde catgut. The suggestion of Souchon, of applying two or three non-contiguous absorbable ligatures, should be followed in all cases. The ordinary surgeon's knot is all that is required. The ligatures should be drawn sufficiently tight to occlude the vessel, which can be determined by cessation of pulsation in the aneurysm, and not tight enough to rupture the arterial wall.

Probably the most important factor in securing favorable results in these cases is the preservation of an aseptic condition of the wound.

7. As regards the results so far obtained in the ligation of the first portion of the right subclavian, this case is, he believes, the second on record where the patient survived the operation.

ARTIFICIAL ANUS CLOSED BY SENN'S METHOD.

Dr. Halstead also reported and exhibited a patient operated on by him in September, 1899, for carcinoma of the rectum. Preliminary to the resection of the rectum he established a left inguinal anus, in order to deflect the flow of fecal matter from the rectum until the operation wound had healed. After that was accomplished, and as there was no evidence of return of the disease, the patient was anxious to have the fecal fistula closed. This was done Jan. 12, 1900, by the method advocated by Dr. Senn. After preparing the patient by washing out the colon, the abdominal wall was cleaned as well as possible. A circular incision was then made through the skin around the fistula. The skin edge was turned in, the fistula temporarily closed by interrupted silk sutures placed very close together so as to prevent any leakage of the contents of the gut. After this the field of operation was again prepared in the manner usually employed in cases where the abdominal cavity is to be opened. The gut was then completely freed from its attachments, the abdominal cavity freely opened and the loop of gut, in which the fistula had existed, withdrawn from the abdomen. The preliminary interrupted sutures were buried by interrupted Lembert sutures of catgut. After washing the loop of gut exposed during the operation, with sterile water, it was dropped back into the abdominal cavity and the wound closed without drainage, by means of through-and-through sutures of silkworm gut. No infection occurred, the [illegible] the patient left [illegible] on the [illegible] day after the operation.

[illegible] EXTERNAL SEMILUNAR FIBROCARTILAGE OF RIGHT KNEE; REMOVAL OF CARTILAGE.

[illegible] reported the case. J. M. D., a male, aged [illegible] years, [illegible] on the outer and [illegible] of the right knee. [illegible] immediately became greatly swollen and [illegible] painful. These symptoms lasted for a month and then gradually subsided. The knee, however, never fully regained its normal condition. About one year after receiving this injury, while turning suddenly on the right leg, the patient felt a sensation as if something had given way in the joint. The knee again became swollen, painful, and remained so for several days. Since that time the same symptoms have frequently recurred, always after twisting the knee and usually after turning about suddenly. At times he could feel a small body projecting from the joint just external to the ligamentum patellæ, which would disappear with a click under pressure. The joint never became locked at any time. The knee appeared slightly swollen, measuring 1½ cm. more than the joint on the opposite side. A small quantity of fluid was detected on palpation. While the joint was extended, a defect could be felt just above the outer tuberosity of the tibia. Manipulation carried still further, particularly inward rotation of the tibia with the leg semiflexed, revealed a movable body occupying a position corresponding to the depression just described. There was considerable pain on pressure over this point at all times, and marked relaxation of the ligaments of the joint, permitting of an abnormal degree of lateral movement at the knee. Complete extension was impossible, even when considerable force was employed, and some atrophy of the thigh muscles was apparent.

Treatment.—Operation was done Oct. 24, 1899. After the usual antiseptic preparation, the knee-joint was opened by a longitudinal incision along the outer border of the patellar tendon. On opening the joint a considerable quantity of fluid—four to six ounces—escaped. Exploration revealed a piece of loose cartilaginous tissue corresponding in shape to the anterolateral two-thirds of the external semilunar fibrocartilage. A defect identical in shape with the detached portion was found in the fibrocartilage. After removal of the cartilage, the wound was closed by uniting the capsule and fascia with catgut and the skin with a subcutaneous silkworm gut suture. After the usual dressing was applied, the joint was immobilized by placing it in a plaster cast. One week later the wound was dressed and the suture removed. After this massage and active and passive movements were employed until function was completely restored.

The symptoms produced by dislocation of the semilunar cartilages are usually so characteristic that a diagnosis can be made at once. They are:

1. Locking of the joint in a semiflexed position. This may or may not occur when the cartilage is first displaced. It is caused by the cartilage becoming "nipped" between the articular ends of the tibia and femur in such a way that complete extension can not be made.

2. This condition of locking of the joint is associated with severe pain and rapid swelling of the joint, which are greatly relieved by reduction of the dislocated cartilage. Reduction may take place spontaneously or as a result of manipulation.

3. These attacks are always followed by a more or less acute inflammation of the joint capsule, with an effusion into the joint which may last for several weeks.

4. On examining the joint a deficiency may be found corresponding to the position of the anterior margin of the dislocated cartilage. This defect is frequently found for the reason that displacement of the cartilage inward is the rule. In a few cases the cartilage may be found projecting from the joint.

5. In recurring dislocations the leg can not, as a rule, be completely extended even under anesthesia. There is also found, in these cases, great relaxation of the ligaments, which permits of considerable lateral movement of the joint. In the case reported this was quite noticeable, as was also the increased length of the patellar ligament.

The first mentioned symptoms, particularly the locking of the joint and the acute synovitis following, may occur in any case of a movable body in the joint. The only positive differential point between joint-rice and detached semilunar fibrocartilage is to find the deficiency spoken of on palpation, or a body which in shape corresponds to the fibrocartilage. Again, it may be mentioned that abnormal folds of the ligamentum mucosæ or pedunculated bodies drawn into the joint may give rise to identical symptoms and can not be differentiated from the condition under consideration until the joint has been opened.

The treatment of dislocations of the semilunar cartilages can best be considered under two heads: 1. The treatment of those seen immediately after the displacement has occurred. 2. The treatment of chronic or recurring displacements. In the first class, when the patient is seen immediately after the accident, replacement of the cartilage should always be attempted. This can usually be accomplished. When it is replaced the joint should be immobilized and thus retained for two or three weeks. Following this, massage should be employed until the joint regains its normal state. In the second class, we have a great variety of methods of treatment. Many consider that these cases can be best treated by the use of a supporting apparatus to the joint; others recommend rest and massage, with subsequent artificial support of the joint by a mechanical apparatus. Without doubt, an apparatus, such as Shaffer recommends, that will prevent rotation of the tibia, will tend to prevent recurrence of the dislocation, but it is a question whether, in chronic cases, a fixation of the cartilage ever occurs under this treatment. The chief objection to an artificial support to the joint is that with it the relaxed ligaments seldom regain their normal tone. In these cases massage and rest are valuable adjuncts tending to restore tone to the ligaments, but can not affect fixation of the cartilage.

The rational treatment in all cases, when immobilization has failed, and in recurring dislocations, is to open the joint and either suture the cartilage in place or remove it, as is indicated in the individual case. In old cases, where the cartilage is bruised and inflamed, it is always best to remove it. In the more recent cases, when the cartilage is in a relatively normal condition, an attempt to suture it in place may be tried. No permanent disability results from the removal of one of these cartilages. After the operative treatment has been employed, it should always be remembered that the joint ligaments should be restored as far as possible to their normal state, by massage. In this connection may be mentioned the suggestion of Bennett, that strengthening of the tensor vaginæ femoris and the gluteus maximus is indicated on account of their connetion with the iliotibial band, which is one of the chief agents in preserving the normal tension of the capsule of the knee-joint.

CASE OF COMPLETE RUPTURE OF QUADRICEPS EXTENSOR TENDON TREATED BY SUTURE OF TENDON.

Dr. A. E. Halstead and **Dr. J. Bourke** reported, jointly, this case. M. W., aged 50, a shoemaker by trade, was admitted to the Cook County Hospital, Jan. 1, 1900. On the day before admission he had, while walking rapidly, tripped on the sidewalk, and fallen heavily on the left knee. Immediately after he felt a severe pain in the knee, and was unable to stand on the left leg.

On examination, after his admission, the knee was found greatly swollen and very painful. The skin over it and from the middle of the leg to the middle of the thigh on the flexor surface, was discolored, from extensive ecchymosis. On further examination a complete transverse rupture of the tendon of the quadriceps extensor was found. The appearance of the limb was characteristic; the greatly swollen knee with a depression above the patella, and the fingers pressed into this depression could easily outline the condyles of the femur and the anterior surface of the lower end of the shaft. The patella was found of normal size and outline and freely movable. The retracted proximal end of the tendon could be located 2¾ inches above its upper border. There was complete inability to extend the leg.

Treatment.—The leg was elevated and an ice-bag applied to the knee. The swelling of the knee rapidly subsided and the pain disappeared. On the eighth day after the injury, after the usual preparation of the leg, the knee-joint was opened by a longitudinal incision extending from the middle of the patella to 3¼ inches above its upper border. On opening the joint there was found considerable clotted blood. This was removed by washing out the joint with a normal salt solution. The quadriceps tendon was found completely divided about three-quarters of an inch above the patella, with the proximal end retracted 2½ inches. The lower uneven border of the tendon was trimmed off and the ends united by three mattress sutures of fine silver wire. The skin wound was closed by a subcutaneous suture of silkworm gut, and the leg dressed in complete extension and incased in a plaster-of-Paris cast.

No elevation of temperature nor rise of pulse followed the operation. The cast was taken off on the tenth day and the skin suture removed. The wound had healed by primary union. Massage and passive and active movements of the joint were immediately commenced and have been continued up to the present time. The patient can completely extend the limb and walk without any discomfort.

Rupture of the quadriceps tendon although not infrequent, is still of interest. Many of the cases reported in the literature were at first mistaken for and treated as fractures of the patella. In this case the patient was sent to the hospital with that diagnosis. It is difficult to see how the mistake could be made in a typical case, as the findings are characteristic: The hollow above the patella, which allows of direct palpation of the condyles and anterior surface of the femur, with a normal patella and complete loss of power of extension of the leg.

In those rare cases where there are abnormal cartilaginous or bony growths in the ruptured ligament, as in the cases reported by Wunsch and Kohl, these deposits might easily be mistaken for the upper fragment of a fractured patella. Measurements of the patella on the injured side and comparison of the same with those of the opposite patella will show the nature of the injury.

The mechanism of rupture of the quadriceps tendon is a subject of considerable interest. In some cases the tendon has been found to be the seat of pathologic changes which were sufficient to explain why only a comparatively small amount of force was required to cause a complete rupture. In this connection may be mentioned the cases before referred to of Wunsch and Kohl, in which bony and cartilaginous growths were found in the tendon at the point of rupture. As these deposits were bilateral and situated some distance above the patella, there seems to be no doubt that they weakened the tendons and predisposed to a rupture. In most cases there has been no variation from the normal noted in these ruptured tendons. We must therefore assume that in the case of a normal tendon the tear occurs while the limb is in a peculiar position in which the strain on the tendon is greatly in excess of what it is ordinarily subjected to.

As regards the manner in which these injuries occur, Maydl, after a study of sixty-one cases collected from the literature, in fifty of which the mechanism was noted, concludes that there is no evidence to support the hypothesis that the rupture occurs in a "stretched" muscle through the action of antagonistic muscles. He considers that in the majority of cases rupture occurs in an attempt to prevent a threatened fall, as when one trips while running and suddenly throws the body backward in order to check the forward movement of the body. In rare cases a sudden powerful contraction of the quadriceps extensor, as in jumping, may cause a rupture of the tendon. In other cases, sudden sharp abduction of the leg while it is partially extended with the quadriceps contracted may cause a laceration which begins at the outer border and extends toward the inner. In these cases the external lateral and the anterior crucial ligaments are also lacerated.

In all cases when complete rupture of the tendon has occurred, opening of the joint, removal of the clots and suture of the tendon is indicated. In case the environment of the patient is such that there would be great risk of infection in opening the joint, or when for any other reason an operation is contraindicated, the leg should be depressed in complete extension for from four to six weeks. In addition, an effort should be made to approximate the ends of the tendon by use of adhesive strips, or by a figure-of-eight bandage. Later, massage and passive movements of the joint should be employed.

Dr. E. J. Senn reported two cases—one, a case of nerve suture one year after injury, the other a case of subtrochanteric amputation of the thigh for diffuse carcinoma. A report of these two cases will appear in a subsequent issue of THE JOURNAL.

RADICAL MASTOID OPERATION.

Dr. J. Holinger showed three patients on whom he had performed a radical mastoid operation, done for chronic suppuration of the middle ear, which did not yield to any other treatment.

The first patient was a man of 21, operated on four years ago last April. The left ear showed the typical appearance of a dry cholesteatoma. The greatest part of the membrana tympani was missing, and the middle ear was perfectly epidermosed and dry. There was absolutely no reason for interference. The right was the one he operated on. An old chronic fetid discharge, which would not yield to the most careful treatment for eight weeks, was the indication for the operation. The roof of the attic and antrum was found covered with flabby granulations; the rest of the bone of the mastoid process was found as hard as ebony. The hammer and the incus were removed, and three weeks after the first operation under chloroform, the whole cavity, which was granulating nicely, was lined with epidermis. This procedure was done according to Seiffert's method, by scraping off the epidermis from the leg and smearing the mass over the whole wound. A skin flap was taken from the rear margin of the wound for the purpose of covering the posterior entrance of the opening. The result, as observed in examining the patients, was a large cavity comprising the middle ear, antrum, mastoid cells and external meatus, which is open behind the auricle and through the external meatus. The Eustachian tube is plainly visible in depth and causes a little annoyance through its secretions whenever the patient catches cold. The rest of the cavity is dry.

Cases 2 and 3 were similar in many respects to Case 1, the technique of the operation being practically the same, with slight modifications.

AUTOMATIC VALVE CLIP.

Dr. J. Rawson Pennington exhibited inflating rectal specula with detachable tubes, and gave a brief description of them. He also called attention to and exhibited a mechanical device known as an automatic valve clip, a description and cut of which appeared in THE JOURNAL of February 3.

Chicago Ophthalmological and Otological Society.

Jan. 9, 1900.

INTERSTITIAL KERATITIS.

Dr. William E. Gamble presented a patient illustrating this condition, a man, 43 years of age, who had previously had no trouble with his eyes, excepting twelve years ago, when he had "sore eyes" lasting about nine months; he was almost blind during that time; since then his eyesight has been good until the onset of the present trouble, which began about nine months ago. He has never had syphilis, but had muscular rheumatism seven years ago, and was never without gonorrhea when younger. Two children were born before his birth and both died in infancy. A sister younger than himself is healthy and never had any trouble with her eyes.

The present trouble with the right eye is interstitial keratitis. With the aid of the corneal loup the collapsed ciliary vessels were readily seen in the left eye, clearing up the nature of the disease that attacked the eye twelve years ago. The Doctor could not make out old vessels in the right eye, just recovering from an attack of interstitial keratitis. An examination of the fundus of this eye could not yet be made on account of the opacity still remaining. The fundus of the left eye showed a piling of pigment around the nerve head, temporal side, in extent much like the myopic crescent, with this difference, that the pigment seemed "piled up" and the outline was more ragged. The patient also showed a small amount of hypermetropia, but no other fundus changes in the left eye to suggest inherited syphilis, and no other inherited syphilitic facies were seen. The right cornea, when first seen was opaque in the most part, the whitish maculæ giving the appearance of connective tissue deposit, so much so that there was doubt as to the clearing up of the cornea.

The history of the case, as well as the present findings, fairly [illegible] a case of second attack of interstitial keratitis in the right eye, an interval of twelve years existing between the two attacks.

Dr. Casey Wood said that some ten years ago he made a study of cases of interstitial keratitis at the Royal London Ophthalmic Hospital and that from nearly one hundred seen there he concluded that the disease usually occurs in children or in early adult life, and that one attack follows the other more or less speedily. Instances are rare in which the disease has developed after an interval of a number of years, in the second eye, or where a second attack followed in a brief period in the same eye. He believes the Hirschberg vessels can be more plainly seen when the pupil is thoroughly dilated, and has found the corneal microscope of Dr. Howe an extremely useful instrument in such cases, even better, perhaps, than the Coddington lens.

Dr. John F. Oaks referred to the case as being due possibly to a specific cause, although there are other causes. Many cases of parenchymatous keratitis have congenital syphilis as their etiology, although in many instances such a history is denied.

Dr. W. F. Gamble was surprised to see the small percentage of cases of interstitial keratitis ascribed to inherited syphilis. Michel says about 65 per cent. are due to inherited lues, while another author puts the percentage at 55. It is not always easy to ascertain the cause; his experience teaches him that a large majoriy of the cases are due to inherited syphilis. He thinks 90 per cent. are due to this.

Dr. C. P. Pinckard said that his experience had been similar to that of Dr. Wood. In his opinion less than 50 per cent. are due to syphilis, or, to put it another way, less than 50 per cent. could be proved to be syphilitic. A point in favor of the non-syphilitic origin of the disease is that many patients are but little benefited by antisyphilitic treatment. As a general proposition, his experience would lead him to state that internal medication is of little or no value, either in shortening the course of the disease or influencing the sequelæ. Local treatment is of the greatest possible value.

QUININ AMBLYOPIA.

Dr. Oscar Dodd showed a patient with quinin amblyopia, admitted to the hospital two weeks ago. Four or five months ago the patient was not feeling well and a friend advised him to take some quinin with whisky. He bought twenty-five cents worth of the drug and a quart of whisky, put all of the former in a glass of the latter, and drank the whole of it at once. The result was that he slept for twenty-six hours, and when he awoke was unable to see. This condition lasted for two days, at the end of which time he was able to distinguish shadows. At the end of three weeks he was able to walk alone on the street. It was a little difficult to get a clear history as the patient does not speak English. At present his vision is 20/30 in the right eye, and 20/20 in the left. The fields are very limited. Great paleness of the discs is noticed on examination, presenting the appearance of optic atrophy. He had a severe tinnitus. He can hear the tick of a watch at twelve inches, at present. Tests with tuning-forks do not show affection of the auditory nerves. The case was interesting as showing the typical appearance which is described by a number of different men as quinin amblyopia.

There was only one point in the pathology which the Doctor desired to refer to. Holden has published an article in which he details the results of his investigations by the use of quinin in dogs. He says the pathology of amblyopia is this: A destruction of the ganglion cells in the retina, due to the ischemia from contraction of the blood-vessels from the effect of the quinin. At first there is a contraction of the blood-vessels, producing a severe ischemia, and this brings about the destruction of the ganglion cells in the retina, followed by degeneration of the optic nerve fibers. The point he desired explained was why the macular region should escape when all of the rest of the fibers are destroyed.

Dr. C. P. Pinckard asked as to the condition of the knee-jerks, and whether there were any symptoms of locomotor ataxia.

Dr. O. Dodd replied that the man's gait was undoubtedly due to the restricted fields; that as he walks along he looks down and watches for inequalities in the walk. He walks right, but if there are any inequalities in the walk he does not see them.

Dr. Casey Wood stated that in several particulars the very interesting and unusual case exhibited by Dr. Dodd did not present the typical picture of quinin amblyopia. In the first place, the fields for white and colors are concentrically and regularly contracted when they are usually irregular. It must be remembered, also, that even in those cases where central vision is not greatly impaired the color fields are very greatly restricted. In the great majority of cases of quinin amblyopia, moreover, the vessels are reduced to mere threads, so that it is difficult to see them without the most careful search. In this patient the veins are very well shown, although the arteries are quite small. However, the patient has the typical white disc seen in cases of quinin amblyopia and presents such a consistent history of quinin poisoning with sudden and complete blindness in one of previous good vision, that there seems no reasonable doubt of the true character of the disease. As to the pathology of this form of intoxication, Holden, de Schweinitz, Brunner and others have made observations on dogs, and to them we are indebted for what we now know regarding the causation of the signs of the poisoning as it affects the eye. In an editorial by de Schweinitz, in the *Ophthalmic Record*, for December, 1899, he draws attention to the experiments of de Bono (*Archivio di Ottalmolgia*, 1894 and 1899), who sums up the various arguments for and against the central and peripheral theories in quinin amblyopia, and presents the following in their order, as the probable events in most cases of ocular cinchonism: Paralysis of the neuro-epithelium of the retina, manifest two hours after taking the poison. Then follows degeneration of the ganglion cells and nerve-fibers. This sets in on the third day and gradually increases. Lastly, degeneration of the optic fibers sets in as early as the seventeenth day, resulting in complete atrophy, not only of the nerves themselves, but of the optic tract. De Bono believes that the thrombi found in the central veins may account for the complete blindness noticed in many of these patients.

Dr. O. Dodd, in closing the discussion, said that de Schweinitz, in the new book of Norris and Oliver, agrees with Holden that the primary effect is on the ganglion cells in the retina, and that the optic atrophy is a subsequent effect. He said that he was undoubtedly mistaken in regard to it being an embolism of the central artery. In regard to the treatment, little has been done. In the history, the patient's word has to be taken as to whether or not his sight was good before this, although it bears out the history of similar cases which have been reported. There is such a wide variation in the symptoms and conditions in these cases that no one type can certainly be set down as being always the result of quinin amblyopia.

California Academy of Medicine.

January Meeting Held in San Francisco.

ULCER OF STOMACH.

Dr. Thos. W. Huntington presented a paper reporting some unusual conditions in stomach surgery. The first patient had had poor health for some years prior to 1896, lost weight, had nausea, vomiting, etc. A provisional diagnosis of cancer of the pylorus was made. There was a resistant mass in the right epigastrium, over the pylorus, and no hydrochloric acid in the stomach contents. The stomach was dilated.

On operation, the pylorus was found enlarged and thickened. It was excised and 2½ inches of the stomach removed and the upper end of the duodenum attached to the anterior surface of the stomach. The button method was employed. More than two years after the operation the patient was quite well and had gained greatly in weight, and no gastric nor enteric symptoms ever appeared.

The specimen showed no malignancy. Two deep, active, perforating ulcers were found in the mucous surface of the pylorus.

The second case reported occurred in a man of 42, with negative family history. October 23 he had a severe attack of diarrhea, coming on suddenly in the early morning, and he had to quit work. There was a history of obscure enteric trouble. Pain radiating from the umbilicus was complained of. On the following morning he suddenly fell into profound collapse, with temperature 95.5 F. and pulse 40. There was pain over the epigastrium and over the appendix. Perforating ulcer of the stomach was thought of, but the symptoms pointed more strongly to explosion of the appendix.

Operation was done for appendicitis. Deposits of lymph were found on the cecum and colon, with evident chronic appendicitis, no rupture nor gangrene. The appendix was removed. The lymph patches followed up along the colon, and became more numerous as they ascended. The gall-bladder was healthy. A median incision above the umbilicus disclosed a round perforation on the anterior wall of the stomach. A small amount of stomach contents had escaped. The ulcer was infolded, the perforation closed, the abdominal cavity freely flushed, and a Mikulicz bag inserted through the median incision. The drain was removed on the sixth day and the wound healed readily by granulation. A culture of lymph was taken from the spot first seen, and yielded a negative result. In both cases an accurate and timely diagnosis of ulcer of the stomach was extremely difficult.

DR. DUDLEY TAIT pointed out that it has been indisputably demonstrated that the stomach may be, indeed, a source of danger, and that when it is thoroughly cleaned and kept clean, septic cases do very much better than when this is not attended to.

DR. BEVERLEY MACMONAGLE complimented the doctor in that, in the second case, he persisted in looking for the stomach lesion, when so few symptoms existed that would attract attention thereto after finding the appendiceal lesion. He recalled an operation for the removal of the ovaries and tubes, but a short time ago, which was well and cleanly done. Four days later, however, the patient died of septic peritonitis, and post-mortem revealed the fact that the cause of the septic peritonitis was a perforating ulcer of the stomach. The patient had some stomach trouble, but not more severe than an ordinary dyspepsia, and it had not attracted any attention. In the first case the result obtained was excellent. He said he would excise the ulcers, however, rather than remove the pylorus, if it were possible to determine the diagnosis. He asked Dr. Huntington why the duodenum was attached to the anterior rather than to the posterior wall of the stomach.

DR. WALLACE I. TERRY said, in regard to the sterility of the cultures taken from the sample of lymph, that the cause may have been that the culture-medium was bad. He has had some trouble lately at the City and County Hospital from this cause. Poor culture-medium failed to give any indication when he knew that the sample must be septic. Changing the medium gave a far different result.

DR. T. W. HUNTINGTON said that he was not familiar enough with the stomach and stomach contents to say whether or not the stomach secretions would have any antiseptic properties of value. He mentioned the fact to an excellent pathologist in the city, and he said that he thought it might have been due to the antiseptic action of the fluids mentioned. We have to choose between the belief that the fluid escaping from the perforation was sterile and a belief that the phagocytic action of the leucocytes in the peritoneal cavity was sufficient to preserve the abdomen free from infectious inflammation. For certainly there was no such complication following the operation.

DR. DUDLEY TAIT said that we know that inflammatory trouble of the appendix is often accompanied by some involvement of the intestinal tract higher up, and it seems reasonable to assume that the same organism produces both conditions, though it may be that one is the follower of the other. We frequently find sterile lymph in hernia sacs. This is the rule, in fact, unless there be an actual perforation. The gut may be almost or quite gangrenous, but if there is no perforation, the lymph will probably be sterile.

DR. G. CAGLIERI asked whether there were any signs of general infection, such as temperature, etc.

DR. HUNTINGTON said the temperature was 95.5 F. at the time of the shock, but rose to 99 at the time he went into the operating-room. In regard to Dr. Tait's remark, we certainly have much evidence of the fact that the colon bacillus is quite able to pass into the peritoneal cavity or into a hernia sac through the gut wall.

DR. HAROLD BRUNN said that it was quite possible for the stomach contents to be sterile, as the man had not taken food for some hours, owing to the large quantity of hydrochloric acid which the stomach secretes, the secretions may be assumed to be somewhat antiseptic in nature.

DR. T. W. HUNTINGTON said, in reply to the question of Dr. MacMonagle, that excision of the pylorus need not have been done in the first case, could the diagnosis have been made with certainty. Possibly pyloroplasty would have been better. At the time he could not be sure and concluded that removal of the suspected area was more desirable. The pylorus was very greatly thickened, was hard and brawny in feeling. It would have been very difficult to stretch it by dilatation. He reported the case to show that pyloroplasty may be followed by perfect functional activity. In regard to the place of attaching the duodenum, it was simply a matter of convenience. The stomach had enlarged in such a way as to bring its anterior wall almost in contact with the cut end of the duodenum, and it was not difficult to attach them. It would, however, have been a matter of some difficulty to take out a further portion of the stomach and attach the duodenum in the customary place.

DR. MACMONAGLE said that if the diagnosis of ulceration could not have been made, and the possibility of cancer was a formidable one, there can be no doubt that the proper operation was performed. He thought that, as the stomach was so enlarged, it might have been better to take out a portion, excise the ulcers only, and thus not run the danger of the enlarged stomach-fold acting as a flap and covering the opening into the duodenum.

DR. HUNTINGTON said he should not have cared to infold the stomach, for the reason that it would have been impossible to sufficiently dilate the pylorus. He has found that it requires a great deal of stretching, in the operation of Loreta, to secure proper dilatation. Out of four such operations that he has performed, he has had to make a second operation, as the first stretching was insufficient. He did not feel like taking out a portion of the stomach, as he had already performed a considerable operation and did not feel justified in prolonging it. He thought and still thinks that in these cases, when the stomach regains its proper function, it also regains, to a great extent, its normal relations. The result could not have been better in this case, for the man eats anything and is perfectly well. He has not and never has had any stomach symptoms since.

DR. TAIT asked Dr. Huntington whether he still uses the Loreta operation, as it seems to have been abandoned by many surgeons.

DR. HUNTINGTON answered that he does make use of it in certain cases, and thinks it an excellent one. He has operated on four patients by this method. In two, a second operation was required, for the first one had been sufficiently energetic. In the others he stretched enough at the first operation and no further interference was necessary. It is successful when the stretching is carried out to the proper point. It must, however, be thorough, or it will have to be repeated, as was the case in the first two operations he performed.

DR. TAIT—Would you also dilate for stricture of the rectum?

DR. HUNTINGTON—I do, and with perfectly satisfactory results; or rather, I divulse. A good strong divulser must be used and the operation carried out far enough.

HERNIA COMPLICATED WITH APPENDICITIS

DR. DUDLEY TAIT presented a paper on this subject. The patient was a barkeeper with a previous history of no importance. On December 30 he tripped and fell on the stairs. There was immediate and violent pain in the right groin, and he noticed that an old oblique inguinal hernia had escaped into the scrotum and could not be reduced. He attended to his work all day, had pain all night, vomited at 2 a.m.; had an abundant stool at 8 a.m., tried to go to work that morning but had to go to bed. He ate a light breakfast and lunch, which caused no nausea. At 2 p.m. the hernia was about the size of the fist, movable, tense, painful to the touch, not tympanitic, and the overlying skin was not reddened. There was no nausea nor distension of the abdomen. Slight attempts at taxis caused intense pain. The pulse was 110, temperature 38.8 F., respirations 30.

A high herniotomy incision was made, and an irreducible but apparently non-strangulated hernia found, omental, with neither liquid nor gut in the sac. Concluding that this simple condition could not be the cause of the grave clinical symptoms, the wound was enlarged by an incision extending 5 cm. upward, through the entire abdominal wall. Immediately about 50 c.c. of a dark, foul liquid escaped. A gangrenous, perforated appendix was removed in its entirety.

Dr. Tait desired to accentuate this fact on account of the practice of many surgeons in ligating the appendix. Complete removal should invariably be performed. No adhesions were present. The adjacent bowel was dark red in color, and was irrigated and carefully cleansed. Drainage was by means of two rubber tubes 1 cm. in diameter, one placed near the stump and the other dipping into the pelvis. The present condition, twenty-four days after operation, is good. There is a fistulous tract 6 cm. in depth, admitting a drainage-tube .25 cm. in diameter, also a discharge of about 2 c.c. of pus daily but no infection at the site of the herniotomy.

Dr. B. MacMonagle emphasized one point brought out, that we should cut out and not cut off the appendix. The method he uses is to raise the appendix, hold it with the thumb and forefinger and then cut through the base with scissors, leaving a hole in the gut, which is then closed. He has had no reason to regret this modification of the operation. Formerly he simply ligated, but has known infection to travel around the suture, with an unpleasant result. In the matter of drainage he holds, with Dr. Tait, that it is often difficult to drain with gauze. If one must drain, in any event, the drainage should be liberal. The greatest success comes from making the drainage at the lowest point. He therefore, often makes an opening, and a good liberal one, in the loin, and passes the gauze through it. It is easier to pass the gauze if it be first well impregnated with the Credé ointment. Another mistake sometimes made is to close the wound too tightly around the drain. If gauze be used and the wound is closed tightly about the gauze, secreted fluids can not be readily liberated. The mistake of closing the wound and removing the drainage too soon is not infrequently made. He has seen a number of cases in which there was no longer any apparent need of the drainage; a day or two later considerable discharge would be found to occur. In these premature removal of the drainage would have produced unpleasant consequences.

Dr. Huntington said that no one can be certain of the best method of drainage, or the best method of dealing with suppuration. He has tried large and small rubber tubes; has used gauze and the Mikulicz bag; and with all and every method of drainage thus far suggested some cases do well and others do badly. There is more in the nature of the infection, the cause of the disease, the condition of the patient, his ability to with stand disease processes, etc., than in the kind or method of drainage employed. Certainly, if one does drain, he should drain thoroughly. He frequently makes the counter-incision in the loin and drains through that, and makes a liberal incision. In regard to dealing with the appendix, he has seen no reason to discontinue the method of tying it off in clean cases; in unclean ones it is certainly better to entirely cut it out. He has a dislike however, to opening into the infected bowel when it is not necessary. If the communication between the clean peritoneum and the unclean bowel can be maintained closed, he much prefers it, and he has had no reason to modify his views, for he knows of no infection ever occurring. He does not employ this method, however, when infection from perforation has occurred: then he entirely excises the appendix.

EXTENSIVE LACERATION OF CERVIX AND PERFORATION OF UTERUS.

Dr. Beverly MacMonagle presented two specimens and gave their histories, one of which was as follows: A patient, 22 years old, married four years, gave birth to a male child nine months and nine days after marriage. Subsequently, between November, 1896, and June, 1899, she had three miscarriages. She was pregnant about three months each time. She said they were natural and that she resumed her duties, in each case, three days after the miscarriage. She was generally regular, but missed her period in November, 1899, and consulted her physician, who said that she was pregnant and had been for six months. The abdomen increased in size and she felt pulsation low down on the right side; her breasts enlarged. December 10 she commenced to flow freely and intense cramping pains in the right iliac region. The vagina was then packed and medicine given to relieve the pain. Premature birth was expected. At 10 a.m. the patient was given an anesthetic by the physician, who wished to dilate, and the Barnes bag and Goodell dilator were used repeatedly, but unsuccessfully. Hemorrhage was profuse and continuous. Opiates were given till the next day at 8 p.m. when attempted dilation was again unsuccessful. The Barnes bag was inserted at midnight December 12, and removed at 10 a. m. December 13. An anesthetic was given at noon the 13th and continued till 8 p.m. The physicians were then discouraged; the hemorrhage continued and the bad odor was increasing.

At midnight she was placed on a train and sent to this city, reaching here the next evening at 8 o'clock. The pulse was small and weak; respiration 28, temperature 100 F., with severe pain on the right side. There was vomiting and expulsion of gas by the mouth. She was unable to void urine, and her abdomen was much distended. The discharge was profuse, containing streptococci. The morning of December 15, the pulse was 130, temperature 103.

At this time I first saw the patient. It was decided to anesthetize, examine and operate if necessary. The first thing discovered was laceration on the left side of the uterus, extending from within the external up into the broad ligament; it would admit three fingers. Examination through the abdomen was impossible on account of the extreme distension. The fundus could only be examined by fixing the uterus with a tenaculum. It was then found that there was a perforation in the fundus. An elastic mass could be made out over the right Fallopian tube, extending up to the appendix. Blood and what appeared to be decidual membrane came from the cervix. The torn and infected uterus was removed by the vagina, and it was then found that the elastic mass on the right side was connected with the Fallopian tube. (The specimen shown was evidently a tubal pregnancy.) The patient slowly recovered and is now well and about.

CRUSHING INJURY OF HUMERUS AND ELBOW.

Dr. G. Caglieri exhibited, among other specimens of interest, the upper portion of the humerus and the elbow of a man who had had his arm injured by a locomotive. The arm had been frightfully crushed. It was cleansed and the fragments wired, but bone disease progressed and the arm had to be removed in a few weeks, by disarticulation at the shoulder. The destruction of bone tissue was very great, and extended all the way up to the neck of the humerus. The lower portion of the humerus showed the very unusual intra-articular fracture without deformity.

Detroit Medical and Library Association.

Jan. 15, 1900.

DIAGNOSIS OF CHRONIC CATARRH OF STOMACH.

Dr. Chas. D. Aaron read a paper on the above subject. He said that chronic catarrh of the stomach is a frequent disease and very difficult to diagnose. Most physicians, he said, seem to think that a diagnosis can easily be made from subjective symptoms alone, but this disease has symptoms in common with several gastric neuroses with erosion, with ulcer and with carcinoma. Even if a diagnosis of chronic catarrh of the stomach is positively made by exclusion, there remains to be determined a special form of it, there being four kinds, viz.: simple, acid, mucous, and atrophic, which can not be differentiated without a repeated microscopic and chemical examination of the stomach contents after a test breakfast. He quoted Leube as saying: "We may content ourselves with the diagnosis of a catarrh of the stomach when we can exclude with some certainty other chronic difficulties which are attended by gastric disturbances." The Doctor thought that such a diagnosis would not be sufficient. The most experienced physician, he said, might easily be deceived. By chronic catarrh we understand an inflammation of the mucous membrane of the stomach, the membrane being the primary seat of the disease, muscular secondary. There are two kinds of chronic catarrh, parenchymatous and interstitial. We have the degeneration of the glandular cells combined with connective tissue proliferation, which destroys the function of the cells and lessens the secretion of the gastric juice. When masses of glairy mucus are found in the stomach contents, catarrh is present; when mucus is absent, there is not likely to be any inflammation. Because of these, the ingesta are insufficiently digested and undergo fermentation and putrefaction. An analysis of the stomach contents will determine whether the mobility of the stomach is involved or not. This, along with subjective symptoms, gives us valuable data. The lessened secretion of hydrochloric acid is not typical of catarrh, for this may occur also in necrosis, but the presence of increased quantities of mucus as well as a reduction of the secretion of pepsin, and especially of rennet indicates chronic catarrh. In simple chronic catarrh, pepsin and rennet are decreased; free hydrochloric acid is decreased or absent, combined hydrochloric and erythrodextrin present. In chronic mucous catarrh, pepsin and rennet are absent, while the pro-enzymes, pepsinogen and rennet-zymogen are present; free hydrochloric acid is absent, also combined hydrochloric acid, very much thick glairy mucus is present. In chronic atrophic catarrh, the ferments, pepsin and rennet, the pepsinogen and rennet-zymogen are absent; free and combined hydrochloric acid also. Milk will not curdle in the stomach. In chronic acid catarrh, pepsin and rennet are present in larger quantities than normal; hydrochloric acid is increased; large quantities of mucus are present.

Louisville Society of Medicine.

January Meeting.

ELECTRICITY IN DISEASES OF WOMEN.

Dr. Richard T. Yoe presented a paper on this subject. It takes less time to treat a patient with the knife than with electricity; the fees for the later method are much less. The essayist detailed the anatomy of the internal generative organs, and said that to Apostoli is due the credit of improving this great therapeutic agent in its many details. To receive the best results there are several requisites; a good galvanometer is the first. As great care should be taken in the selection of the battery as the galvanometer; a good sound for intrauterine work should be selected, of any metal if the negative pole is used, otherwise it will corrode, the positive pole corroding all metals but platinum, gold and aluminum. The Apostoli clay pad or the Martin pad is to be preferred for the cutaneous pole; the connecting wires should be carefully taken care of and kept perfectly straight. Individual cases require different currents, but as a rule the negative pole is placed in the uterus, the positive pole on the abdomen. From 150 to 200 milliampéres are used; less than 100 is too weak. The current is allowed to flow from one to ten minutes, then, is gradually turned off. Among the pelvic disorders influenced by electricity are metritis, endometritis, dysmenorrhea, metrorrhagia, subinvolution, cellulitis, ovaritis, salpingitis, cancer and fibroid tumors. Electricity produces a form of interstitial massage, and causes better circulation and absorption of inflammatory material.

Dr. J. Rowan Morrison said that the subject is still under investigation, and electricity is not a panacea, but often a good remedy. In pelvic exudation and subinvolution of the uterus absorption is stimulated by the current, which acts similarly to the hot water douches in the same conditions.

Dr. Edw. Speidel, in one of the large clinics in New York, where much of this work is done, was told that the results had not been encouraging after a year's trial. Because of the necessity of having extensive apparatus for its proper administration, the treatments must be at the office, where the proper aseptic conditions are not possible to obtain before a pole is introduced into the uterus.

Dr. W. B. Gossett said that the profession should welcome anything that would lessen the unnecessary operative work on women. Often because of their dread of operative interference they do not consult physicians until much too late for any other treatment than operative. They should be educated to the fact that much can be done besides.

Dr. R. A. Bate indorsed the views expressed by the essayist, and said that any means that would cause less of the needless unsexing of women should be welcomed. With the use of ovarian extract many of the cases formerly considered operative can be relieved.

Dr. J. W. Guest had seen much more adhesion in those patients in whom electricity had been used than in those not so treated.

Dr. T. E. Converse had only seen one case so treated, but there were good results.

Dr. W. O. Green said that while electricity in the arts and sciences has taken enormous strides in the past two decades, in medicine it has not kept pace with the other branches. The reason for this is probably the fact that surgery has taken such enormous strides that it has outstripped electricity; and often the use of the knife is a so much shorter method that it is preferred by the patient. The text-books usually simply state that "electricity can be used," but give no description as to the details of the procedure. He said it was no uncommon occurrence to see the pseudo-electrician go about with what he is pleased to call his "pocket-battery," consisting of a small cigar box containing a coil resembling a spool of black sewing thread, two cords dignified as cables, and one cell. He suggested the following as the best appliance for scientific work. A battery, for galvanic current, of not less than forty cells, a current selector, rheostat and milliampéremeter. For the induction apparatus there should be coils of definite sized wire of definite length, definite number of winds and definite amount of resistance, each of which should be familiar to the operator. The primary coil should be in the same way with a rapid, slow and contact interrupter.

Dr. J. L. Johnson stated that the results in the use of electricity in the past had been disappointing. He did not see how the claim that new adhesions could be formed by its use could be substantiated, as it would have the effect of removing adhesions by absorption. In the treatment of fibroid tumors, electricity is fast becoming a back number. In endometritis of specific origin electricity would have no effect as a germicide, and it is his opinion that it should have no place in gynecology.

Dr. R. T. Yoe, in closing the discussion, said that men prominent in the profession in New York and elsewhere are still using electricity in their gynecologic practice, and they would not be if they did not get good results. A woman is always happy if she can be treated without the use of the knife.

Johns Hopkins Hospital Medical Society.

Baltimore, Md., February 5.

EMPYEMA OF ANTRUM

Dr. W. B. Platt exhibited an infant with chronic empyema of the antrum, existing since birth. There were fistulous openings discharging pus under the eye and in the mouth. Pus was also discharged from the naris. There was no specific history. He was inclined to think that there might have been infection, at birth, through the nostril. A tooth was drawn and a means of drainage thus effected, after which, with boric acid washings, the case improved.

INHALATION METHOD IN PULMONARY AFFECTIONS.

Dr. C. A. Penrose read a paper on "Treatment of Pulmonary Affections by the Inhalation Method." His results had been striking in catarrhal and pneumonic conditions, cases of many years standing being entirely relieved in a few weeks, after having been treated in vain by many physicians. He excludes internal treatment, so that the results appear to be referable solely to the local measures. He limits himself to no one antiseptic, using various agents, creosote compound, tincture of benzoin, etc. He has invented a tin inhaler for the poor to use at their homes, and he also employs the Burney-Yeo mask. With the antiseptic inhalations, he combines inhalations of oxygen. But this appears to possess antiseptic virtues also and is most efficient if given combined with moisture. The effects of this method of treatment in phthisical conditions has not yet been determined, but from the rapidity from which pus and other organisms disappear and lesions clear up, it is possible that similar influence may be exerted on the bacillus tuberculosis and its consequences.

FIBROID TUMOR OF THE UTERUS

Dr. Russell described a myomectomy for a fibroid tumor of the posterior part of the uterus. The patient was 24 years old, was pronounced pregnant by three physicians, and her appearance resembled that of a pregnant woman at seven months. A laparotomy was done and the tumor was dissected out. As the organ was still enlarged beyond the normal, a large piece of the healthy tissue was also removed, so as to bring it to something like normal size. Hemorrhage was profuse, but was controllable by mechanical means.

Dr. R. also spoke of the most recent and radical operation for carcinoma uteri. It is a vaginal hysterectomy and is applicable only to those who have borne children and have a large vagina. It involves a very wide dissection of the parts, including parts of the broad ligament, the mucous membrane and the upper part of the vagina, diseased glands, etc. He also referred to the possibility of artificial infection, sometimes seen at the site of an ulceration in the posterior cul-de-sac of the vagina as the result of wearing a pessary. In one case Dr. R. removed a small cancerous nodule in the lower part of the vagina in a woman who had an adenocarcinoma of the uterus. The histologic characters of the two growths were identical and the supposition was that some prick had been made with the knife or needle at the seat of the vaginal nodule.

Philadelphia Neurological Society.

Jan. 22, 1900.

CONTRACTURE OF HAND.

Dr. A. Ferree Witmer presented a case of extensive contracture of the hand following hemiplegia. At the onset of the hemiplegic attack, the patient was unconscious for three days. In the hand there was but little wasting, and he was able to move each finger easily. The sensation was normal but marked contracture existed, giving rise the so-called "claw hand."

Dr. Wm. G. Spiller said he saw the patient soon after the onset of the hemiplegia, and he was certain it was of organic origin.

NEUROTIC ATROPHY.

Dr. F. X. Dercum presented two cases of primary neurotic atrophy, the first in a man past middle life, who years previously suffered with pain in the right leg; and later, pain in the left; several years later, pain in the arms. Two years ago the gait became of a "stoppage" character. On one side, foot-drop was noticed. The knee-jerk was exaggerated. The foot was arched to a high degree. Evidences of the disease also existed in the upper extremity, and slight waist-drop was observed. As in the toes, there was a tendency toward flexion of the distal phalanges. There were no sensory changes.

TROPHIC CHANGES AND SUPRAORBITAL NERVE.

Dr. A. J. McArthur reported a case of trophic changes following injury of the supraorbital nerve. The patient was a young lady who, nine years ago, was struck on the head, above the ear, by a brick. Soon after the injury an area of anesthesia existed in the parts supplied by the nerve in this region. Trophic changes also occurred about the eye, and the brows and lashes both became white and have persisted. Over this area sweating never occurs, but does on the opposite side.

Dr. Wharton Sinkler thought that these symptoms might also be observed in certain cases of ophthalmic migraine.

PARESTHETIC MERALGIA

Dr. D. J. McArthur also presented a case of this combination, of five years' duration. The patient was past middle life The onset was marked by pain in the right leg and later in the left. There was decreased sensibility to the faradic current. Over the anterior and central areas of both thighs areas of hyperesthesia existed. The etiologic factor which might have produced the condition was the wearing of a closely fitting double truss, and it may have so compressed the nerve in this area that trophic changes resulted.

Dr. W. G. Spiller said he saw the patient some time ago, and was much interested in the question of operation in similar conditions. In those cases operated on, good results have resulted.

PARALYSIS AGITANS.

Dr. W. G. Spiller presented a man with hysteric tremor of paralysis agitans. He was 65 years of age and gave a family history of similar tremors. Ten years ago he began to suffer with tremor of the head. On examination no focus of Parkinson's disease could be found. There was no sensation of excessive heat, and the patellar reflex was not exaggerated. The character of the tremor of the hand could be changed by suggestion, showing that hysteric manifestations were present.

RHIZOMELIC SPONDYLOSIS.

Dr. A. A. Eshner reported a case of this affection. His paper will appear in The Journal.

Cincinnati Academy of Medicine.

Jan. 22 1900.

ACROMEGALY.

Dr. Kennon Dunham read a paper on this subject and presented a patient, Mrs. W., 31 years of age, of German parentage, but herself born in America. Her father and mother are well and strong and show no anatomic peculiarities. Her father's parents both had very long fingers, but, from their pictures, were in no way acromegalic. The patient herself was well and strong until about 21 years old, when a severe attack of typhoid fever kept her in bed for six weeks. Two months later dark spots began to appear before her eyes, and finally, while at work, she became temporarily blind. An oculist was consulted, and pronounced the case one of cerebral abscess. This was not concurred in by the physician in charge, and the patient, not being relieved of the headaches, of which she bitterly complained, passed from one doctor to another. She was married at 25 and after a few months began to take on flesh quite rapidly. The hands and face became swollen, the abdomen enlarged, eyes puffed, and menstruation ceased; on the seventh and eighth month menstruation was present and, the abdomen not being sufficiently enlarged for a pregnancy of the date, abdominal examination showed that a mistake had been made and that she was not pregnant. Menstruation has never returned since that period.

When she was 27, her husband, after a long illness, died of pulmonary tuberculosis. It was just before his death that Dr. Dunham was consulted. Anxiety and long-continued nursing on the part of the woman had caused marked anemia, and the headaches had grown much worse. The swelling of the hands, feet and face had subsided, though the nose was still large, but as he had not known the woman previously this latter was not significant. He treated her for some time for anemia. A consultation was held, antisyphilitic treatment recommended and pushed for some time with but temporary improvement. The headaches then returned worse than before, and even morphia had but little effect in relieving them. The patient then passed out of his hands, and he did not see her for 2½ years. Marked change had taken place during that interval, proving her an acromegalic beyond doubt.

The following conditions were readily recognized on the patient being presented: The hands were much hypertrophied, thick and wide, but not long, all the tissues being uniformly enlarged. The skin of the hands was not edematous nor hard, nor was it pigmented or dark, nor were the lines deepened, as often described; but the face showed the lines deepened and pigmentation quite markedly. The fingers were as thick at the distal as at the proximal extremity, but were not clubbed, while the nails were widened, and comparatively short. The fingers might well be called "spade-like." The function of the hands was not destroyed. The wrists were enlarged, but not proportionately with the hands. The feet were hypertrophied, but not so much as the hands, and the enormous enlargement of the big toe, so commonly described, was wanting. The external occipital protuberance and the condyles of the lower jaw were enlarged, but only to a slight degree. Photographs, taken when she was 15, 20 and 25 showed how great has been the distortion of the nose during that period, and also the other characteristic changes in the face. The alveolar processes were very much enlarged, markedly separating the teeth, though the latter were themselves unchanged. The eyelids were much thickened, the ears hypertrophied, the lips thick, and the face much elongated, particularly from below the nose. The tongue was thick and broad, but not protruding, and not interfering with deglutition or articulation. The hair was very coarse, especially on the crown of the head. The turbinated bones were very much hypertrophied, the larynx enlarged, giving a low-pitched, masculine quality to the voice, very striking to those who knew her before the onset of her present trouble. Cervicodorsal kyphosis with its corresponding lordosis was marked. The spinous processes of the vertebræ were enlarged, as were the sternum, clavicles, ribs and costal cartilages. The chest was broad and rather flat, from the great enlargement of the clavicles. The mammæ the essayist described as partially atrophied, the abdomen large and pendulous, the uterus small, and the external genitalia but slightly increased in size. Respiration was abdominal, the neck short and thick, depending largely on the kyphosis. The thyroid showed no clinical changes. The ligaments of the knees were partially relaxed, so that crepitus was easily obtainable. Electric excitability was normal, and perspiration excessive.

Blood examination showed the reds to be increased in number, in spite of the apparent anemia, the whites about normal, the polynuclears diminished, the mononuclears increased, and eosinophiles absent. The urine was normal on chemical analysis, but the amount somewhat diminished. The patient has been growing more and more melancholy and irritable, but her intelligence is unchanged. The viscera are apparently normal.

As his own view of the etiology, the speaker stated that whatever the original cause might be, he believed disease of the pituitary body necessary to the development of acromegaly.

DR. D. T. VAIL said that the ocular symptoms of acromegaly are due, not to a disturbance of function of an enlarged and diseased pituitary body, but to entirely mechanical causes. Bearing in mind the close proximity of the pituitary body to the optic chiasm, it can be readily seen that any enlargement of the former would be very apt to press first upon the posterior part of the chiasm. In this part of the optic chiasm are situated the decussating fibers from the nasal half of each retina, and also, but a little more anteriorly, the decussating fibers from the macula lutea. Destruction of this portion of the chiasm would naturally, purely from mechanical causes, bring about blindness in both temporal fields, a bitemporal hemianopsia being in itself sufficiently infrequent to attract attention to the optic chiasm and the structures in its immediate neighborhood. Involvement of the fibers from the macula lutea would cause loss of central vision, a large central scotoma. Both of these very prominent symptoms were present in the case of acromegaly presented.

DR. JOSEPH EICHBERG showed, under the microscope, slides from a normal pituitary body and from one affected with carcinoma. Since the publication of Marie's noteworthy paper, the pathologic conditions have been studied by various observers, but nothing of importance has been added to the first outlines of the disease that he laid down.

Cleveland Medical Society.

Jan. 26, 1900

FOREIGN BODIES IN MAXILLARY SINUS

DR. RALPH J. WENNER read a paper on this subject. He said that text-books give little attention to the subject of foreign bodies in the antrum. To determine their relative frequency, 250 letters were sent out to men interested in this line of work, and it was found that in 68 of 3409 cases, or 2 per cent. of antral disease, foreign bodies were present, but in many were not the cause of the disease. In 30 cases, less than 1 per cent., the foreign bodies were the cause of the antral disease. In 14, 7/11 of 1 per cent., teeth were found. It is evident that the presence of foreign bodies does not invariably cause empyema. His patient was aged 3½ years; the illness began with purulent discharge from the nose, followed by bulging of the left eye and the left roof of the mouth. Acute empyema of the antrum being deemed probable, hot fomentations with the administration of belladonna and strychnin were used, and reduced the amount of discharge and the prominence of the eye. The patient passed into other hands for a month. The condition was then more grave, with increased discharge from the nose, swelling of the face and eyelids, purulent conjunctivitis and keratitis; temperature 101 F., and pulse 150. The right arm was not moved except under the stimulus of pain. Cavernous sinus thrombosis, empyema of the sphenoidal sinus and of the ethmoid sinus were excluded. Pus and a tooth were found in the left antrum. The eye was enucleated. Another tooth was found later. A growth in the roof of the mouth increased rapidly in size, and death finally occurred. The growth proved to be giant-celled sarcoma.

DR. H. C. SHERMAN said that at the time he saw the patient the conditions were even more exaggerated than Dr. Wenner had described. The eye was greatly bulged, as were also the hard and soft palate and the lateral area of the throat. The temperature at that time ranged from 101 to 104 F., and the child had had a series of convulsions. It was entirely unable to move its right arm and right leg, even under the stimulus of pain, and he had regarded the case as one necessarily involving the cerebrum about the base of the lateral lobe near the fissure of Rolando. The antrum in a child of that age is very rudimentary, and he could scarcely comprehend how it was large enough to hold a tooth, as it is a space not capable of being distended without rupture. The child having then been unconscious for some ten days, he gave it as his opinion that the case was entirely inoperable. The tooth that had been removed was a most extraordinary one, as it had four prongs. The case could be diagnosed as one of cerebral abscess, or as an almost typical case of disease of the cavernous sinus.

DR. C. J. ALDRICH asked which side was paralyzed, and Dr. Sherman replied that it was the side opposite to the point involved.

DR. J. M. INGERSOLL was particularly interested in the number of cases from which reports were obtained in response to the circular letter, showing that foreign bodies occur in the antrum more frequently than is usually supposed. He had himself seen three cases in the last three years. He had seen at least a half-dozen adult skulls with supernumerary teeth in the antrum, that had apparently caused no trouble, and one case of polypus in the antrum, its discovery not being made until necropsy. Such cases may very readily be overlooked, and sometimes they cause no trouble at all. He thought it was a question whether the tooth was the primary cause of the trouble in Dr. Wenner's case, or whether the teeth had not become necrotic and kept up irritation in the antrum.

DR. J. N. LENKER said that he was present at the time when Dr. Wenner removed the teeth from the antrum, and was even then surprised at the smallness of the sinus when compared with its contents.

DR. WENNER said that the parents had not given him any statements of the child having had convulsions, until after the administration of the anesthetic, even when questioned closely. While it is true that the antrum is usually small, it is also true that the kidneys are usually small, but we not infrequently find both large-sized and horseshoe kidneys. The leg was not paralyzed during any of the time he had the patient under observation, and the child was able to move the arm under the stimulus of pain. He thought that Dr. Sherman had been misinformed in regard to the child being unconscious for ten days. He said he should not be held responsible for the size and shape of the teeth. In regard to the first cause of the case, he thought it fair to suppose that it started in the antrum, as the first symptoms noted were pain over the jaw and the discharge of pus from the nose. Following that came the enlargement.

Topeka Academy of Medicine and Surgery.

Topeka, Kan., Feb. 5, 1900

VARIOLA ULCERS OF CORNEA

DR. MAGEE presented a case of this condition in a man about 50 years old. The man had a very severe case of smallpox—called "chicken-pox" by the local and state health boards. He was deeply pitted about the face and neck, but not on the body. A papule formed on the cornea of his right eye and later formed a deep ulcer, which allowed the iris to protrude through the cornea and was visible firmly adherent to the ulcer. He has been under constant treatment for about two months. The sight became very poor, so he could only distinguish a shadow when an object was held in front of him, but it now causes him no trouble, except a "grating" feeling as the eyelid passes over the ulcer. Dr. Magee said that he could find no case on record where chicken-pox had caused ulcers of the cornea.

DR. R. E. MCVEY confirmed the diagnosis of smallpox and said that all the so-called "chicken-pox" cases here were no more nor less than smallpox in a mild form.

Treatment of Infectious Ulcers of the Cornea.

A. Bourgeois recommends (*Ann. d'Ocul.*, 7, 1899): first, treatment of the affection generating the ulcer; then, sterilization of the ulcer with the thermo-cautery, or better still, with hot air. In case of hypopyon, keratocentesis and lavage with artificial aqueous humor are advised.

THE JOURNAL OF THE
AMERICAN MEDICAL ASSOCIATION.
61 MARKET STREET, - CHICAGO.

SATURDAY, FEBRUARY 17, 1900.

PROPHYLACTIC VALUE OF VACCINATION AND REVACCINATION.

So conclusive is the evidence in support of the efficacy of vaccination and revaccination in the prevention of smallpox that there would be no occasion for extended discussion of this subject were not attempts persistently made to discredit the statistics or to attribute the results to other influences. It can not be succesfully denied that the prevalence of, as well as the mortality from, smallpox has diminished enormously since the general adoption of vaccination and revaccination. In addition, the severity of the disease in individual cases has diminished, and disastrous complications, so commonly observed in the past, are to-day rare and exceptional; and there is practically no evidence whatever that this improved condition of affairs can be ascribed in any notable degree to any other factor or combination of factors. There is absolutely no ground for the opposition that is manifested in some places to this most beneficent procedure.

It is recorded that during the eighteenth century fully two-thirds of all children born in Europe were sooner or later attacked by smallpox, and that on an average one-twelfth of all born succumbed to that disease. There occurred annually, in the City of London from 1771 to 1780, an average of 50,000 deaths from all causes among every million of the population, including 5020 from smallpox; from 1801 to 1810 the figures were 29,200 and 2040 respectively; from 1831 to 1835, 32,000 and 830 respectively, from 1854 to 1871, 24,200 and 388 respectively; and from 1883 to 1892, 19,800 and 73 respectively; so that while the total death-rate has diminished about 60 per cent. in 121 years, that of smallpox has diminished 98.5 per cent. For the whole of Great Britain the annual death-rate from smallpox has diminished from 1064 (per million) in 1838 to 27 in 1894; in 1889 it was 1; in 1890, *nil;* in 1891, two. Although vaccination came into use in England in the first years of the present century, provision for its gratuitious performance among the needy was not made before 1840; it did not become obligatory until 1853, and legislation for its systematic enforcement was not enacted until 1871.

It is stated that in Iceland, in 1807, among a population of 50,000 there were 18,000 deaths from smallpox.

Revaccination was made obligatory in the German army in 1834, and among all classes of the community in 1874. The effect was at once seen in the mortality from smallpox, which was almost eradicated in the first instance, and greatly reduced in the second. In the years 1870 and 1871 the German army lost, by smallpox, 459 men among a million; while the French army, though smaller in number, but without rigorous vaccination requirements, lost 23,400 from the same cause. From 1875 to 1887 one death occurred from smallpox in the German army and this in a soldier who had been revaccinated unsuccessfully; while in the French army, from 1875 to 1886, there were 550 deaths from the same cause, or 45.8 per annum, and in the Austrian army, likewise without rigorous vaccination requirements, from 1875 to 1881, 595 deaths from smallpox, or 85 per annum. Throughout Prussia, in 1872, the number of deaths per hundred thousand of the population, from smallpox, was 262, and in Austria, 189; while in 1884 the figures were 1.4 and 50.8 respectively. Vaccination has been obligatory only for recruits in Austria since 1886.

Vaccination was optional in Sweden, between 1801 and 1810. In the latter year it became obligatory. In the pre-vaccinal period, from 1774 to 1801, there occurred annually an average of 2050 deaths in the million from smallpox; during the period of optional vaccination, the mortality had fallen to 686, and from 1810 to 1855 it was 169. From 1816 to 1893 it averaged 155, and from 1884 to 1894, two. In Bohemia, in the period between 1796 and 1802, before vaccination was adopted, there occurred in a population of 3,039,722, annually, 94,955 deaths, of which 7663 were due to smallpox; while between 1832 and 1855, when vaccination was obligatory, there occurred among a population of 4,248,155, annually 113,412 deaths, of which but 287 were due to smallpox. Between 1758 and 1802, before vaccination was employed, the average mortality from smallpox in the city of Berlin was 8 per cent. of the total, while in the early years of the nineteenth century this was reduced to 6.7 per cent. Between 1810 and 1814 it had fallen to 0.7 per cent., while between 1815 and 1869 it had varied between .06 and 1.34 per cent., averaging 0.8 per cent.

During the seventeenth and eighteenth centuries epidemics of smallpox were frequent in Massachusetts. In 1721 nearly 8 per cent. of the population of Boston died from that disease. From the introduction of vaccination in 1800 to 1840, the number of deaths from smallpox was probably not more than 20. In 1836 the vaccination-laws were modified and made less stringent than they had been, and the deaths therefrom greatly increased. There occurred between 1839 and 1841, in Boston, 232 deaths, and from 1842 to 1855, throughout the state, 1304 deaths; while in 1886 and in 1895 there were no deaths whatever from this cause.

Of the importance of thorough vaccination and repeated revaccination, the comparative figures of the London Smallpox Hospital from 1836 to 1857, dealing with 13,755 cases, are demonstrative. Of 3094 cases received between 1836 and 1851 there were 35.5 per cent. of deaths among the unvaccinated, 21.7 per cent. among those said to have been vaccinated, but presenting no cicatrix, 7.6 per cent. among those presenting a single cicatrix, 4.3 per cent. among those presenting two, 1.8 per cent. among those presenting three, and 0.7 per cent. among those presenting four cicatrices. Among 10,661 cases received between 1852 and 1867, there occurred 34.9 per cent. of deaths among the unvaccinated, 39.4 per cent. among those said to have been vaccinated but presenting no cicatrix, 13.8 per cent. among those presenting one, 7.7 per cent. among those presenting two, 3 per cent. among those presenting three, and 0.9 among those presenting four cicatrices.

The following comparative figures illustrate the favorable influence exerted by vaccination, not only on the morbidity, but also on the mortality, and also the greater prevalence of smallpox in early life. In an epidemic in Sheffield, between 1887 and 1888, it was found that of vaccinated children under the age of 10 years, 5 in a thousand were attacked by smallpox, with a death-rate of .09, while of unvaccinated children 101 in a thousand were attacked, and the death-rate was 44. Of persons above the age of 10, vaccinated twice, 3 in 1000 were attacked, with a death-rate of .08; of those vaccinated once, 19 were attacked, with a death-rate of 1; and of those not at all vaccinated, 94 were attacked, with a death-rate of 51.

In a paper read before the First Pan-American Medical Congress, W. M. Welch related that among 4907 cases of smallpox observed at the Municipal Hospital of Philadelphia, between 1870 and 1893, there were 1412 with good vaccination cicatrices, with 124 deaths —8.8 per cent.; 666 presented fair cicatrices, with 98 deaths—14.7 per cent.; 1070 presented poor cicatrices, with 290 deaths—27.1 per cent.; while 1759 presented no evidence of previous vaccination, with 1027 deaths—58 per cent. Of 128 patients admitted to the Hospital in 1899 it was ascertained that 110 had never been vaccinated, while 17 had been in infancy and 1 after exposure.

There were reported to the Ohio State Board of Health, between April, 1898, and April, 1899, 1428 cases of smallpox, with 18 deaths—1.26 per cent.; nearly 40 per cent. of the cases were in adults. The statement is added that vaccination has proved an almost absolute specific.

Of 1106 cases of smallpox observed at the Quarantine Hospital at Baltimore, 441 had been vaccinated successfully, and 20 unsuccessfully, while 645 had not been vaccinated at all. Among the first group there occurred 63 deaths—14.3 per cent., among the second, 6 deaths—30 per cent.; and among the third, 315 deaths—48.8 per cent.

In an epidemic of smallpox in Birmingham, Ala., in 1897-98, investigated by the U. S. Marine-Hospital Service, 225 cases were treated, of which 219 were in colored persons, and 6 in white. Of the whole number, 106 had never been vaccinated, and 101 unsuccessfully; 2 presented good scars, 5 doubtful ones, and 7 had been recently vaccinated. The epidemic was controlled by house-to-house and personal inspection, isolation, vaccination, and disinfection.

Smallpox has been excessively prevalent in the Philippines, 250 deaths formerly occurring in Manila alone in April and in May, but since vaccination has been instituted by American surgeons, but few cases have occurred and no deaths.

Under the influence of vaccination a constant diminution in the number of cases of smallpox has also been observed in the Italian army since 1867, and the mortality has been reduced to almost *nil*.

Finally, it may be added that of physicians, nurses, attendants, and others who come into more or less intimate relations with smallpox patients, but are thoroughly vaccinated, practically none is ever attacked by the disease.

Figures and statements like the foregoing, and they could be multiplied almost indefinitely, can not but carry conviction to any unprejudiced mind, but some of those unwilling to be convinced, but who can not deny the accuracy of the statistics, seek to attribute the results to causes other than vaccination, as, for instance, general improvement in sanitation, overlooking the fact entirely that the morbidity of, and the mortality from, no other disease have been reduced in anything approaching the degree in which these have been influenced in the case of smallpox. It is, therefore, the bounden duty of the state to see that the welfare of the many is not jeopardized by the prejudices or the ignorance of the few, and wherever intelligence and conservatism prevail vaccination and revaccination should be made obligatory. From far Japan comes the announcement that the Imperial Government has decided to make vaccination compulsory, primary vaccination to be performed at or before the tenth month, revaccination at 6, and again at 12 years of age. The general adoption of this rule would aid in the realization of the hope expressed by Jenner that "the severest scourge of the human race" might be eradicated. For those who suggest, out of their inner consciousness, that the disappearance of smallpox would be followed by the evolution of some worse disease or condition, as also there are some who contend that the eradication of tuberculosis would be followed by some other more serious distemper, all discussion would be futile. The dangers and accidents of vaccination are practically insignificant, particularly since vaccin virus from the calf or the cow is employed almost solely and, what is of still more importance, since the introduction of glycerinated lymph.

THE MASSACHUSETTS STATE HOSPITAL FOR CONSUMPTIVES AT RUTLAND

In October, 1898, a state institution for the treatment of consumptives, erected at Rutland, Mass., by means of money appropriated by the legislature, was formally declared to be ready to receive patients. "This event marked an epoch in the treatment of tubercular disease in our country, inasmuch as it was the first legislative attempt in the United States to cope with consumption and other diseases of tubercular origin." Heretofore the sanitarium treatment of phthisis has been open for the well-to-do only, with the exception of two or three small sanitaria for people of limited means. The scope of the Rutland Sanitarium is outlined in the original prospectus of the trustees as follows: "Inasmuch as the primary purpose of the hospital is to arrest the disease, and, if possible, to extirpate it, only such patients will be admitted as are deemed not too far advanced to admit of reasonable hope of radical improvement. In no sense is the hospital to be considered as a home for the hopelessly sick, for, great as is the recognized need for homes of refuge for advanced consumptives, such service is manifestly incompatible with the even more needed service of receiving levies that can be saved only by sanitarium treatment." The Rutland Sanitarium is planned for people of limited means, the weekly charge being $4.

In these days of sanitarium, open air and hygienic treatment of consumption, it is especially interesting to study the results of the first year's work of this pioneer institution as presented by Vincent Y. Bowditch before the Suffolk District Medical Society, Nov. 15, 1899,[1] and the discussion of Dr Bowditch's paper contains much of directly practical value to those interested in this work. During the year 214 cases were admitted and 126 discharged, 11 having remained in the hospital only two weeks, and 1 being a case of bronchitis only. Of the remaining 114 discharged, 35 were discharged as "arrested cases," 37 as "much improved," 17 as "improved,"' 24 as "not improved," and 1 died. By "arrested cases" is meant those cases in which all active symptoms, like cough, expectoration and fever, disappeared, the general symptoms indicating general restoration to health. This term is a better one than "cured" because of the treacherous nature of the disease. The average stay in the hospital of the "arrested" cases was 4½ months. It is quite remarkable that the percentage of arrested cases is in complete accordance with the experience of other sanitaria. The subsequent histories of these patients a few years hence will be of great value.

The good results obtained are due chiefly to hygienic measures alone. Constant life in the open air is insisted on. The windows are left open, except at the hours of rising and going to bed. Baths at regular intervals and three hearty meals, with lunches of milk and eggs or their equivalent, are given. Medicinal and serum treatment did not play any special part in the results. Bowditch emphasizes that the alleged depressing effect of the patients upon one another, the danger of infection, etc., previously and even now urged against the treatment, have no real significance. Indeed, to one who visits the Rutland Sanitarium, the cheerfulness of the patients certainly is an encouraging feature of the place. The open wards, instituted with some misgiving on the ground of economy, and the resulting lack of privacy, have not prevented patients from entering and the method has the great advantage of large circulation and free ventilation. The demand for admission to the hospital has long ago exceeded the number of beds (170).

It must be said, after reading Dr. Bowditch's calm statements as to what can be done in a simple sanitarium for consumptives of small means in the harsh climate of New England, that the example of Massachusetts ought to be followed elsewhere. This has been done by Indiana, and in New York state various bodies are now strongly recommending the establishment of local sanitaria for tuberculosis. In fact, the rational treatment of tuberculosis now rests on a firm basis and the prejudice against such institutions is dying out. Perhaps the most important feature of institutions of this kind is their educational effect on the people at large. The proof of the beneficial results of life in the fresh air, day and night, of proper diet, judicious exercise, and cleanliness, furnished by sanitaria of the simplest equipment and construction, can not fail to be of incalculable benefit in the crusade against tuberculosis. The fact that a patient has a great deal better chance for recovery from tuberculosis in a sanitarium than in private life is gradually but surely becoming rooted in the public mind, and when popular interest is excited care must be had lest blind enthusiasm go too far. For various reasons the movement in favor of several local institutions in the vicinity of large centers of population is actively supported by medical men generally. Several smaller institutions scattered over a state are much to be preferred to a single, large and unwieldly institution. In every community are locations suitable for the fresh air treatment, and soon the notion that consumptives must seek the restoration of their health in remote mountain districts will also vanish. The enforcement of the hygienic-dietic treatment in state sanitaria does not require an elaborate plant as much as the intelligent and willing co-operation of the patients. Hence patients with incipient tuberculosis should be frankly told the seriousness of the illness and the steps necessary to best combat the disease. As pointed out in the discussion of Dr. Bowditch's report, time should not be wasted in discussing the means of withholding the truth from the patient. The air of despair that settles about the tuberculous must give way to an active interest in their treatment on the part of the physician, friends and patients alike. And then the attitude of the community in regard to tuberculosis will also change. The personal influence of physicians finds here a sphere of great usefulness. In urging state action in the treatment and prevention of tuberculosis, let not the poor tuberculous be forgotten, especially in the large cities, and consigned to the barracks and crowded wards of the poorhouse and almshouse. For such, free institutions ought to be established and means found for the support of the family while the breadwinner is seeking his health. The solution of this difficult problem is calculated to test well the intelligence and wisdom of the people of our states and cities.

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[1] Boston Med. and Surg. Journal, 1900, cxlii, 627.

NERVE-STRETCHING IN TREATMENT OF CONGENITAL MYOTONIA.

A final opinion has not yet been rendered as to the exact nature of the condition of transient hypertonia that develops after a period of rest in muscles put into activity, as described in detail by Thomsen and usually known by his name, and of which this observer is himself a conspicuous instance. In some cases the affected muscles have presented evidences of hypertrophy, although they are weak rather than strong. The motor end-plate appears to suffer particularly. The disease is not common, probably not many more than 100 cases having been placed on record. The etiology is obscure, although hereditary influences have been present in the majority of instances. Treatment has been unavailing, although Thomsen has thought that a life of muscular activity is capable of affording some relief. Gessler[1] suggests, however, that the therapeutic indication is to neutralize the congenital muscular hypertrophy, and this can be done by inducing artificial degeneration of the affected tissues by means of nerve-stretching. He reports a case in which this procedure was carried out, with distinct relief. The patient was deeply chloroformed, the pelvis and one lower extremity fixed, the other lower extremity flexed at the knee, and the thigh gradually extended until the toes were almost behind the ear. This was kept up for five minutes, when a corresponding manipulation was practiced on the other side. No bad result followed, while, on the contrary, the myotonic reaction previously present in the muscles supplied by the sciatic nerve disappeared. There was, however, no subjective improvement. The procedure was repeated after an interval of five and one-half weeks, being now maintained for ten minutes, but the result was the same as before. The myotonic reaction in the distribution of the anterior crural nerve was unaffected in either instance. Accordingly, this nerve was exposed on one side and stretched, the operation being followed not only by disappearance of the myotonic reaction in the related muscles, but also by removal of the difficulty in voluntary movement, while these naturally persisted on the opposite side. Some return of the former condition subsequently took place, and it was proposed at a later date to expose again and stretch the nerves concerned, with a certain amount of compression. It is hoped to thereby cause some degree of muscular atrophy, together with disappearance of the myotonic reaction, and of the excessive activity of normal muscular function.

QUACKERY, EXPECTORATION, AND THE LAW.

An Alabama judge has given out the decision that the right to expectorate is inherent, and unless special receptacles are provided no penalty can accrue from spitting on floors or sidewalks. Here is another obstacle to the antituberculosis crusade. The decision is, however, apparently a broad one, and may not prove a precedent in all regions. There are other possibilities of committing nuisances than spitting, which have just as good a claim to be considered an inherent right, and which, in our civilized communities, are prohibited in public, notwithstanding the inconvenience the prohibition may cause. It would seem that spitting is to be considered a special privilege, according to this Alabama jurist. If his decision is to stand and be followed elsewhere, public spittoons will have to become a prominent feature in the landscape and take up space in all public conveyances, at least if the expectorating ordinances are to be enforced. The prospect is not a flattering one, when a needed sanitary reform is practically checked, or afflicted with unpleasant adjuncts, to please a class of people who have no regard for the feelings of decent ones. Still other specimens of judicial wisdom are being distributed. An Indiana magistrate has decided that there are no restrictions to be placed on "healing" by laying on of hands, manipulations, etc., where no medicine is given or surgery is practiced. In this he follows the Ohio decision that the practice of healing the body without the use of medicine was not the practice of medicine within the meaning of the law. This was not the intent of the acts, but judge-made law often pays little attention to the intent. There are yet some fine points to be settled. It will be a strain even on a legal mind to prove that bone-setting or the reduction of dislocations is not surgery and therefore within the definition of the practice of medicine. If the osteopaths with their theories of bone dislocation are to be let loose on the community some such questions will be likely to arise. There still remains the question whether these quacks, osteopaths, "Christian Scientists," divine and magnetic healers, *et id omne genus*, are to be allowed absolute irresponsibility for their acts of omission and commission. So far they have appeared to have generally escaped anything more than public censure, for which they do not care. If they are to be tolerated and recognized, the public should demand that they do not successfully shirk their civil and criminal responsibility.

DIRECT BRONCHOSCOPY IN THE LOCALIZATION OF BODIES IN THE LUNGS.

The dangers attendant on the presence of foreign bodies in the lungs, and the desirability of a method for their detection, localization, and removal, are so obvious as not to require extended discussion. Fluoroscopy and skiagraphy will prove useful in diagnosis, and pneumonotomy in treatment, in some cases; but any additional resource for the relief of such a serious condition will be cordially welcomed. A procedure recommended by Killian[1], although apparently difficult of execution, should be given careful consideration. This consists in direct inspection of the trachea and the bronchi with the aid of suitable specula and illumination, either from the mouth or through a tracheotomy wound. Long tubular specula, illuminated with an electric head-mirror or other suitable apparatus, are employed, the main bronchus being displaced sufficiently to be continuous with the trachea. The examination is the more readily made through a tracheotomy wound after thorough cocainization. This constitutes inferior bronchoscopy, in contradistinction to superior bronchoscopy. The latter is by far the more difficult, and will generally require narcosis. By this means the interior of the main bronchi can be distinguished and foreign bodies be detected. The procedure has been applied practically in four cases. One of these occurred in a boy, 4 years old, who had swallowed a bean. With the aid of a speculum introduced through a tracheotomy wound, the foreign body was located and successfully dislodged. Another case occurred in a child, 2 years old, in whom, on the basis of an X-ray examination, the diagnosis of a coin in the left main bronchus was made. No foreign body could, however, be detected on inferior bronchoscopy, and the correctness of this observation was confirmed on post-mortem examination. In a third case, which occurred in an elderly man, a piece of bone was discovered in and dislodged from the right main bronchus by superior bronchoscopy; and in the fourth case, in a 9-year-old boy, superior bronchoscopy disclosed the presence of a piece of aspirated fruit in the right main bronchus, which subsequently underwent disintegration and expulsion.

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[1] Deutsches Archiv f. Klin. Med., B. lxvi, p. 259.

[1] Wiener Med. Woch., 1900, No. 1, p. 14.

CONTAGIOUSNESS OF BOVINE AND HUMAN TUBERCULOSIS.

At the present time no subject is attracting as much attention from investigators as the relation of bovine and human tubercle to each other and to man and animals. To what extent man can be infected with tuberculosis by cattle, or cattle by man, is as yet only partially answered, and hence any contribution which is in any way likely to settle, or help to settle, the question, is welcome. In Bulletin No. 57, of the Arkansas Experiment Station, Dr. R. R. Dinwiddie reports some experimental work he has done, and gives his deductions. These experiments were made on various animals, the main object being to test the susceptibility of cattle toward human sputa, and incidentally to make a comparative test with the bovine tubercular material also. The results as given by the investigator, while not of startling importance, go to corroborate the generally prevailing views. He summarizes the matter to be determined in the form of three questions. The first, as to tubercular disease being communicable from man to animal, can hardly be said to be in dispute, nearly all experimenters who have inoculated cattle with human tubercle or cultures having obtained at least a local development of tubercular lesion. The second, "Is the disease thus induced similar in kind to the naturally acquired tuberculosis of cattle?" the author answers by saying that the lesions peculiar to tuberculosis in cattle in its most typical form are attributable to a peculiarity in the mode of reaction of the organization of cattle against the tubercular virus rather than to any peculiarity inherent in the bovine tubercular bacilli as distinguished from the human variety. The third question, the susceptibility of cattle to human virus compared with their susceptibility to bovine virus, has been answered by all experimenters, except Chauveau, with the assertion that cattle are more susceptible to bovine tubercular virus of bovine origin than to that of human origin. The most important question of all, the transmissiblity of tuberculosis from animals to man, the author does not consider. He does take occasion to say that the generally assumed transmissibility of the disease to man by the use of milk from diseased cows, rests mainly on a speculative basis, and that the facts he presents do not remove the question in any degree out of the domain of speculation.

A LEPROSY ALARM.

Dr Albert S. Ashmead makes some apparently startling statements in a letter published in an eastern newspaper. He has spent, he says, $4000 in the investigation of leprosy in our Scandinavian population, and knows that 175,000 Swedes and Norwegians of leprous ancestry have settled in the United States, 3000 of them in Pennsylvania, while they are scattered all through the country. He says he also found three Finnish lepers in Chicago, and others elsewhere, that lepers are shipped to this country by Canadian and British authorities, and that he could put his hands on a national-bank teller whose fingers are ulcerated from leprosy, though he is not yet known to outsiders as a leper. The absence of a national leper law, he claims, permits the free introduction and spread of the disease, and the need of such is the more imperative, since with our closer relations with tropical countries at present the perils are increased. He estimates the number of lepers in Hawaii at 4000, in Cuba at 1000, and says that in the island of Cebu alone, in the Philippines, there are 8000 lepers. If there should be a free immigration from Japan, where he says there are over 100,000 afflicted with the disease, we might be deluged with it. Some of these statements appear extreme—that as regards Cebu, for example—but allowing for any probable exaggeration, the proposal of national legislation in regard to the disease appears reasonable. We do not want foreign lepers thrust upon us, nor should the neglect of one community or state become a peril to the rest. As regards the descendants of lepers, mentioned above, it is doubtful whether there is so very much danger from this source, as the disorder is not considered to any extent hereditary, and considering the prevalence of leprosy in Europe in the Middle Ages, it is probable that a very large proportion of the people now living had a remote leprous ancestry. The disease does not appear, moreover, to extend itself in our climate or in our race to any great extent, which is also a consolatory fact. Its existence among us, however, is not pleasant, and with its capricious, though not very virulent contagiousness, any reasonable measures to check its admission and prevent its spread are very proper and desirable. To some Dr Ashmead may be somewhat of an alarmist, but it will not do to entirely neglect the warning.

TUBERCULOUS OTITIS.

Tuberculosis of the middle ear, with caries and necrosis of the temporal bone, is comparatively frequent, especially in the phthisical. Habermann, Haug and others have described, in detail, the pathologic changes produced by tuberculosis of the middle ear. Many of the authors refer to the extension of the process to the dura mater, which has been found either perforated or covered, both externally and internally, by tuberculous granulation tissue and caseous nodules. An interesting instance of tuberculous otitis with a secondary tumor-like protuberance into the cranial cavity is described by Piffl[1]. The process was observed in a case of extensive pulmonary tuberculosis. It is assumed that the infection reached the middle ear by way of the Eustachian tube, although two remaining routes of infection, namely the circulating blood and the external auditory canal, could not be definitely excluded. From the middle ear the process had spread to the mastoid cells, which were converted into a large cavity filled with masses of tuberculous tissue, followed by perforation of the posterior and middle cranial fossa and the development of an external tuberculous pachymeningitis. Finally extensive and marked tumor-like outgrowths developed and protruded into the cranial cavity. It is regarded as peculiar that the process did not involve the external periosteum and the soft tissues covering the mastoid process. The ossicles of the ear were loosened and largely destroyed, the anvil lying free in the granulation tissue. Involvement of the facial nerve led to facial paralysis. The temporo-maxillary joint was tuberculous, and the bulb of the jugular vein was also affected and thrombotic. The growth in the dura mater had reached approximately the size of a hen's egg and presented an irregular and nodular surface.

DEGENERATION AND REGENERATION OF NERVE ENDINGS IN VOLUNTARY MUSCLE.

Our knowledge concerning the changes in motor and sensory nerve endings is as yet in its infancy. Huber[2] has made an experimental study of the degenerative and regenerative changes that occur in these structures after severance of the nerves. The nerve used was the posterior tibial nerve of the rabbit, and the endings studied were situated in the interossei muscles. At the same time the neuromuscular and neurotendinous spindles in the muscles were also examined. It is shown, by Huber's study, that the electric stimulation of the nerve is not followed by any response of the muscle when structural changes in the motor endings and the fibers of the medullated nerves have appeared following the experimental division of the nerve. This occurs about twenty-three to forty-six hours after crushing the nerve. The changes in the motor nerve endings, as shown by the intra vitam methylene blue method, are ushered in by rather large thickenings of various sizes and shapes, and the medullary sheaths of the distal portions of the nerves break up into fragments. Apparently these changes begin in the most distal parts of the nerves, at least as far as regards the motor fibers. Under favorable conditions complete regeneration of the motor and sensory end organs of muscular nerves takes place. This was demonstrated by the complete return of the response to the electric stimulation, and by the presence, at that time, of fully developed nerve endings. The neuromuscular and neurotendinous end organs also regenerate, but the exact histologic changes are difficult to recognize until the practically normal structure has been reproduced. The regenerative changes were studied at different periods between twenty-eight to 178 days after the diversion of the nerve. The sensory nerve endings were not found to present the normal appearances until at the end of the second or the beginning of the third month after the crushing of the nerve. From these experiments it may be concluded that motor and sensory nerve endings of voluntary muscles degenerate after division of the muscular nerves, and that under suitable conditions they regenerate completely, but the motor nerve endings quicker than the sensory. Apparently the regeneration is brought about by the down growth of axis-cylinders of the central portion of the nerve-fiber.

ARTIFICIAL DEVELOPMENT OF GOUT.

A condition resembling gout, and attended with the deposition of uric acid in joints, tendons, serous membranes, and particularly the kidneys, occurs in other mammals as well as in man, and also in birds. It may be induced artificially in hens by the administration of chromic acid, oxalic acid, phenol, acetone, aloin and mercuric chlorid. The condition has been observed also in the ostrich and in birds of prey, and particularly in vultures kept in captivity. With these facts in mind Kionka[1] undertook to experimentally develop gout in hens by controlling the diet and the mode of life. Accordingly, he secured a number of well-developed hens, placed them in a roomy cage, and fed them twice daily with chopped horse-meat free from fat and tendon. The animals were permitted to have as much water as they wanted. They became readily accustomed to their diet and appeared well. After from three to five months, however, the first symptoms of gout appeared. Several types of the disease were recognized. In one, of rather rapid course, pain and swelling were observed in the legs, with paroxysmal exacerbations; and, with progressive emaciation, death resulted. Deposits of urates were found in the enlarged joints. In another type, the disease pursued a less rapid and less acute course, but the deposition of urates was much greater. In still another type, the conditions of visceral gout were more nearly reproduced. The gouty kidney was found almost constantly in all of the animals, presenting round-cell infiltration, defective tingibility, and in places loss of epithelial cells from the convoluted uriniferous tubules, and obstruction of the lumen of the tubules by crystals of uric acid. The animals exhibited a marked desire for grain and carbohydrates, and also for lime. They were accordingly given powdered egg shells in addition to what they had previously been taking. The excreta were now much increased, and yielded an alkaline in place of the previous acid reaction. Contrary to expectation, the amount of ammonia eliminated was increased, while, conversely, the amount of uric acid was diminished. From the therapeutic point of view, and with particular regard to uric acid disorders, it would be interesting to know if corresponding results can be obtained in human beings, but such observations as have been made in this connection are inconclusive, and further careful clinical studies would seem to be desirable.

THE MORTALITY from tetanus neonatorum is always exceptionally high in Cuba. A Havana exchange mentions that 4 per cent. of the deaths from all causes in that city during December were due to it.

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[1] Ztft. f. Heilkunde, 1899, xxii, 471.

[2] American Journal of Physiology, 1900, iii, p. 339.

[1] Berliner Klin. Woch., 1900, No. 1, p. 97; THE JOURNAL, February 10, p. 379.

Medical News.

A new medical monthly, *The Stylus*, St. Louis, Mo., has appeared.

There were [illegible] cases of the plague, and 11 deaths reported from Honolulu, January 31, and 52 from Kobe and Osaka, Japan, December 26 to January 10.

Prof. E. Haeckel, of Jena, was awarded its prize of 10,000 lire, for the most important scientific work of the last four years, by the Academy of Sciences at Turin.

The last German budget contains an appropriation for hydrotherapy as a department of medical instruction at Berlin. Professor Brieger will probably be placed in charge.

The record of small fees for lodge practice, according to the *Bulletin Méd.*, is now held by Dr. Larcher, who received from the local lodge in a small town in France, sixty centimes, about equivalent to 12 cents, for a night labor case.

It is said that Senator Johnson of New Jersey will shortly present a bill before the legislature asking that an insane asylum be constructed at Trenton, for the accommodation of 300 patients, and that the Board of Managers be increased so as to admit two homeopathic physicians.

According to the *Vienna Klin. Rundschau*, Russia has decided to restrict the over-production of doctors by limiting the number of students received for the freshman year, at various medical colleges, to a number, ranging from 100 at Warsaw and Kasan to 200 at Kieff and 250 at Moscow and St. Petersburg.

Dr. Norman B. Gwyn, University of Toronto, 1896, assistant resident physician of the Johns Hopkins Hospital and demonstrator of clinical microscopy in the laboratory, Baltimore, Md., has resigned to accept a position in Philadelphia. Dr. Gordon Wilson, University of Virginia, 1899, has been appointed to the vacancy.

The Committee on District of Columbia will have the Gallinger bill on antivivisection before it, for action, February 21, in Washington, D. C. Those interested and desiring to communicate with or appear before the Committee, by letters, petitions or representatives, should take notice. (See The Journal of February 3, p. 313, for a list of the members of the Committee.)

Physicians of Reading, Chester and other places in Pennsylvania are said to be much exercised over the method adopted by certain members of the medical profession in regard to agreements entered into by them and certain beneficiary associations, by which medical services are given for one year, to the members, on the payment of $1 each. Opposing this measure the physicians of Bergen, N. J., it is said, will discipline any member who enters into any such agreements.

The government in Belgium is considering a bill advocated by the majority of physicians, to suppress the diploma of dentistry and only allow the practice of dentistry to qualified physicians as a branch of the medical sciences, like laryngology, ophthalmology, etc. Beco, the chairman of the special committee, enumerates, among the reasons for this step, the overcrowding of the medical profession and the necessity for considering dentistry as an important and lucrative specialty in the domain of general medicine. The standard that has hitherto been required of dentists has been so low that some change is imperative, and suppression of special diplomas to dentists seems the simplest and most practical solution of the question under the present circumstances.

A souvenir volume has been issued to commemorate the five hundredth anniversary of the Vienna Medical Doctorencollegium. Among the most interesting articles is one describing the achievements of its graduates during the nineteenth century, in art and letters. Some of the most prominent German writers of the day: Feuchtersleben, Lenau, Pichler and Mautner are among them, and one of the most talented dramatists, A. Schnitzler, is a young physician practicing in Vienna. Examples are also cited of the artistic talents of v. Bruecke, Billroth, Meynert, Albert, Heitler, Pick and others.

The Profession in Belgium.—An editorial in the *Gazette Med. Belge* reiterates that the overcrowding of the profession is increasing while the number of patients is constantly diminishing. "The excess of the evil may bring the remedy. The anxiety of physicians to have their sons adopt some other profession, the horror of the medical profession exhibited by many sons of physicians, is enlightening the public somewhat, but it will take a long time to dispel the popular illusion in favor of medicine as a profession. People forget the existence of the lodges, the clubs, industrial insurance, etc., which include all the salaried families and only allow their medical attendants starvation rates. The future is dark, and our only hope is to keep the evil from incessantly increasing. With pen and sword, by combining, by organizing, by keeping in touch with the administration and our legislators, we must defend ourselves if we do not wish to be completely submerged." It adds that legislation should be encouraged which would bring physicians into the service of public sanitation in an official capacity at a reasonable remuneration. The practitioners throughout the country have recently organized in a co-operative insurance society against the accidents of medical practice.

Medical Service in the Transvaal.—In *The Lancet* of January 27 are described the "flying hospital" and "flying ambulance" cars, designed to work together and follow the fighting lines in the rear of the supports and in front of the reserves. This hospital car is placed in a spot sheltered from the firing, but as near as can be with safety, the operating-table set out and instruments and dressings prepared, and it at once becomes a collecting and dressing station. Following the dressing, the wounded are placed in the "flying ambulance" and taken to the nearest field hospital. In the *British Medical Journal* of January 27 Frederick Treves writes of the battle of Tugela (Colenso), and says that the great majority of the wounds were by Mauser bullets, some few from fragments of shell, and a still less number from shrapnel. The Mauser bullet does damage according to the range. At 1500 to 2000 yards it penetrates like a needle, while at 500 or less, "it will smash a femur or a humerus to fragments." He has noticed that when a bone is fractured, the bullet, if retained, is generally much distorted or broken into fragments, and the shell generally peels off the leaden core. He mentions a number of cases of interest, in one of which the bullet went through the middle phalanges of the ring and little fingers, making four small wounds. The two bones were fractured, but the man recovered with sound union and mobile joints. He also saw a fracture of the humerus in which the bone was broken into twenty-three small fragments. The point of entry of the Mauser bullet is so small that it is not difficult to overlook, often resembling a bug's bite. The point of exit, while very often small, is more apt to be slit-like. Several penetrating wounds of the liver and kidney have been followed by no symptoms, and one officer had a shrapnel bullet pass through his liver and kidney, the result being a little collapse, while beyond some temporary tympanites and hematuria he had no trouble. He says that a bullet has in several instances passed through the brain without causing marked symptoms, and perfect recovery has followed. In one man it entered near the vertex, passed through the brain, hard palate, and buccal cavity, and escaped at the root of the neck on the opposite side, with no discomfort following, except headache and some strabismus. Operations on the skull, for gunshot wounds, have been very numerous, and all such patients have done exceptionally well. An interesting case he mentions is one where a Mauser bullet went through the center of the patella and out at the center of the popliteal space, and led to no trouble of the joint; in another, the bullet went through the popliteal space from side to side, and left the bone and joint untouched, leading to an arteriovenous aneurysm. In one the bullet entered above the clavicle and came out on the inner side of the opposite thigh, there being no symptom except temporary shock. Another correspondent, writing in the same issue of the *Journal,* under date of Dec. 30, 1899, says that at that time there were some 1100 patients in the three base hospitals, the fourth not yet having been called into requisition. A correspondent in the *Lancet* of January 27 mentions a case where the screw from a shell entered the abdomen about an inch above the umbilicus, passed around the abdomen and emerged on the left side, about 1½ inches above the crest of the ilium. Excepting for a considerable amount of shock which followed, there was an uninterrupted recovery. The Boers are said to be better provided with surgeons, bearers, bandages, etc., than is generally supposed, £500,000 having previously been spent for their army medical service.

NEW YORK.

THROUGH the generosity of Mrs. Caroline Swift Atwater, Poughkeepsie, Vassar, 1877, that college is now to have a separate infirmary building, to be known as the Swift Memorial Infirmary.

THE ASSEMBLY Committee on Public Health has reported favorable on the bill of Dr. Nelson H. Henry, member of the legislature from New York City, which gives to the State Board of Health additional power to protect the waters of the state from pollution.

A BILL has been introduced into the legislature providing for the establishment, in or near New York City, of a state hospital for the care of crippled and deformed children. An orthopedic surgeon of experience is to be one of five persons constituting the board of managers.

LONG ISLAND STATE HOSPITAL.

Much indignation has been expressed at Governor Roosevelt's failure to reappoint, as one of the managers of the Long Island State Hospital, Dr. Truman J. Backus. It is popularly believed that Dr. Backus was an energetic, conscientious, and efficient manager. It is rumored that the governor's action was because of a series of complaints that the present management of this hospital had shown a persistent disinclination to adopt the views and suggestions of the State Commission in Lunacy; nevertheless Dr. P. M. Wise, president of that commission, declares that Dr. Backus was a most faithful and efficient manager, and was held in the highest esteen by the majority of the commissioners. Mr. Bradish Johnson has been appointed his successor.

New York City.

A CLERK in Bellevue Hospital has been dismissed because of his failure to answer the charge made against him of having sold death notices and city coffins.

SILVER LEAF DRESSING.

A TRIAL is being made, at Bellevue Hospital, of the silver leaf dressing for burns, originally introduced at the Johns Hopkins Hospital. So far six patients have been treated with it. The silver leaf is applied without any adhesive substance, and experience shows that healing takes place rapidly under it, and that shock and pain are reduced to a minimum. It is held in place by a gauze bandage. As the leaf only adheres to the sound skin, and is quickly loosened by the discharge from a raw surface, it is easily removed without causing the person pain.

RUN DOWN BY AMBULANCE.

While one of the ambulances of the New York Hospital was recently being rapidly driven through Fifteenth street, in the early evening, a woman, 52 years of age, was run down, and her skull crushed. She was quickly taken to the hospital, only half a block away, and her relatives summoned, but she died shortly after 3 o'clock the next morning. It is the intention of the woman's children to bring suit against the hospital, as they claim that the ambulance bell was not rung for some time before she was struck.

LEPROSY.

Dr. A. S. Ashmead has aroused the ire of President Murphy of the New York Board of Health, by publishing in the newspapers the statement that there are 100 lepers at large in the city, and that the Board would not take any interest in the matter when its attention was called to it. President Murphy questioned the statement, and invited Dr. Ashmead to show proof. In replying to the letter, the latter not only reiterates what he had said, but avers that on one occasion, when he reported a case of leprosy to the Health Board, he was told that the Board did not care to know of such cases, as leprosy was not regarded as a contagious disease, and did not require isolation. Dr. Prince A. Morrow and Dr. George H. Fox, both specialists, are quoted in confirmation of the assertion that there are many lepers going about in the city. (See p. 436.)

QUARANTINE MEASURES.

A bill, drafted by Dr. Alvah H. Doty, health officer of the port, has been introduced into the legislature. Its object, as stated by Dr. Doty, is to harmonize and modernize the various components of the quarantine law. It is hoped, by this legislation, to get rid of certain antiquated regulations which are ridiculous in the light of modern sanitary science. It is also intended to remove, in this way, the conflict between the quarantine commission and the health officer, giving the latter greater discretionary power as to methods of disinfection and procedure in regard to certain cargoes, and, at the same time, more clearly defining his duties.

MORTALITY STATISTICS.

Last December the weekly average of deaths represented an annual death-rate of 18.07 per thousand of the estimated population, while in January it represented one of 19.11. In January the following diseases showed a slight decrease in the number of deaths: diphtheria, 40, against 41 in December; scarlet fever, 9.5 against 11 in December; typhoid fever, 13 against 14 in December. In the following the weekly average of deaths increased; measles, 23.75 against 16.75 in December: whooping-cough, 12.75, again 9; influenza, 7.75 against 5; bronchitis, 49.75 against 46; pulmonary tuberculosis, 157.5 against 147.75; pneumonia, 250 against 231 in December. There have been no deaths from [illegible] since the month ending Nov. 4, 1899, when one was recorded.

MARYLAND.

DR. WILLIAM H. [illegible], Annapolis, has been elected physician to the Anne Arundel County Almshouse.

DR. P. B. HOUSEKEEPER, North East, has been reappointed physician of the Cecil County Almshouse and Insane Asylum.

PHARMACY LAW AND MARYLAND'S LAXITY.

Although Baltimore has a pharmacy law, Maryland outside has none, and any person in the counties may open a pharmacy, compound prescriptions and sell poisons. For fourteen years the pharmacists of the state have tried to get the legislation to pass a law, but opposition has arisen from the general storekeepers and those jobbers who make it a business to sell to country merchants. The bill was framed by Dr. A. R. L. Dohme, president of the Maryland Pharmaceutical Association, which prevents country merchants from selling any drugs except such as are used for domestic purposes or in the arts. It was framed to contain all that was best in the laws of the other forty-four states, but was purposely less stringent. [illegible] the pharmacists have now agreed to amend this bill and leave out the above restriction, only compelling the compounding of physicians' prescriptions by a licensed pharmacist. Physicians may compound and dispense prescriptions, but can not run a drug store without having met the requirements of the bill, viz., five years of practical experience in compounding prescriptions or passing an examination before the State Board of Pharmacy.

Baltimore.

THE WORK of repairing the chemical laboratory of the Johns Hopkins University, which was damaged by fire some time ago, was begun on the 6th. A great improvement to the third floor will be a rearrangement of the apartments for the analytic laboratory, the lecture hall and museum.

SHEPPARD AND ENOCH PRATT HOSPITAL.

The eighth annual report of the Sheppard and Enoch Pratt Hospital shows that on Nov. 30, 1899, 49 men and the same number of women were under treatment. During the year 14 were discharged as cured; nine as much improved and 16 as improved. Premature removal by friends prevented the complete recovery of a number. One-half the patients pay only one-third the per capita cost of care and treatment.

HOSPITAL FOR CHILDREN.

At the Robert Garrett Hospital for Children, 257 received treatment in the wards during 1899, the largest number in its history. The medical and surgical cases were about the same: 65 surgical operations were performed; 9 patients developed contagious diseases after admission and were treated in the special isolation building on the premises. There were 12 deaths, the majority from summer diseases; 3262 visits were made to the dispensary, where 209 dressings were applied and 3111 prescriptions dispensed. The hospital is free and is maintained by Mrs. Robert Garrett.

U. S. ARMY NURSING SERVICE.

A meeting of representatives of medical schools and others was held in Baltimore, Md., on the 7th inst., in the interest of the movement to secure a trained nursing service in the United States Army. Dr. Robert Johnson presided. Addresses were made by Miss G. M. Nevins, Superintendent of Nurses at Garfield Hospital, Washington, D. C.; Miss Margaret Astor Chanler, of New York City; Drs. William Osler, Wm. H. Welch and I. Edmondson Atkinson, Mr. Skipwith Wilmer, President of the Second Branch of the City Council, and Dr. Anita Newcomb McGee. Mr. Wilmer offered resolutions approving the bill now before Congress, and urging Maryland's representatives to give it their support. Dr. McGee urged further that the superintendent of nurses should be given a definite rank and not a mere clerical position.

PENNSYLVANIA.

A MAN from Selin's Grove has brought suit against that borough for $2000, for the bite of a mad dog received by his 2-year-old child in July, 1899.

A WOMAN has entered suit against Dr. James Oglesby, Danville, for giving testimony in regard to her sanity previous to her incarceration in the Danville Insane Asylum.

A RESIDENT of Phillipsburg has brought suit against Bernard Lynch, for $5000, for the loss of his daughter, who died not long ago from supposed hydrophobia, resulting from being bitten by Lynch's dog.

MEDICAL REQUIREMENTS.

The recent resolution passed by the Medical Board of Pennsylvania, providing that all graduates appearing for license to practice should have had a course of instruction extending over a period of four years, will not affect those students who have already matriculated and are now in college. Relative to raising the standard in Pennsylvania, the *Philadelphia Press* recently sent out inquiries to practitioners living outside of the larger cities of Pennsylvania, asking their views as to the increase of years in the medical curriculum. Nineteen have been received, and the majority favored increasing the medical course, so that five years of instruction will be demanded.

Philadelphia.

DR. W. L. PYLE has gone to Florida for rest and recreation.

DRS. JOHN H. PACKARD and Herbert M. Howe were recently elected directors of the Academy of Fine Arts, to serve three years.

AT THE last meeting of the College of Physicians, Dr. Thomas G. Morton read an address in memory of Dr. Albert Fricke, who died a few weeks ago.

DRS. W. W. WEAVER, A. P. Francine, and Carl Leo Felt, recently appointed by the Board of Education as medical inspectors in the public schools, have tendered their resignations.

THE CHIEF milk inspector reports that during January 3848 inspections were made and 109,374 quarts of milk examined, of which 1909 were condemned as being adulterated with water.

PUBLIC BATHS ASSOCIATION.

During the past year the following number of persons took advantage of the opportunities afforded by this association: Men and boys, 27,508; women and girls, 4538; free children, 2634. The greatest number of bathers in one day was 740. The average receipts from patrons for 1899 were $196 per month, an average gain over the preceding year of $59 per month. The average monthly expenses for 1899 were $361, as against $395 in 1898. Most of the expense was for necessary improvements.

VITAL STATISTICS.

According to the report of the different medical inspectors of the Board of Health, during the month of January there were 1414 contagious diseases and 863 fumigations were made. There were 623 cases of diphtheria with 116 deaths; 361 of scarlet fever with 23 deaths; 158 of typhoid fever with 23 deaths; 37 of membranous croup with 29 deaths. There were 232 deaths from tuberculosis. The births numbered 3862 and the deaths 2907.

SANITATION OF "BABY FARMS."

An investigation of a baby farm, made by a representative of the Society to Protect Children from Cruelty, has revealed that there should be a great change in the system of government regarding sanitary matters in such institutions. The lay press reports that in one there was not a bed in the house and that the stench was almost enough to overcome the agent who made the visit to the place. The woman in charge was arrested and held in $600 bail while the children were turned over to the custody of the Society.

DISTRICT OF COLUMBIA.

THE JUDGE of the police court has imposed a fine of $75 on J. G. Luman, who was recently convicted of practicing medicine in the District without a license.

THE BOARD of Visitors to the Government Hospital for the Insane (St. Elizabeth's) held a meeting on the 9th inst., and adopted resolutions on the death of Dr. A. H. Witmer, the late senior assistant physician, who had been connected with the institution since 1876.

HEALTH OF THE DISTRICT.

The report of the health officer for the week ended February 3, shows the total number of deaths to have been 122, 63 white and 59 colored. The principal causes of death were consumption, pneumonia, diseases of the heart, typhoid fever, diphtheria, and measles. There were 140 cases of scarlet fever, 67 of diphtheria, and 4 of smallpox under treatment at the close of the week. During the week, 87 births, 3 still-births and 24 marriages were reported.

IN CONGRESS.

Senator Hawley has introduced a bill (S. 2965) which provides for increasing the corps of cadets at the United States Military Academy at West Point, and regulates the qualifications for admission. Senator Pettigrew has introduced one (S. 2874) which provides as follows: that the Secretary of the Interior be, and is hereby, authorized and directed to place on the pension rolls, subject to the provisions and limitations of the pension laws, the name of Dr. John W. Cook, late assistant-surgeon of the 22d Regiment Maine Volunteer Infantry, and to pay him a pension at the rate of $50 per month in lieu of what he is now receiving. Mr. Brownlow has introduced

H. joint resolution, 157, which provides for 200,000 copies of the special report on the diseases of the horse, under supervision of the Secretary of Agriculture, 108,000 copies for use of the House, 64,000 for use of the Senate, and 8,000 for the use of the Secretary of Agriculture. Mr. Mann has introduced one (H.R. 7943) which provides as follows: that the Secretary of the Treasury be, and is hereby, authorized and directed to reimburse out of any money not otherwise appropriated, officers, non-commissioned officers and men who served in the army or the navy of the United States in the war between the United States and Spain, or to their heirs or legal representatives, for the expenses incurred by them while on leave or furlough for reasonable medical attendance, nursing, and medical supplies, necessitated by sickness or disability incurred by them, through their military or naval services in said war; provided that such reimbursement shall be made under regulations prescribed by the Treasury Department, and that the rate paid shall not exceed the customary rates of the locality where the medical services had been rendered: and provided further, that any claim for such reimbursement not presented to the Treasury Department within two years of passage of this act, shall be forever barred. Mr. Cowherd has introduced bill H.R. 7951, which provides a vote of thanks of Congress and bestowing a medal of honor upon certain members of the revenue cutter service, including Dr. Samuel J. Call. Mr. Joy, by request, introduced bill H.R. 1870, which provides as follows: that hereafter all employees of the United States Government and the Government of the District of Columbia, employed in the District, who failed to discharge their indebtedness to any person or persons, firms or corporations for necessaries of life, including house rent for themselves and families, incurred during the time of their service and reduced to judgment before a proper court having jurisdiction in the matter and a transcript of such judgment showing that said indebtedness was for necessaries as aforesaid, filed with the chief of the office in which the debtor is employed, shall, within twenty days from the filing of such transcript, *ipso facto*, stand dismissed from such employment unless within fifteen days from the filing of such transcript, said employee shall agree, through the Department or with the judgment creditor, to pay thereafter on each pay day, if paid once a month, at least the sum of 10 per cent., or if paid twice a month to pay at least the sum of 5 per cent. of such indebtedness, and shall accordingly pay the same until discharged in full: *Provided*, that the aggregate of the payments to be made by said employee shall not, except by special agreement at the sole option of such employee, exceed in any one month 10 per cent. of his salary, and if there be transcripts filed by more than one creditor, such payment shall be prorated according to the amount of the indebtedness due each creditor.

NOTE.—Mr. Joy's bill is very extraordinary in its provision, especially so as a very large proportion of the Government clerks in the District of Columbia live beyond their means. The bill as it stands, instead of discouraging reckless expenditures by these clerks, really protects them. For example, if a clerk receives $100 a month in salary, the present bill provides that he shall not pay on judgments of the court more than 10 per cent. of his salary in liquidation of judgments; even where judgments are presented to the department from one or ten persons, the aggregate in total payments, *at the sole option of the clerk*, shall not exceed 10 per cent. The bill also provides that all acts and parts of acts inconsistent with the provisions of the act are hereby repealed. This latter provision of the bill prohibits the courts from collecting in larger proportion. If this bill should pass, the medical profession will be seriously hampered in the collection of bills for professional services rendered.

OHIO.

Cincinnati.

DR. JOHN URI LLOYD, author of "Etidorpha," has written a novel of Kentucky life known as "Stringtown on the Pike."

DR. J. L. McLarsen, health officer of Hyde Park, has resigned, and Dr. C. B. Morrell has been appointed in his place.

DR. LEWIS A. STIMSON, of the medical department of Cornell University, has been the guest of Dr. H. J. Whitacre. Dr. Stimson gave a lecture before the Academy of Medicine, on "The Diagnosis and Treatment of Fractures and Dislocations."

IN 1891, Dr. William Judkins, as a result of a letter to the profession, published in the *Cincinnati Lancet-Clinic*, advising physicians not to purchase manikins placed on the market by a certain New York firm, was sued by the latter for $20,000 damages. The jury disagreed at the time, and the case has been dragging along until recently, when a verdict was rendered for the defendant.

ILLINOIS.

Chicago.

DR. H. M. LYMAN, who for several days has been seriously ill, is now convalescing.

THE MEDICAL inspectors of schools examined 8493 pupils during the week, of whom 371 were excluded.

AN AMBULANCE corps has been organized and equipped for service with the Boers, by the United Irish Societies of Chicago. The corps expects to be in the field on April 1.

CASH AND securities valued at $5000 were found in the clothing of a charity patient who died at the Baptist Hospital, February 11.

THE SUM of $2000 has been added to the fund for the erection of a consumptives' hospital, during the past two weeks. The total amount now subscribed has reached $15,000.

THE UNIVERSITY of Illinois has leased the College of Physicians and Surgeons for a term of twenty-five years, at $12,000 a year, the intention being ultimately to gain entire control of the institution. The contract provides that the university shall have one-third of the net earnings of the medical school, and the stockholders the remainder.

PRESIDENT HARPER, of the University of Chicago, accompanied by a delegation from Rush Medical College faculty, has returned from an extended tour of inspection of the various eastern colleges and hospitals. The visit was in connection with the contemplated erection of a new clinical building for Rush Medical College, which is affiliated with the University of Chicago.

MORTALITY STATISTICS.

The total mortality during the past week was 531, being 27 more than the week previous. There were 100 deaths from pneumonia, which makes the acute pulmonary affections more than 25 per cent. of the total. The mortality from typhoid fever has been remarkably low, there being but 3 deaths during the week, as against 14 the corresponding week of 1899.

CANADA.

MONTREAL physicians are indulging, to a considerable extent, in "Health Talks to Women." Most of these public lectures have a bearing on sanitary science.

AS THE direct result of picking an acne point on his face, a young man in Toronto recently lost his life through the resulting septicemia.

FOR SPEAKING disrespectfully of British generals and British soldiers in the present South African campaign a medical student at McGill, Montreal, was treated by his fellows to a ducking in one of the dissecting vats.

"HYGIENE in the Grocery Store" was the title of a public lecture delivered last week by Dr. E. G. Asselin, to the grocery clerks of Montreal. The adulteration of food-stuffs, dangers from decayed vegetables, ventilation, dangers from infectious diseases, and shorter hours for the clerks were the principal topics discussed.

CONCERNING the case of osteopathy reported to THE JOURNAL a few weeks ago, "Dr." Cluett, of Ottawa, has received, through his solicitor, an order *nisi* from the divisional court at Osgoode Hall, Toronto, quashing his previous conviction. The Ontario Medical Council will now have to prove that the practice of osteopathy is dangerous and unlawful.

THE BLACKFOOT HOSPITAL.

The fourth annual meeting of the supporters of this institution was held in Toronto on the 4th inst., the hospital being a special charge on the girls' auxiliaries of the Anglican churches of this city. Dr. Turner, the superintendent, formerly of Millbrook, Ont., who offered his services gratuitously and who has acted in that capacity since March, 1897, presented his report on the workings of the institution. The hospital is situated among the Blackfoot Indians at Gleichen, N. W. T.; during the year, 193 patients were treated, 158 of whom were cured; only one died and all the others were benefited. In addition to this, 2639 out-door patients were attended to; and the institution has progressed favorably since the erection of the present building in 1894. The donations received in the diocese in which the hospital is located amounted to $811.02, of which amount [illegible] was for the support of the nurses and superintendent.

SMALLPOX AT TORONTO.

The dreaded disease has almost invaded Toronto, having broken out in West Toronto Junction, a suburb, and something like a dozen cases have so far been reported. In connection with the outbreak, considerable ill feeling has been engendered amongst some of the physicians over the diagnosis and recognition of the first case; and the citizens and lay press of the city are endeavoring to place the responsibility for the outbreak. General vaccination is proceeding in the town and as there are a large number of citizens of the Junction who are employed in Toronto and many residents of Toronto who work in factories at the Junction, Toronto's medical health officer is on the alert, has put the smallpox hospital of the city in readiness for the reception of cases, and has established centers for vaccination.

OPPOSED TO DOMINION REGISTRATION.

In Kingston, the home of the Royal College of Physicians and Surgeons, affiliated with Queen's University, opposition has developed to Dominion registration as set forth in the bill about to be introduced in the Dominion Parliament now in session. On the evening of the 5th inst., the Medical and Surgical Society of that city met and discussed the whole question very fully; and the outcome appears not to be in accord with the resolutions passed at the last annual meeting of the Canadian Medical Association. Instead, the medical practitioners of Kingston propose that the Dominion be divided into sections, thus: Maritime provinces, Quebec, Ontario, Manitoba, British Columbia, and the Northwest Territories, each having six representatives in Council; that following the precedent of Great Britain and Ontario, each university of Canada, having a medical faculty actually teaching shall have 1 representative; that all written examinations be held simultaneously at each center at which is a medical school, and that all practical and clinical examinations be held at the same centers in succession. A committee was appointed to have the views of the Kingston society printed, and sent to members of parliament, medical schools and others. This committee has also been deputed to proceed to Ottawa to offer opposition to the bill now before the Private Bills Committee there.

Correspondence.

Students Against Progress.

Clinton, Iowa, Feb. 8, 1900.

To the Editor: An editorial appeared in The Journal for January 20, on "Students Against Progress," which would make it appear that Iowa students were asking to be "exempted from a state examination." There are four medical schools in Iowa, and of that number only one asks for such exemption. A bill was introduced during the present session of the legislature, fostered by the State University, asking that the students of the medical department be exempted from the state board examinations. This measure was opposed by all the other schools, and has thus far been defeated. An amendment was offered which provided that a committee from the board shall visit the different schools at commencement time and conduct the examination in accordance with the provisions of the original medical act. This amendment to the original bill, which was reported favorably by the committee, passed the Senate and will probably become a law.

It is not quite fair to class all Iowa medical colleges and students as being opposed to state examinations, when in fact the opposition comes from only one of them.

Yours truly, D. S. Fairchild, M.D.

[There was no intention of making any invidious remarks in regard to the medical students of Iowa in general. The "Iowa students" in the editorial comment to which our correspondent refers, are those about whom mention had been made in a comment in The Journal of Dec. 16, 1899, p. 1557. We ought to have been more specific in our later mention, and regret that [illegible] Ed.]

"Appropriated for Commercialism."

New York City, Feb. 10, 1900.

To the Editor: I read with much interest your editorial on page 372 of The Journal for February 10, with the above title, and I asked myself the question, why was not the act of the "enterprising drug firm" that "printed 120,000 reprints of a paper by a well-known author and sent them broadcast to the profession" a meritorious act?

The author contributed something new and valuable to medical science. The "enterprising drug firm" aided in diffusing that knowledge more generally to the medical profession for whom it was intended by the author. The publication of the paper without copyright made it public property. The author might have copyrighted it and made money by its sale, but he evidently did not care to do so, for he contributed it freely to science. Your editorial states that "the enterprising drug firm" was interested in the sale of the drug written about. The firm's motive was, therefore, just what the author's would have been had he written his paper for sale to the medical journal. Is there anything wrong in this? Possibly the firm in question had received a grant from the Government permitting said firm to exclude other drug houses from manufacturing the same article for seventeen years. If so, was there anything wrong in that? The author might have copyrighted his paper and thus prevented any other writer from copying it for thirty years. Where does the difference come in? Is there any difference in principle between the author copyrighting his paper and the inventor patenting his invention? Why should authors be rewarded by governmental grants and inventors go unrewarded?

The position of the medical profession on this subject of medical monopolies seems to me to be very inconsistent. Monopolies of knowledge should never be indorsed by physicians, and yet members of the medical profession extensively prescribe medicinal preparations whose method of manufacture is entirely unknown to science. While guilty of this direct violation of the Code of Ethics, they condemn the patenting of medicinal inventions, forgetting that *a thing patented is a thing divulged.* The patent law requires that the invention shall be "new and useful," and that "before any inventor or discoverer shall receive a patent for his invention or discovery, he shall make application therefor, in writing, to the Commissioner of Patents, and shall file in the Patent Office a written description of the same, and of the manner and process of making, constructing, compounding, and using it, in such full, clear, concise, and exact terms, as to enable any person skilled in the art or science to which it appertains, or with which it is most nearly connected, to make, construct, compound, and use the same." What is there any more ethical than that? If physicians should insist that every medicinal agent or preparation must come up to that standard of requirement, and refuse to prescribe those which do not, what a therapeutic and pharmaceutic millenium we should have!

I admit that there has been a great deal of error sown broadcast by commercialism. In this case, however, I take it that truth was sown, not error. It is the sowing of the truth in regard to every agent of the materia medica that we want, and the patent law, aided by the enterprising drug firms co-operating with the profession, can do much in diffusing a correct knowledge of drugs to the medical profession at large. But this enterprise should be controlled and guided by the profession itself, and not left to work evil as well as good, as it is now.

Certain publishing houses have been known to sow error in regard to their books. They have been known to publish medical journals for the purpose of advertising their books in the advertising columns and in the book review columns. They have reprinted what medical men said about their books, and have sent these reprints broadcast to the medical profession. The books have been copyrighted, and therefore monopolized. Authors have joined with publishers in bringing these monopolized works to the attention of the profession throughout the world. So long as truth is told about the books, and not error, it is considered perfectly ethical for physicians and publishers to co-operate in conducting the commercial business of writing and publishing books and profiting in their sale by advertisements in medical journals, reprints, circulars, etc. Why should publishers have such privileges extended to them and "enterprising drug firm" be denied them.

What we really need very much is a national or international therapeutic society to take up this question of materia medica and place it under professional censorship and control. "Enterprising drug firms" would then be placed in a position where they could co-operate with the profession, and the profession could co-operate with them, without having the motives of either misunderstood. A great force is here going to waste, which might be utilized with much benefit by the medical profession. The beneficent results which would accrue to the profession, to the medical press, to science, to humanity, if the great force of honest commercialism could be employed in this way, can readily be imagined. Commercialism has been exceedingly useful to the profession in the publication of medical books and medical journals. Can this force also not be of equal service to the medical profession if placed under proper control and in the department of drug and chemical manufacture?

Franciscum.

[Our correspondent apparently ignores the fact that a person contributing scientific material may sometimes object to having his name used for a purely mercenary purpose, by outsiders who place him in a position of a paid "hack writer" for a commercial firm. What we claim is that an author ought to have a right to choose what use shall be made of his production, and the copyrighting of medical journals is done to secure this. —Ed.]

Association of American Medical Colleges.

Chicago, Feb. 10, 1900.

To the Editor:—The Association of American Medical Colleges ought to sustain the regular classical and scientific courses of the university and under no circumstances encourage students to leave the university to begin professional study before graduating. If the college curriculum is not worth while to the student, it is a matter for the university authorities to correct. The judicial council has lately passed the following judgment in relation to the application of one of these universities.

ANSWER TO INTERROGATORIES PROPOUNDED BY THE WEST VIRGINIA UNIVERSITY.

The Judicial Council of the Association of American Medical Colleges assumes that the premedical course is provided for students who contemplate studying medicine. The subjects announced for the premedical course being included with those studies leading to the bachelor's degree would entitle the graduates of the West Virginia University to enter the second year's course in a regular medical school.

The premedical course alone can not be accepted as entitling any student to advanced standing; nor, can two years of the premedical course at the West Virginia University in any case entitle a student to enter the third year in any college holding membership in the Association of American Medical Colleges. A certificate of attendance on the premedical course of the West Virginia University can not be accepted alone as sufficient evidence of the preliminary education required by Section 2, Article III of the Constitution, unless it should appear that holders of such certificates have completed all the preparatory studies required for admission to the four years' college course, as set forth on page 5 of the announcement of Dec. 1, 1899, of the West Virginia University.

Dudley S. Reynolds,
Starling Loving,
Randolph Winslow,
Victor C. Vaughan,
Albert R. Baker,
Harold Williams.

This Association allows its members, by anything but a unanimous vote, to admit graduates of reputable colleges and universities to a credit of one year of time on a four year course. This provision, when adopted by a medical school, certainly does encourage students to remain in their colleges and universities to complete the work necessary for the bachelor's degree. It is almost suicidal for any university to adopt a shorter road to medicine, such as was proposed in the premedical courses of some years ago. These were never very popular, either with students or medical schools.

Bayard Holmes, M.D., Secretary.

The Association Button.

Westfield, N. J., Jan. 31, 1900.

To the Editor:—Many thoughts have crowded into my mind since receiving the official button, and I wonder if he who designed it had as much or more in mind when he drew the design. For instance:

A MODERN AESCULAPIUS.

At first sight the red cross attracts our attention and suggests our Master, The Great Physician, in whose footsteps we are trying to follow and who healed the minds and hearts of men, as well as their bodies. The four points of the cross set forth the four cardinal points of the compass, and demonstrate the extent and influence of a physician's work, for it is as extensive as the four ends of the earth, embracing every nation and every clime. The four points also allude to four virtues: courage, discretion, justice, devotion—necessary for every successful practitioner. The cross is *red*, appealing to the heart, and means sincerity. It is on a ground work of *white*, which shows that purity of purpose is a fundamental principle of our profession. The border of *blue* denotes mercy and charity, which are heavenly attributes, and proves the divine nature of our calling. The three colors form a trinity of sincerity, purity and devotion of purpose toward mankind to alleviate his sufferings. All this is on a foundation of gold, for as gold is the costliest of all metals and greatly prized and sought for, so should the healing art be esteemed above all other good gifts.

Yours faithfully,
Frederick Adrian Kinch, M.D.

Book Notices.

Twentieth Century Practice: An International Encyclopedia of Modern Medical Science, by Leading Authorities of Europe and America. Edited by Thomas L. Stedman, M.D., New York. In Twenty Volumes. Volume xviii: Syphilis and Leprosy. New York: William Wood & Co.

This eighteenth volume of the Twentieth Century Practice series contains only three memoirs, those on syphilis by Drs. E. Lang, of Vienna, and Jonathan Hutchinson, and that on leprosy by Dr. Prince A. Morrow. All are valuable monographs, though that of Dr. Hutchinson is brief compared to the others, as might be expected from its subject, inherited syphilis. Both his and Lang's memoirs appear to be very satisfactory treatments of their subjects, covering especially the practical sides of the questions involved. Lang has even found benefit from specific treatment in paresis, the syphilitic origin of which as well as of tabes he seems inclined to favor.

Dr. Morrow's section on leprosy is probably the fullest, readily available memoir on the subject in our language, and certainly leaves a very fair general idea of the disorder in the reader's mind. Dr. Morrow does not believe leprosy can be stamped out by segregation, though he favors this measure as a possible check to the disorder. If we are to have, as some seem to believe, a general recrudesence of the disorder throughout the world, and if, as he thinks, there is a possibility of the disease becoming one of the current maladies, we have a serious question before us, and his suggestion that the National Government take up the control of the disorder is an important one. The space given, therefore, to this, with us, comparatively infrequent disease, in the volume, is well employed and should not be grudged. The volume as a whole keeps up the reputation of the series as a valuable contribution to medical literature.

Practice of Medicine. A Manual for Students and Practitioners. By George E. Malsbary, Assistant to the Chair of Practice, Medical College of Ohio, University of Cincinnati. Edited by Bern B. Gallaudet, Demonstrator of Anatomy and Instructor in Surgery, College of Physicians and Surgeons, Columbia University, New York. Illustrated. Philadelphia and New York: Lea Brothers & Co.

This volume appears to be a good one of its kind, and to afford a fair, up-to-date, brief summary of medical practice. The author has evidently read extensively and carefully and gives the results in addition to facts from personal experience. We notice one or two slips, the most notable one being the rather extreme statement that two-thirds of mankind have tuberculosis and two-sevenths succumb to pulmonary tuberculosis and fully one third to tuberculosis of some form, including affections of the intestines, bones, glands, etc. We were not aware that matters were quite so bad as that. Taken altogether, however, the work can be recommended as fully as meritorious as any other of similar scope and intent.

Care and Treatment of Epileptics. By William Pryor Letchworth, LL.D., ex-president of the New York State Board of Charities. Illustrated. New York and London: G. P. Putnam's Sons. 1900.

The author of this volume, the Hon. W. P. Letchworth, is already favorably known as a philanthropic worker by his previous volume on the insane and their treatment, to which the present one is a companion. In this he takes up the subject of a scarcely less serious human affliction than insanity. The epileptics, excluding such as have the fits only at long intervals and without any perceptible impairment of intellect or emotional control, are a most unfortunate class, many of them practically incapable of earning their own support and hence a burden on their friends or on the state. A large number of these drift into county poorhouses; some even not insane in the true sense of the word, into asylums. It is the care of this class, relatively not so numerous, but still a large one, that this book discusses. Mr. Letchworth has evidently carefully studied his subject and has brought together a large number of facts, not only as to the needs and methods of care of these unfortunates, but also as to what has actually been done in their behalf in this country and abroad. A large part of his work is given to descriptions of epileptic colonies and asylums, of which, in this country, the Ohio institution at Gallipolis and the Craig Colony, of Sonyea, N. Y., are the best known examples. The average reader will probably be somewhat surprised, however, to find that these are not the only ones in the United States, but that a start has been made in California, Massachusetts and Pennsylvania, and under private auspices in some other states. In still other states than those mentioned the movement in this direction has been begun, but the special establishments are not yet in operation. The book is elegantly printed and handsomely illustrated. It will be a valuable reference work on its special subject, and a worthy monument of the philanthropic zeal of its author.

Refraction and How to Refract, Including Sections on Optics, Retinoscopy, the Fitting of Spectacles and Eye-glasses, etc. By James Thorington, A.M., M.D. Illustrated. Philadelphia: P. Blakiston's Son & Co. 1900.

This work will be a useful one to the general practitioner who has made no special study of the technicalities of ophthalmology. It is clearly written and very fully illustrated, and will furnish an aid to the understanding of much that is often practically Greek to others than specialists. There are still some points, however, that the work does not fully make clear, and this is admitted by the author himself, who refers the student to his previously-published memoir on retinoscopy for fuller instructions on this particular method. One, however, who studies the book thoroughly from beginning to end, will be able to obtain a very fair general understanding of its subject, and it is, therefore, to be recommended.

Hermann Ludwig Ferdinand von Helmholtz. By John Gray McKendrick, M.D., LL.D., F.R.SS.L. and E. 8vo. Cloth. Pp. 300. New York: Longmans, Green & Co. 1899.

Hermann Ludwig Ferdinand von Helmholtz was born in Potsdam in 1821. His father was a teacher of philology and philosophy in the Gymnasium; his mother "a lineal descendant of William Penn." Helmholtz entered on the study of medicine in 1838, in the Royal Medico-Chirurgical Frederich-Wilhelm Institute, in Berlin. He commenced his life work, and published his first paper, in that city in 1842, and remained there till 1847, when he became professor of physiology in Königsberg. Here he remained till 1856, and then took the chair of physiology in Bonn. This he held until 1859, when he became professor of physiology in Heidelberg. He was in Heidelberg for twelve years, and, in 1871, removed to Berlin to assume the chair of physics, a position he held till his death.

Had he done nothing else, the man who gave the ophthalmoscope to the world would be entitled to be classed among those who are known as "Masters of Medicine." But the invention of this instrument was one of the small things in the life work of this marvelous genius. Starting as a physician, his wonderful mind soon found the science of medicine too narrow to satisfy its cravings, and it was soon browsing in every part of Nature's field. His genius took in all the sciences, all philosophies, all the arts. Hence to write the history of the life of such a man, and tell of the work he did, required that the biographer, too, should be a man of broad learning, that he might be able to grasp some of the great ideas and loftier motives of the genius he attempts to describe. Such a man the publishers selected to write the life of Helmholtz. Himself a follower of this great master in so many lines of investigation, Professor McKendrick has proved, from the excellent manner in which he has shown us the man and his work, that the choice was well made.

But little space is devoted to the man himself. His personality, his home life, these occupy but a few paragraphs. What he did, what he gave to the world, the knowledge he added to the many departments in which his investigations were made—about these is what the author tells us. And he tells us these things in such a way that one is compelled to acknowledge that von Helmholtz was indeed "a child of genius," and his intellect that of a giant.

System of Diseases of the Eye. By American, British, Dutch, French, German, and Spanish authors. Edited by William F. Norris and Charles A. Oliver. Vol. iv: Motor Apparatus, Cornea, Lens, Refraction, Medical Ophthalmology. Illustrated. Philadelphia and London: J. B. Lippincott Co. 1900.

This fourth volume of the series edited by Norris and Oliver includes the consideration of the subject of the motor disorders of the eye, diseases of the cornea and lens, ametropia and medical ophthalmology. These last chapters will make the work valuable to others than eye specialists, as they give a very complete statement of the facts and views up to recent date. The names of the authors are a guarantee of the value of their work, and the reader will not be disappointed on his inspection. The illustrations are excellent and the general editing of the work worthy of all praise.

Refraction of the Eye, Including a Complete Treatise on Ophthalmology. A Clinical Text-Book for Students and Practitioners. By A. Edward Davis, A.M., M.D., Adjunct Professor of Diseases of the Eye in the New York Post-Graduate Medical School and Hospital. With 119 Engravings, 97 of which are original. New York: Macmillan Co. 1900.

Though the title on the outside of this book is the "Refraction of the Eye," it is a very different kind of work from that of Thorington, published under the same title. It might more properly pass under its subtitle, as a treatise on ophthalmometry, as that is practically what it is. This is not intended as criticism, or as implying anything against the value of the work. The author states that it is intended more especially for beginners, by which he evidently means those who are beginning the study or practice of the specialty of ophthalmology, but he hopes its clinical details will interest others and that it will especially be read by oculists who, though having the ophthalmometer, do not use it. It will therefore have a large clientele of readers, and since, indeed, it is about the only treatise in English on ophthalmometry, it ought to be in great demand. The author makes the subject quite clear.

Bacteriology in Medicine and Surgery. A Practical Manual for Physicians, Health Officers, and Students. By Wm. Hallock Park, M.D., Associate Professor of Bacteriology and Hygiene, University and Bellevue Hospital Medical College. Assisted by A. R. Guerard, M.D., Assistant Bacteriologist, Department of Health, City of New York. Illustrated with 87 engravings and 2 colored plates. New York and Philadelphia: Lea Brothers & Co.

This is another candidate for professional favor as a handbook of bacteriology, and from examination it appears to be a good one. It seems only to cover the subject in its pathologic aspects, the sanitary questions not being extensively treated. As these come within the scope of the studies and duties of the medical practitioner, this is to some extent a defect, but one that is usual in works of this kind, and therefore not so much a drawback to this particular work. Nearly two-thirds of the book is devoted to the description of the various, chief pathogenic bacteria, the first 262 pages covering the general subject of the natural history of bacteria, their resistance, immunity, disinfection and sterilization, and the general methods of culture and microscopic examination.

THE URINE AND CLINICAL CHEMISTRY OF THE GASTRIC CONTENTS, THE COMMON POISONS, AND MILK. By J. W. Holland, M.D., Professor of Medical Chemistry and Toxicology, Jefferson Medical College, Philadelphia. 41 Illustrations. Sixth Edition. Revised and Enlarged. Price $1. Philadelphia: P. Blakiston's Son & Co. 1899.

This pocket-sized volume is intended to be used as a syllabus for the laboratory, and contains blank pages for calculations, etc. The general heads of the "Table of Contents" will give an idea of the matter considered: "Composition of Healthy Urine;" "Reagents and Apparatus;" "Examination of Morbid Urine;" "Examination of Gastric Contents;" "Examination for Common Poisons;" "Study of Normal Milk." Each of these subjects is then subdivided and the different steps taken up under various subheads, the most important data being given in large type, the much less essential matters being less prominent from their smaller type presentation, but at the same time enabling the investigator to go more into detail in his examinations if he so desires. We commend the manual, for its handy form and excellent arrangements.

Association News.

Section on Materia Medica.—Members who wish to present papers to the Section on Materia Medica, Pharmacy and Therapeutics will kindly send titles, with brief abstracts of their papers, to the secretary, Dr. J. W. Wainwright, 177 W. 83d Street, New York City, at once, as it is desirable to have the program completed by March 15 at the latest. The following are some of the names of those who will participate: Drs. James Tyson, J. H. Musser, J. M. Anders, H. A. Hare, Frank Woodbury, S. Solis-Cohn, and Jos. P. Remington, of Philadelphia; F. Billings, G. F. Butler, D. R. Brower, and N. S. Davis, Jr., of Chicago; E. G. Janeway, L. F. Bishop, T. F. Rielly, H. Stern, E. H. Squibb, and Charles Rice, of New York City; F. C. Shattuck and F. G. Wheatley, of Boston; E. C. Brush, Zanesville, Ohio; A. L. Benedict, Buffalo, N. Y.; J. M. Upshur, Richmond, Va., and A. M. Holmes, Denver, Colo. The officers expect to make the meeting at Atlantic City one of great scientific and social interest, and invite those interested in this Section work to participate.

Deaths and Obituaries.

E. L. HOLMES, M.D., LL.D.

EDWARD LORENZO HOLMES, M.D., was born Jan. 28, 1828, at Dedham, Mass., and died of pneumonia, Feb. 11, 1900. His father, Edward B. Holmes, was a merchant of Dedham, and fitted his boy in his native village for Harvard College. He graduated from this school at the age of 21, and then went to Roxbury, Mass., and taught in the Latin School there. He graduated from the medical department of Harvard in 1854, his first work thereafter being as an interne in the Massachusetts General Hospital, Boston. He then went to Europe and on his return to this country came to Chicago, where he located in 1856. He at once entered active practice as a specialist in eye and ear work, at the time when specialism was not as prominent a factor in medical life as it is to-day. He was here a moving spirit in the founding of the Illinois Charitable Eye and Ear Infirmary in 1858, and from then until recently he has been at the head of its medical and surgical staff. He also took an active part in the founding of the Presbyterian Hospital in 1883-85 and shared with Dr. Lyman Ware the honor of being the first attending surgeon in the treatment of ophthalmic and aural diseases. In 1860 Dr. Holmes was called by the faculty of Rush Medical College to assume the chair of clinical lecturer on diseases of the eye and ear and from that time until two years ago he was one of the principal men connected with that institution. He was elected to a full professorship in 1867, and president of Rush Medical College in 1890, succeeding Dr. J. Adams Allen. On his 70th birthday, Jan. 28, 1898, he resigned his position as president of the college and from the faculty. Dr. Holmes was also a trustee of Lake Forest University and was connected, either in an honorary or active capacity, with many of the important medical institutions in the state. He was a director in the Central Free Dispensary, Chicago, a member of the Physicians' Club, Chicago Medical Society, a life member of the Illinois State Medical Society, and since 1877 has been a member of the AMERICAN MEDICAL ASSOCIATION. Dr. Holmes married Miss Paula Wieser, of Vienna, in 1862.

By the death of Professor E. L. Holmes, another of the links which connect the old with the new in medicine in Chicago has been removed. He was intimately associated with the pioneers of the medical profession in Chicago—J. Adams Allen, Moses Gunn, J. W. Freer, Daniel Brainerd, who have passed beyond, and others. His sterling worth and his noble character show themselves in his influence as an educator and as a practitioner, and few men have had a greater influence for good in the city in which he made his home than he. He took great interest in the many institutions with which he was directly or indirectly connected and his life has been one continued labor for the upbuilding of his profession and for the bettering of humanity. He came to Chicago forty-four years ago as a stranger, but dies revered and loved by all who knew him, not only for what he was, but for what he did. He was a scholar in every sense of the word, and while he wrote but little, yet his influence was felt much more than that of some who wrote much. Patient with all, charitable and kindly, he leaves a fragrant memory behind, and the good that he did lives after him.

ABEL PARKER RICHARDSON, M.D., Walpole, N. H., died February 5, at the age of 66 years. He received his medical degree from the Dartmouth Medical College in 1864, afterward taking a post-graduate course at Harvard. He was a member of the school board in Walpole from 1867 till 1877, and town clerk for more than thirty years. He was a member, and in 1881 president, of the Connecticut River Valley Medical Society, and in 1895 of the Cheshire County Medical Society. In 1896-7 he was vice-president of the New Hampshire Medical Society, and a member of the AMERICAN MEDICAL ASSOCIATION.

ROBERT W. DORSEY, M.D., died in Baltimore, February 4, of dropsy. He was the last member of an old Maryland family, and was born in 18[illegible] at Bellevue, near Catonsville, Md. He graduated at St. Timothy's College, with Edwin and John Wilkes Booth and Gen. Fitzhugh Lee. He took his M.D. at the University of Maryland in 1856, and was resident physician of the Baltimore Almshouse in 1856-7. For many years he resided in Baltimore, retiring from practice fifteen years ago. He never married.

J. H. PETTENGILL, M.D., Saxtons River, Vt., died February 8. He was born in 1837, during the Civil War served in the 16th Vermont Regiment, and was a graduate from the medical department of Harvard, class of 1866. He was for many years health officer of his town, and was a member of the Vermont and Connecticut River Valley Medical societies.

S. P. CARBEE, M.D., Haverhill, N. H., a member of the AMERICAN MEDICAL ASSOCIATION, died January 31. He was born in 1836, and during the Civil War served in the 12th New Hampshire Volunteers, in 1863 being commissioned assistant-surgeon. He was also elected to the legislature in 1894, and had been surgeon-general of his state.

JOHN T. HOLLAND, M.D., a native of Queen Ann's County, Md., died in Baltimore, of apoplexy, on February 5, aged about 65. He took his medical degree at the University of Maryland in 1862, and practiced in his native county until 1895, when, his health impaired, he moved to Baltimore.

CHAUNCEY W. AMY, M.D., Decorah, Iowa, died of pneumonia January 29. He was born in Ohio in 1842, and during the Civil War was a member of the 2d Colorado Cavalry. He was a graduate of Rush Medical College, Chicago, class of 1879.

Z. K. BROWN, M.D., Virginia, Minn., died on the 2d inst., at the age of 39 years. He was a graduate of the University of Virginia and the Jefferson Medical College, Philadelphia, class of 1889.

T. J. O'SULLIVAN, M.D., Bellevue, New York City, died after a long illness, from cancer, at his home in Derby, Conn., February 9.

T. DANA FITZSIMMONS, M.D., Long Island College Hospital, 1897, died at his home in Brooklyn, N. Y., February 4, aged 25 years.

We also note the following deaths:

R. D. Farnish, M.D., Mayersville, Miss., February 3, aged 54 years.

W. A. Hartman, M.D., Pittsford, N. Y., February 3, aged 71 years.

Samuel W. Lincoln, M.D., Moline, Ill., February 7, aged 44 years.

Isaac Lindsay, M.D., East Liverpool, Ohio, February 2, aged 27 years.

Oscar Marsh, M.D., Carlisle, Mass., February 2, aged 89 years.

Robert Percy, M. D., Newellton, La., February 2, aged 67 years.

Wm. B. Taylor, M.D., McKeesport, Pa., February 3, aged 40 years.

W. T. Carroll, M.D., Malvern, Ark., February 5.

John R. Humphrey, M.D., Acworth, February 7.

W. V. Rightmire, M.D., New York City, aged 35 years.

W. H. Smith, M.D., Akron, Ohio, February 6, aged 59 years.

DEATHS ABROAD.

A. Bué, France, best known for his studies and works on "Curative Magnetism," and his international review, *Concordia*, published as a propaganda for universal peace, is dead....Dr. Devay, vaccinating an insane patient at the Lyons asylum, was fatally stabbed in the abdomen with an instrument the patient had concealed. Dr. Devay was editor of the *Echo Med. de Lyon* and contributed to the *Archives de Neurologie*, etc.

Miscellany.

The New Century.—Virchow declares that whether the statisticians accept it or not, psychologically the new century has already commenced, evidenced in the stimulus to feverish activity that is being manifested on every hand. Especially in the practice of medicine, he adds, many are hoping that the near future will see it assume a different form.

Destruction of Mosquitoes.—Laveran confirms the destructive effect of kerosene poured on the surface of water, to the mosquito larvæ in it, and has established that they are killed not by the exclusion of air from the water, as hitherto supposed, but by droplets of oil getting into their tracheæ. He states that 15 c.c. of kerosene is sufficient to destroy all the larvæ in a square meter of water.

Athetosic Movements of Fingers a Sign of Impending Chloroform Asphyxia.—Koblanck, *Semaine Méd.*, January 24, calls attention to the rhythmic athetosic movements which occur sometimes in chloroform anesthesia as the reflexes are abolished. He considers them a warning of impending asphyxia. The administration of the chloroform should be suspended at once and the mask removed, when the movements will subside and the narcosis proceed smoothly. Otherwise asphyxia speedily follows.

Psychic Troubles of the Virile Menopause.—The alteration in the character observed in certain men between 40 and 50 years old, which so frequently takes the form of a craving for sexual dissipation, perversion, savage jealousy, inexplicable love affairs, is a manifestation of the menopause which occurs in men as well as in women, according to the ideas recently advanced by M. Bombarda, reproduced in the *Bulletin Méd. de Quebec*. All these troubles have in common the same concentration of the psychic energy on a single object, and the sexual character of the manifestations noted.

Bran as a Bed for Babies.—The *Jour. de Méd. de Paris* describes the custom in vogue in some parts of France, especially Picardie, of filling the cradle with clean bran for the infant to lie on, naked below the waist, the covering suspended from the edge of the cradle so it does not come in contact with the child. The bran is extremely elastic and clean. The dejecta form balls dry on the outside and easily removed. The infant's limbs and thorax are free from the slightest constraint; there is no odor nor necessity for laundrying. The bran does not require changing oftener than once a month. A blanket is wrapped around the infant when taken up to nurse, or it is dressed à l'anglaise.

Pneumographic Tracings in Diagnosis of Pulmonary Tuberculosis.—Brouardel has been taking tracings of the respiration in a large number of phthisics and announces (*Semaine Méd.*, January 24), that they differ specifically from the tracings in health and in other diseases, and afford a valuable means for the early differentiation of tuberculosis. The line makes the usual rise, then a slight inward curve and abruptly stops, commencing again with the line of inspiration at a distinct angle. The total length of the line thus traced is three to four seconds, consequently longer than the lines of expiration and vacuum in normal respiration. The tracings of different tuberculous subjects can all be compared with each other at various stages of the disease, only differing in amplitude.

Latent Survival of the Functional Properties of the Organism in Apparent Death.—J. V. Laborde has continued his study of apparent death, and now announces that in the extinction of the vital functions—the death of the organism—there are two phases. The first is the suspension of the functions essential to the maintenance of life, respiration and circulation, with the persistence of the properties of the tissues and organic elements. The latter remain latent, however, with no external manifestations, although some can be detected with radiography and tracings. During the second phase these functional properties disappear in turn: first the sensory property becomes extinct; secondly the motor function, and third and last, muscular contractility. Systematic traction of the tongue has revealed a persistence of latent life for a length of time hitherto undreamed of, and renders resuscitation possible at any time before the latter part of the second phase, even as late as after three hours of apparent death. Traction of the tongue by reflex action starts muscular contraction again, and re-establishes respiration and circulation even without air, as THE JOURNAL mentioned in describing his tests with dogs in complete asphyxia, February 3, p. 313. He described, at a recent meeting of the Paris Acad. de Méd., the dramatic revival, by traction of the tongue, of a girl of 13, who had just died of a scrofulo-tuberculous affection. Respiration and circulation were completely re-established in twenty minutes, but the organic changes which had induced death precluded any permanent restoration. He has found that excitation of the superior laryngeal nerves in normal conditions arrests the respiratory phenomena, and induces asphyxia, while in asphyxia it has the opposite effect, starting the mechanism again. Continuous and sustained traction of the tongue is most effective in arresting the function, and intermittent or rhythmic traction in starting the arrested function. Consequently continuous traction is most effectual in controlling hiccough.

Prevalence of Smallpox.—Smallpox is prevalent in thirty states in the Union, but has reached epidemic proportions in very few. The following are abstracts from letters received from several health officers of infected states in response to a recent inquiry concerning the progress of the disease:

Florida.—Dr. Joseph Y. Porter, State health officer, writes: "It seems impossible to make the people of our state give the subject very serious consideration. We have had smallpox in Florida for the past two years, and as fast as it is eradicated it is re-imported from Georgia, Alabama, or some of the other neighboring states. Whenever a case appears, telegraphic report is immediately made to this office and one of the medical sanitary agents of the Board at once assumes charge, with the result that the disease is temporarily eradicated. But as I have before said, it is only exterminated to be re-introduced. It has prevailed principally among the negro laborers in turpentin, logging, phosphate and other industries. Great hordes of negro laborers are constantly being brought from the adjoining states, and it is in this manner that the disease is principally carried. The Board furnishes free vaccin virus to the physicians where it is used gratuitously, and we have distributed in this manner nearly 200,000 tubes.

Indiana.—Dr. J. N. Hurty, secretary of the State Board of Health, states that smallpox is very prevalent in the southern half of Clay and Vigo counties, also the western portion of Owen and the southern portion of Washington and Greene counties, and exists in the northern part of the state, but not in epidemic form. It is estimated that there are at least 1000 cases in Indiana at the present time. In Clay City, a town of about 1500 inhabitants, the disease has prevailed since last November, and the physicians failed to recognize it. Twelve deaths have been reported so far since last March. It is the belief of the authorities that there have been more deaths, but the physicians have not so reported. When the correct diagnosis is made, the health officer is sometimes threatened, and newspapers and business men everywhere do not hesitate to condemn them. They make a great deal of the supposed argument that the disease is mild and, therefore, can not be smallpox. We are combating it in this state by vaccination wherever the same will be accepted, and by enforced quarantine, isolation and disinfection.

Pennsylvania.—Dr. Benjamin Lee says smallpox first made its appearance, during the present epidemic, on the southern border of the state, in 1898, near Dunbar, Fayette County, whence it spread to Sayre, Bradford County, and thence to the mountain regions of Bedford County, first attracting serious attention in the borough of Bedford, in December, the number of cases reported from the beginning of the outbreak up to January 20, 1900, having been 1211, with 16 deaths. The moment that the Board was convinced of the presence of the infection scattered broadcast through the mountainous regions of the state, an appropriation from the emergency fund was furnished, but notwithstanding the efforts of the Board the disease continued to spread in the western part of the state, and its dissemination was evidently caused in great measure by the failure or refusal of physicians to recognize its true character. At the present time there are 10 cases in the State, in five localities.

South Carolina.—Secretary James Evans states that the mildness of the disease and the unusually low mortality of less than 1 per cent. are largely responsible for its rapid spread among the more ignorant and illiterate classes, who fear vaccination more than smallpox. Another difficulty is that the health organization is confined to incorporated cities and towns, and does not extend to the rural districts. As a consequence the disease gains considerable headway before being brought to the attention of the authorities. Smallpox in this state has been confined almost exclusively to the negroes living in counties in the southern part of the state and along the Savannah River, the sea islands near Beaufort, and between Florence and the City of Savannah. The disease among the whites has been confined to illiterate employees in cotton factories, who endeavor to escape vaccination by every means in their power. Another cause of its spread was the unusual amount of railroad construction last year, which established many foci of infection. In a few days the disease appeared in Orangeburgh, Denmark, Govan, Allendale, Almeda, Evansville, Sycamore, Luray, Olar, Bluffton, Hilton Head and Defuskin. The two last-named are sea islands with a dense negro population, engaged in oyster dredging, and possessed of every facility for the evasion of the sanitary officers on the mainland. The disease has been suppressed in all places except Bluffton and Hilton Head, where there are still a few convalescents. The disease prevails at Greenville, Table Mountain, Dexter and Clifton. The present legislature is confidently expected to pass a compulsory vaccination law, as practically three-fourths of the population are unprotected. It is hoped that the law will make vaccination a prerequisite to admission to the schools, factories of every description and all transportation companies.

The following cases of smallpox have been reported to the U. S. Marine-Hospital Service during the week ended February 9:

Alabama, Mobile, 1; Arkansas, generally prevalent; California, Los Angeles, 3; District of Columbia, 3; Florida, Jacksonville, 5; Illinois, Springfield, 1; Indiana, Clay County, prevalent, Evansville, 6; Louisiana, Calcasian, 5;, DeSoto, 1, Iberia, 3, New Orleans, 28 cases and 30 deaths, Shreveport, 8, Tangipahoa, 1; Massachusetts, Barton, 1, Lawrence, 1; Minnesota, Minneapolis, 8; New York, New York, 2; Ohio, Cincinnati, 3, Cleveland, 27; Oregon, Portland, 1; Pennsylvania, Philadelphia, 5; South Carolina, Greenville, 1; Tennessee, Nashville, 6; Texas, San Antonio, 12 counties and localities, 43; Utah, Salt Lake City, 1; Virginia, Portsmouth, 4 cases and 2 deaths, Roanoke, 12; Washington, Spokane 75; West Virginia, cases are reported in the following counties: Calhoun, Gilmer, Mingo, and Upshur; Wisconsin, Lafayette County, 1, Lemonweir, 5 cases and 1 death, Mauston, 1.

Queries and Minor Notes.

PRACTICE IN WISCONSIN.

CEDAR RAPIDS, IOWA, Feb. 8, 1900.

To the Editor.—I hold a diploma from the Northwestern University Medical School (Chicago Medical College), and propose soon entering practice in Wisconsin. Will you kindly inform me whether that state now requires anything additional to the presentation of a diploma? J. B. S.

ANSWER.—The Wisconsin law requires the submission to the Board of Examiners of a diploma from a medical college that requires at least three courses of not less than six months each before graduation. Failing this the applicant must pass an examination. After 1904 at least four courses will be required. For further particulars as to fees, etc., address H. N. Ludwig, M.D., Secretary, Richland Center, Wis.

CALIFORNIA PRACTICE LAW.

BLUE HILL, NEB., Feb. 7, 1900.

To the Editor.—Will you please inform me as to the law governing the practice of medicine in California? W. C. F.

ANSWER.—The requirements for practice in California are the presentation of an acceptable diploma to one of the three state boards—regular, homeopathic, or eclectic—with affidavits stating the course of studies pursued, and that the applicant is the legitimate holder of the diploma and the person named therein. The fee for the certificate is $5. The secretary of the regular board is Dr. C. C. Wadsworth, 1104 Van Ness Ave., San Francisco, Cal. This question was answered in THE JOURNAL last year (Vol. xxxiii, p. 622.).

The Public Service.

ARMY CHANGES.

Movements of Army Medical Officers under orders from the Adjutant General's Office, Washington, D. C., Jan. 27 to Feb. 1, 1900, inclusive.

Bailey K. Ashford, lieut. and asst.-surgeon, U. S. A., previous orders appointing him a member of an army medical examining board in Manila, P. I., revoked.

Charles Y. Brownlee, acting asst.-surgeon, from the Division of the Pacific to duty in the Department of California.

Jere B. Clayton, lieut. and asst.-surgeon, U. S. A., from the Department of the Pacific and Eighth Army Corps to the Department of California.

Robert W. Cutler, acting asst.-surgeon, now at Fort Columbus,

N. Y., relieved from the Division of Cuba for annulment of contract.

James P. Kimball, major and surgeon, U. S. A., from Fort Columbus, N. Y., to Omaha, Neb., as chief surgeon, Department of the Missouri.

Egon A. Koerper, lieut.-col., deputy surgeon-general, from duty as chief surgeon, Department of the Missouri, to his home, where he is authorized to await retirement.

Charles D. Noble, acting asst.-surgeon, from Columbus Barracks, Ohio, to the Department of California.

John L. Phillips, captain and asst.-surgeon, U. S. A., from duty as attending surgeon and examiner of recruits at Boston, Mass., to temporary duty at Fort Columbus, N. Y.

Edward C. Poey, acting asst.-surgeon, to temporary duty at Fort Riley, Kans.

Frederick P. Reynolds, captain and asst.-surgeon, U. S. A., relieved from Fort Slocum, N. Y., and from the operation of previous orders directing him to accompany recruits on the transport *Sumner* to Manila, P. I.; he will report for duty in the Department of California and is detailed a member of an examining board in Manila, vice Lieutenant B. K. Ashford, asst.-surgeon, U. S. A.

Henry R. Tilton, lieut.-col., deputy surgeon-general, U. S. A., retired from active service, February 1.

NAVY CHANGES.

Changes in the Medical Corps of the U. S. Navy for the week ending Feb. 3, 1900:

Surgeon H. E. Ames, detached from duty in connection with the *Kearsarge* and ordered to duty on board that vessel.

Medical Inspector J. C. Boyd, commissioned as medical inspector from Oct. 25, 1899.

Pharmacist R. Waggener, detached from the Pensacola navy yard and ordered to be examined at the Washington navy yard February 13, for retirement, and then home to wait orders.

Changes by cable from Asiatic Station.

Asst.-Surgeon J. J. Snyder, detached from the *New Orleans* and ordered to the *Isla de Cuba*.

MARINE-HOSPITAL CHANGES.

Official list of the changes of station and duties of commissioned and non-commissioned officers of the U. S. Marine-Hospital Service for the 7 days ending Feb. 1, 1900.

P. A. Surgeon C. P. Wertenbaker, to proceed to Winston, N. C., for special temporary duty. To proceed to High Point, N. C., for special temporary duty.

P. A. Surgeon J. A. Nydegger, to proceed to Manila, P. I., and report to P. A. Surgeon J. C. Perry for duty.

Asst.-Surgeon S. R. Tabb, granted extension of leave of absence for 7 days on account of sickness.

Asst.-Surgeon S. B. Grubbs, to proceed to Marseilles, France, for temporary duty.

Acting Ast.-Surgeon H. B. Kauffmann, granted leave of absence for thirty days, on account of sickness, from Feb. 3, 1900.

HEALTH REPORTS.

The following cases of smallpox, yellow fever and cholera have been reported to the Surgeon-General, U. S. Marine-Hospital Service, during the week ending Feb. 9, 1900:

SMALLPOX—FOREIGN.

Austria: Prague, January 6 to 13, 5 cases.

Belgium: Antwerp, January 6 to 13, 5 cases, 1 death; Ghent, January 13 to 20, 1 death.

Egypt: Cairo, January 7 to 14, 1 death.

England: Liverpool, January 13 to 20, 1 death; London, January 13 to 20, 21 cases; Southampton, January 13 to 20, 1 case.

France: Lyons, January 6 to 13, 2 deaths; Nice, January 13 to 20, 2 cases, 2 deaths; Paris, January 13 to 20, 1 death.

Germany: Hamburg, December 31 to January 13, 4 cases, 1 death; Konigsburg, January 6 to 13, 4 cases, 1 death.

Greece: Athens, January 13 to 20, 4 cases, 1 death.

India: Bombay, December 26 to January 2, 68 deaths; Calcutta, December 16 to 23, 3 deaths.

Mexico: Chihauhua, January 20 to 27, 3 deaths.

New Brunswick: Campbellton, January 27 to February 3, 8 cases.

Russia: Moscow, December 23 to 30, 1 death; Odessa, January 6 to 13, 8 cases, 4 deaths; Riga, November 1 to 30, 15 deaths; St. Petersburg, January 6 to 13, 17 cases, 3 deaths; Warsaw, December 31 to January 10, 11 deaths.

Scotland: Edinburgh, January 13 to 20, 1 case.

Spain: Corunna, January 6 to 13, 3 cases.

Switzerland: Zurich, January 6 to 13, 1 case.

YELLOW FEVER—FOREIGN.

Cuba: Havana, January 20 to 27, 3 cases, 1 death.

Mexico: Vera Cruz, January 20 to 27, 1 death.

CHOLERA.

India: Calcutta, December 16 to 23, 26 deaths.

CHANGE OF ADDRESS.

Adles, W., from Pinckneyville, Ill., to Duquoin, Ill.

Cushing, C., from Washington, D. C., to 696 Sutter St., San Francisco, Cal.

[illegible], H. O., from Auburn, Ind., to Garrett, Ind.

Bennett, S. B., from Los Angeles, Cal., to Fair View, Ill.

Riche, H. G., from Chenevville, La., to Devall, La.

Blackburn, M. H., from Dover, Ill., to Ray, Ill.

George, A. B., from 683 Van Buren St., to 204 South Lincoln St., Chicago, Ill.

Lamerton, W. E., from 325 S. Hermitage to 384 South Paulina, Chicago, Ill.,

Howard, J. T. D., from Salem, N. J., to Shiloh, N. J.

Erdman, C. A., from Syndicate Block, to Dayton Bldg., Minneapolis, Minn.

Shrvock, A. Q., from Battle Creek, Mich., to 28 33d Place, Chicago, Ill.

Wetherell, H. G., from 1511 Logan St., to 1665 Sherman Ave., [illegible]

[illegible], W. J., from [illegible] to 1485 Jackson Boul., Chicago, Ill.

Seymour, W. F., from Chicago, Ill., to Polo, Ill.

Beardsley, J. A., from Rock Island, Ill., to 6405 Eggleston Ave., Chicago, Ill.

Hoode, H., from Sioux City, Iowa, to 5 West Superior St., Duluth, Minn.

Platt, J. J., from St. Paul, Minn., to Pembina, N. D.

McLean, Mary H., from 2884 Delmar St., to 3880 Washington Ave., St. Louis, Mo.

Fisk, F. F., from Hepler to Price, Utah.

THE JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION

is published weekly, at 61 Market Street, Chicago, Ill. The subscription price is five dollars per annum in advance. Postage in the United States, Canada, Mexico, Guam, Porto Rico and the Philippines, free; foreign postage,, $2.50. Subscriptions may commence at any time. Volumes begin with the first issue of January and of July.

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The Journal of the American Medical Association

Vol. XXXIV CHICAGO, ILLINOIS, FEBRUARY 24, 1900. No. 8.

Original Articles.

TREATMENT OF TYPHOID FEVER.*

BY FRANK BILLINGS, M.D.
CHICAGO.

Typhoid fever is an acute infectious fever, caused by a specific microbe—the bacillus typhosus. It is a filth disease and a so-called water-borne infection. The bacterium gains access to the body, in the great majority of cases, through the ingesta. Water is the usual carrier. Contaminated milk or other food, and dust laden with the bacillus, either inhaled or swallowed, are sources of the infection. Upon the local and state boards of health devolves the question of the manner of typhoid contamination of water and food and the measures which may correct the evil. Upon the practitioner, however, falls a responsibility which is very important in respect to prophylaxis.

The bacillus finds egress from the body of the patient chiefly by the feces and the urine. The infected excreta may contaminate all objects and materials with which they come in contact. The soiled person and clothing of the patient and the bed may directly infect the sickroom attendants, the laundress and others, if proper cleanliness of the person of the patient and of the hands of the attendants is not thoroughly carried out. Therefore, the feces and the urine should be properly disinfected in every case. A 10 per cent. solution of formaldehyde, a good preparation of chlorinated lime, a 5 per cent. solution of carbolic acid, boiling water, and sulphate of iron may be successfully used. Soiled clothing should be placed to soak in a strong solution of carbolic acid. Personal cleanliness of the patient and of the attendant should be maintained by frequent bathing of the body and the hands. Further, suspicious water and milk should be sterilized by boiling before use. Flies are now known to be carriers of typhoid and other contagions, so that all food exposed to possible infection by these pests should be thoroughly cooked. After the recovery of the patient, the mattress, the blankets, etc., should be thoroughly aired in the rays of the sun and, if soiled, should be disinfected by steam heat. The bed should be washed with hot water and soap.

The production of artificial immunity from typhoid fever as a prophylactic measure, by inoculation with typhoid cultures, or with typhoid serum, has been practiced on man and animals with apparent success.

Pfeiffer and Kolle[1] asserted that they immunized man and animals against typhoid fever by a twenty-four-hour-old agar culture of typhoid bacilli, of which 0.002 gram was mixed with 1 c.c. of bouillon, and used subcutaneously. This was followed in man by a transient rise of temperature to 38.5 C., with moderate headache and loss of appetite. In ten days the blood showed the agglutinative and solvent action on typhoid bacilli. The statement was made that the toxin exists in the bodies of the dead and living bacteria.

Pfeiffer and Marx[2] made experiments on the principle followed by Pfeiffer and Kolle. For immunizing men they used 0.002 mg. of dead eighteen-hour agar cultures of typhoid. Reaction occurred quickly, with a slight rise of temperature, headache and insomnia. After ten days the serum of the blood showed a solvent action on the typhoid bacteria. In animals so treated, the serum of the blood became protective to other animals. Pfeiffer and Marx inoculated three servants in the hospital. Reaction occurred at once with temperature of 38 C., malaise, etc. Local swelling, pain and redness occurred at the point of inoculation, but disappeared in twenty-four hours. After ten days the serum caused agglutination of typhoid organisms in dilutions of 1 to 5, and 1 to 10.

Brieger, Kitasato and Wasserman[3] grew typhoid bacilli in thymus bouillon for three days. What they term an antitoxic body in the thymus cells reduced the virulence of the typhoid poison, so that in the subsequent heating to 60 C. for fifteen minutes, the thymus culture was attenuated sufficiently to make its use safe in man, and, at the same time, sufficiently protective.

On October 26, they injected six mice with 0.5 c.c. of thymus typhoid bouillon, heated for fifteen minutes at 60 C. The animals presented no signs of illness, and November 7 the six protected mice and three other control animals were inoculated in the peritoneal cavity with 0.3 c.c. of most virulent typhoid bouillon. The three control animals died in fourteen hours. The protected animals all survived without signs of illness.

Chantemesse[4] found the toxin in the bodies of typhoid bacteria and not ordinarily in the liquid part of the culture. He succeeded in securing a soluble toxin by special culture-media, and states that animals reacted differently. A guinea-pig is very susceptible; a rabbit more resistant. The horse is susceptible in varying degree. Horses injected every one to two weeks, for two or three years, usually showed a marked reaction to each inoculation and did not become immune. One horse became immune after two years of repeated injections, during which time six liters of the typhoid toxin were used. Guinea-pigs given 1/50 c.c. of the antitoxic serum of this horse survived fatal doses of toxin; when given 1/100 to 1/200 of protective serum, followed by a dose of toxin sufficient to kill in five to six hours, the pigs lived forty-eight and twenty-four hours respectively. He found the same protective influence of the serum in other animals and in man.

In England and British India more extended attempts have been made to immunize man. Wright[5] inoculated 95 of 200 attendants at the Maidstone Asylum. In a succeeding epidemic, 19 of those not inoculated contracted typhoid; none of the protected 95 were ill. Of 8 officers, 6 were inoculated and 2 were not. The 2 not protected had enteric fever; the 6 escaped. Wright also states that he inoculated 3000 troops, and that more than one-half escaped typhoid fever.

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*Read in a Symposium on Typhoid Fever at a joint meeting of the Chicago Medical Society and the Chicago Society of Internal Medicine, Jan. 31, 1900.

Duckworth[6] inoculated two men with 1 c. c. of sterilized serum at 9:30 a.m., causing febrile reaction to 100 F., and a pulse of 95 seven hours later. There was headache, impaired appetite and thirst. The point of inoculation became sore, red, and remained tender for forty-eight hours. Ten days later a second inoculation was made in the groin. Locally there was less pain and tenderness than before. Reaction occurred with a temperature of 100.8 F., and a pulse of 80. On the next day the point of inoculation was red and tender, and a gland of the groin was tender and enlarged; urine scant and dark; Ehrlich's reaction absent. On the seventeenth day Widal's reaction was present and vigorous in dilution of 1 to 200.

Wright[7] inoculated 250 soldiers. No statement of the result was made. Fifty-nine about to leave England for India were inoculated by the medical officer. The temperature rose in seven hours, reached 101 F., and returned to normal in twenty-four hours. Local symptoms were severe in two cases. The men were unable to wear belts or to perform duty for four days.[8]

Wright and Semple[9] used a vaccin composed of measured quantities of dead typhoid bacilli which were grown in broth. Eighteen medical officers of the army and of the India medical services were inoculated, and the blood of all afterward gave the Widal reaction.

Wright and Leishman[10] inoculated, with a lysolized typhoid bacillus culture, 2835 soldiers, of whom 27, or 0.95 per cent. afterward contracted the disease, with 5 deaths, or 0.2 per cent. Among 8640 uninoculated men in the same ranks, 213, or 2.5 per cent., were taken with the disease, and 23, or 0.34 per cent., died. Taken as a whole, these statistics would seem to show that a certain measure of protection was conferred by the injections. It is pointed out, moreover, that the inoculated consisted to a large extent of young men who had only recently gone to India; the uninoculated were older and more seasoned, in other words, less susceptible individuals.

These experiments are still too few in number and the results on man too indefinite to allow of positive deductions. Enough has been done to prove the harmlessness of the operation and to encourage a continuance of the practice. Many of the immunizing experiments made on man have been rendered valueless because of the lack of clinical data following the vaccination and the failure to make the Widal test at any time either before or after the inoculation.

The treatment of typhoid fever with serum or with bacterial cultures is the only treatment of the present day which we may call specific. The old so-called specific forms of treatment in the shape of bowel antiseptics, like iodin, carbolic acid, calomel, etc., are no longer considered specific by anyone but the enthusiastic few who still treat typhoid fever and not the patient.

E. Fränkel[11] used sterilized thymus cultures of typhoid bacilli. The first day 0.5 gm. was injected deep in the gluteal region. The second day 1.0 gm. was used, and thereafter every second day. The dose was gradually increased until 4 or 5 gm. were injected. With the second injection reaction usually occurred with a chill and a rise of temperature. On the sixth or eighth day the temperature usually fell to normal. With the fall in temperature the pulse diminished in frequency, the nervous symptoms disappeared and the tongue became clean; the abdomen became less tympanitic, the appetite returned, and convalescence was established. Fränkel treated 57 cases. In all the treatment was beneficial, the course of the disease shortened, and in the cases where the early convalescence was not established, the fever became remittent or intermittent. His method of treatment was used by A. Lambert of New York, in 1895, and by Henshaw of Boston—quoted from J. W. Brennan.[12] Lambert reported 28 cases, of which 10 were treated by Brennan, and the remainder in the service of various New York physicians. Fifteen of the patients showed more or less improvement; 12 did not improve, and 1 died. The ones showing improvement were treated, on the average, five days earlier than those showing no improvement. In 5 treated by Brennan the results were well marked. In 1 the result was striking. The treatment was begun on the eighth day. On the first day 0.5 gm. was given, on the second, 1 gm., on the third 2 gm., on the fourth 4 gm., and on the fifth 5 gm. On the fifth day the temperature fell to normal and the patient convalesced. The patient had a relapse ten days later. The injections caused considerable pain and soreness at the point of inoculation. Henshaw treated 13 patients by the same method; in 8 the result was marked, in 4 the course of the fever was not affected, and 1 died with intestinal hemorrhage. Henshaw made one control experiment with the use of plain sterilized thymus bouillon. There was no appreciable result. The experiment seemed to refute the charge that the good effects of Fränkel's typhoid bouillon were due to the thymus extract.

Rumpf—quoted from Brennan[12]—repeated Fränkel's experiments, but used thymus bouillon cultures of bacillus pyocyaneus, instead of the typhoid bacillus. Of 30 patients so treated, 2 died, 1 of pneumonia, and 1 of intestinal hemorrhage. Von Jaksch, Kraus and others have reported cases treated after the methods of both Fränkel and Rumpf. The results with the blue pus organisms were on the whole not as good as those of Fränkel.

The antitoxin serum treatment has also been reported upon.

Chantemesse[13] used the antitoxin serum obtained from the horse on several typhoid patients. He states that the temperature is modified, nervous symptoms abate, the tongue becomes clean, and convalescence is shortly established. The serum of patients convalescent from typhoid has been used by many observers.

Walger[14] treated four patients. The treatment was begun on the sixth, seventh, sixteenth and eighteenth days of the disease in the four. Ten c.c. of serum from convalescent typhoid patients were given daily in each case. In the two in whom the treatment was begun late, relapses occurred. In all a bad prognosis had been made. All recovered. The effect in all was good. The nervousness disappeared, the temperature fell to normal in Cases 1 and 2 on the second and third day of treatment, respectively. Case 3 ran a prolonged course, but much less severe after the injections were begun. Other observers have had equally good results with the use of blood serum of typhoid convalescents, while still others report less favorable observations, and a few have seen no beneficial effects from the use of convalescent's serum. At present, therefore, the specific treatment of typhoid fever is on trial. The success attained is sufficiently good to give us hope of still better results. For the present we must continue the management which modern medicine has shown to give the best results.

The form of the disease seen to-day in the large cities is milder than that of the first four-fifths of the century. Fewer patients now present the typhoid states and severe intestinal symptoms. In 1881 and 1882, during the severe epidemic of typhoid fever in Chicago, more than one-half of the cases treated at the Cook County Hospital were of the severe type. During the autumn of that period, a daily average of one hundred or more cases was found in the wards. The mortality rate must also vary with the degree of severity of epidemics. The lessened rate of mortality is due partly to the present milder form of the disease. Mortality statistics, based on any form of drug treatment, have been proved to be misleading. Like all the specific infections, it is self-limited in its course, and recovery will occur in the great majority of cases under all forms of treatment, and in spite of drug treatment.

Death occurs in typhoid fever from: 1. Asthenia, the effect of the specific toxemia, or the result of diarrhea. 2. Intestinal hemorrhage, or intestinal perforation. 3. Intercurrent disease the result of mixed infection by pus cocci, pneumococci, etc.

Asthenia, the result of rapid or slow specific toxemia, is the most frequent cause.

The specific toxemia is the cause of the clinical phenomena, notably fever and the nervous symptoms. The condition of the urine in typhoid fever is a good expression of the toxic condition of the patient's blood. Bouchard has defined the toxic coefficient of the urine, in health and disease, as that fraction of a kilogram of animal tissue which is killed by the injection of the quantity of the twenty-four-hour urine, which is excreted by one kilogram of the animal. The average coefficient of urine toxicity he placed at 0.363.

Roque and Weill[15] experimented with the urine of typhoid fever and arrived at the following conclusions, regarding the urine from a case when the fever ran its course without any treatment whatsoever: 1. The toxicity is much increased, being double that of normal urine. 2. The toxicity is independent of the temperature and remains increased during the entire course of the fever and during convalescence. 3. The presence of albumin has no bearing on the elimination of the toxins. 4. This elimination does not depend on the amount of urine secreted.

The specific poison especially affects the nervous system, and apparently has a profound effect on the vasomotor apparatus. There is a consequent want of tone in the muscular apparatus of the cardiovascular system. This is evinced by the low blood-pressure so frequently observed in the dicrotic pulse of the early stage of the disease. The toxins also produce the degeneration of organs commonly observed in all fevers and formerly wrongly attributed to the high temperature. The latter doubtless does contribute to this change in the organs, but to the toxins primarily must be attributed the fever and the degenerative changes. The management of the treatment must therefore be directed to a modification of the toxemia due to the specific toxins, and also to the toxic products of tissue metabolism which are naturally increased by the febrile condition of the patient. No known drug will shorten the course of the disease. It will run its course in spite of any known treatment, excepting perhaps the specific one already mentioned. Experience has proved that the methods of treatment which have for their object the diminution of the toxemia give the most satisfactory results. This is comprised chiefly under efficient nursing and diet.

I can not do better than quote Professor Osler's[16] opening statement of the treatment of typhoid fever: "Since typhoid fever runs a course uninfluenced by any known medicines, the duty of the physician is to see that the patient is properly nursed and fed, and that dangerous symptoms, should they arise, are combated by appropriate remedies." In hygiene and dietetic measures his attitude is best expressed in the term, "armed expectancy," giving no medicine, simply because the patient has a fever, but, in emergencies, using suitable remedies with promptness and decision. He advocates, as Sydenham said of Hippocrates, "the support of enfeebled and the coercion of outraged nature."

Good nursing is indispensable for the comfort and safety of the patient. Many of the accidents and complications are warded off, or materially lessened, by the watchful and skilful nurse.

The diet in typhoid fever is just now exciting some controversy, especially in reference to the use of solid food. Thus Bushuyev[17] makes a plea for more liberal diet in the disease. His patients were fed on bread, black or white, with crust, rolls, hard or soft boiled eggs, cereal porridge, small amounts of chicken, a small cutlet, or small amount of boiled beef, tea, coffee, soup, gruels, boiled milk, fruit juice, etc. Eighty so fed, during 1895-6, were compared with 74 treated by Dr. Sartsierich, with a diet of milk only. Of the 80, 8 died, 10 per cent., and of the 74, 9 died, or 12.1 per cent. The average number of days spent in the hospital, by the 80, was 42; of the 74, it was 49.2. The better showing was made by the patients on the more liberal diet. From the experience of Bushuyev the appetite of the patients remained better, the stools more normal, and there was less gastric and intestinal disturbance on this diet than on the usual restricted milk diet. He states that intestinal hemorrhage is not more frequent and intestinal perforation less frequent. The emaciation was also less.

Shattuck[18] recommends more liberal but rational feeding: to diet the patient as an individual, not as a case of typhoid fever. On the one hand there are patients with irritable digestive organs, who require the most carefully selected, easily digested food; on the other hand, patients, rational and bright, with clean tongue and good appetite, who take and easily digest a simple mixed diet. Between the two are all grades of those who require a diet modified to suit the individual.

The main principle of diet is to select simple, easily digested food which will leave but little irritating residue in the bowel. The digestive power of the individual is diminished and improper food or overfeeding may result in local disturbance of the digestive organs as well as possible auto-intoxication.

To carry a patient through typhoid fever, not only is good nursing and a proper diet essential, but it is also necessary to mitigate the toxemia and to be constantly on the alert to meet in the mildest cases. The toxemia is best combated with hydrotherapy. The history, the methods of giving, and the effects of the cold-bath treatment are too well-known to be repeated here. That the mortality in hospital practice with the Brand bath has been materially lessened is substantiated by overwhelming data. The method has many advocates and a few enemies. That the method has many friends is due to the manifestly good results generally attained. That it has enemies is due to the fact, that, like everything else, it has been used as a treatment for typhoid fever and not for individual human beings. The rule of beginning the bath, in all cases, with the exception of patients with very weak heart, intestinal hemorrhage or perforation, acute nephritis, etc., when the rectal temperature reaches 39 C., and repeating it every three hours, provided the temperature again reaches that degree, to plunge the patient into a bath of 20 C., and keep him there fifteen minutes, in spite of the discomfort the bath may give, must arouse antagonism in every humane physician, and especially in him who individualizes in the practice of medicine.

Hydrotherapy, in whatever way aplied, is beneficial in all the fevers. In typhoid fever with a profoundly intoxicated nervous apparatus, and a vasomotor system practically paretic, the increased tone given to the nervous system by the application of cold, or hot and then cold, water with the object of producing nervous shock and secondary reaction is of great benefit. The Brand bath gives the most profound results. The cold pack, cold effusions, cold sponging give less pronounced results. but in many cases quite sufficient for the individual patient. The effects of the Brand bath and of all forms of baths to a lesser degree is to: 1. Lower the bodily temperature in the course of a half hour after the completion of the bath. 2. To increase the blood-pressure, as is evinced by the radial pulse, which becomes smaller and more tense. 3. The headache and other nervous symptoms are relieved. 4. The tongue becomes cleaner, the thirst less, the digestion is improved, and the bowels move more regularly and normally.

What is the meaning of these reactions? Nervous shock and subsequent reaction, associated with the increased tone of the cardiovascular apparatus means increased blood-pressure and consequent improved secretions and excretions. The urotoxic coefficient is increased five or six times that of the normal. (Roque and Weill, *loc. cit.*). The amount of toxins excreted is increased from the time the cold baths are begun, and remains stationary as long as the baths are given. The moment the baths are stopped, the amount of toxins excreted is diminished.

In cases of typhoid fever left to themselves the toxins are in part eliminated during the fever, the toxic coefficient being double the normal. The elimination is, however, incomplete and a hypertoxic urine is often demonstrated four or five weeks after the end of the fever.

In cases treated by the cold baths the elimination of the toxic products is enormous during the active stage of the disease. The hypertoxicity diminishes with the fall of temperature, so that when convalescence is established the elimination of the toxic products is finished and the urotoxic coefficient becomes normal. The cold bath treatment does not prevent the formation of toxins, but expels them as soon as they are formed.

It is interesting to note that of drug antipyretics, with antipyrin the elimination of the toxins is slight, while the drug is taken, the toxic coefficient sometimes falling below the normal, but during convalescence it is enormously increased for a period of about a week. Antipyrin does not act as a true antiseptic; it does not prevent the formation of the toxins, but it does prevent the elimination of them by the urine. The free excretion of the toxic products by the urine, as fast as they are formed, is then probably the explanation of the beneficial effects of the cold bath. Furthermore, the bath is beneficial just in proportion as it excites cardiovascular tone by reaction from the stimulus or shock of cold. Reaction, the necessary condition to obtain the beneficial results of the bath, may be attained more easily by skin friction both during and following the bath. Indeed, the skin friction is just as important as the application of cold. With friction a lesser cold may be applied and even the cold pack, the cold effusion, and the cold sponge, when combined with proper friction of the skin, will be followed with much more beneficial results than if the bath is given with the idea of reducing temperature. Hydrotherapy, and preferably the Brand bath, when applied to individual cases, affords better results than any other form of symptomatic treatment. It seems rational to ascribe the good results to the increased excretion of toxins by the urine, when the bath is properly given. The diminished toxemia explains the improvement in the symptoms. Other methods of treatment are partially successful or beneficial just in proportion to the effects the treatment has upon excretion. Drug antipyretics, cathartics, especially calomel, in large or in small doses, and so-called intestinal antiseptics, have run a more or less unhappy course, and are now practiced by but few thinking men. Diluent drinks and colonic flushings with normal salt solution afford a more rational treatment by improved excretion than all the antipyretic and antiseptic drugs. The preliminary treatment of typhoid fever with a cathartic of calomel, castor-oil, a saline, or any other drug is commendable as a bowel-cleansing process. The use of drugs thereafter is, for the watchful man, one of choice to meet the needs of the hour.

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TREATMENT OF TYPHOID FEVER IN PRIVATE PRACTICE.*

BY WILLIAM E. QUINE, M.D.
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I shall not attempt an exhaustive exposition of the subject, but shall limit attention to a few questions of fundamental importance and general interest.

Prevention.—This is the question of the hour. The lack of correspondence between theory and practice is nowhere more strongly exemplified than it is in this connection. Theoretically, typhoid fever is preventable, and that without reference to antitoxin inoculations; but in private practice the measures of prevention ordinarily employed are a mockery of science and an insult to the conscience of the profession.

The pathogenic bacilli appear in the discharges of the patient about the ninth or tenth day of the disease or later; and they persist a week or two after defervescence.

In private practice, especially among people in easy circumstances, the patient usually presents himself for treatment before the ninth day is reached; and consequently it is usually within the power of the doctor to prevent the further spread of the infection. His sense of responsibility, however, appears to be limited to the prevention of the immediate spread of the disease among other members of the same family, for he exhibits but little care for the community at large.

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*Read in a Symposium on Typhoid Fever, at a joint meeting of the Chicago Medical Society and the Chicago Society of Internal Medicine, Jan. 31, 1900.

His prophylactic motions usually consist of receiving the discharges of the patient into a bedpan containing a solution of carbolic acid or corrosive sublimate and then, without delay, emptying the loose mixture of disinfectant and fecal matter into the soil pipe. The urine as a possible source of infection is generally overlooked. Such measures are next to worthless.

When a 5 per cent. solution of carbolic acid is intimately mixed with an equal quantity of typhoid fecal matter, it requires about twenty-four hours to disinfect it. A 1-500 solution of corrosive sublimate, acidulated with tartaric or hydrochloric acid, and similarly employed, requires about six hours. A 10 per cent. mixture of good chlorinated lime and water, freshly prepared; or a half-and-half mixture of either hydrochloric or sulphuric acid, and water, and thoroughly diffused through the broken-down fecal matter, is effective in two or three hours.

It follows then that typhoid discharges, including urine, should stand several hours in intimate admixture with the disinfectant before being finally disposed of. A covered, glazed earthenware jar should be used for this purpose, and never an old wooden slop-bucket; and it goes without saying that the fecal matter should be treated in this manner for at least two weeks after the occurrence of defervescence.

The mattress should be thoroughly protected by a rubber sheet, and this should be destroyed when the need of it ceases. Any fecal stain on the linen should receive immediate attention. The soiled spot should be thoroughly treated for six or eight hours on both sides of the fabric, with a 1-500 solution of corrosive sublimate, and after a loose rinsing in water the entire article should be boiled half an hour in a covered boiler. Then it is fit for the laundry.

After each evacuation the person of the patient should be washed with water, and subsequently with a 1-2000 solution of corrosive sublimate. The attendants are to be admonished frequently and forcibly as to the need of scrupulous care in respect to the cleansing of their own hands after waiting on the patient. Soiled articles that are not susceptible of thorough disinfection are to be destroyed. The sick-room is to be stripped of carpet, draperies and all unnecessary furniture; and when the case is ended the room should be fumigated with formalin, and then thoroughly aired, before being turned over to family use.

General Management.—The patient is to be kept, when practicable, in a well-lighted and well-ventilated room as far from the living room and as near to the toilet as possible; and the distinction between day and night is to be maintained throughout the entire course of the disease. The sick-room is not to be a rendezvous. A single bed of woven wire, with a good hair mattress, is the best; and it is to be so placed as to be easily approachable from either side.

A good trained nurse is an invaluable coadjutor. In severe cases, when the circumstances of the patient admit of it, two nurses should be employed—one for the night and one for the day. In any case the nurse should receive a reasonable allotment of time for sleep and for outdoor exercise.

There is no better rule in respect to the discipline of the sick-room than for the physician and nurse to hold official communication exclusively in writing. On the one hand the instructions of the physician should be written out in detail, and every prescription should appear in the record, numbered and dated, to correspond with the number and date on the pharmacist's label; and, on the other hand, the nurse's memoranda are to be equally explicit. At the bottom of each day's record-sheet, footings should show at a glance the number of ounces of milk, water and other ingesta given during the previous twenty-four hours; the number of ounces of urine passed, and the number of alvine dejections; the number of hours of sleep; and the mean temperature, pulse and respiration rate. I know of no better safeguard than this against failure to discover oncoming complications.

Diet.—Milk, which is usually the preferred food and the best, is to be given to the extent of three pints in twenty-four hours—when it is the main support of the patient— or even more freely than this when it is well digested. If curds appear in the stools, the milk may be advantageously diluted with water, or barley water, to any extent, to ensure more perfect digestion; and if, notwithstanding such dilution, curds continue to appear, the quantity of milk should be lessened or artificial aids to digestion should be used. The taste of the milk may be varied from time to time, when such variation is relished by the patient, by the admixture of a little flavoring of vanilla, whisky, rum, and the addition of a little sugar. Raw or boiled milk, hot or cold, koumyss, matzoon or buttermilk; milk mixed with 25 per cent. of Apollinaris water, lemon pop, or ginger ale; milk in the form of oyster soup, may be given up to the digestive capacity of the individual.

Eggs are not as generally given in typhoid fever, I think, as they ought to be. Their administration in the form of egg-nog is objectionable in many instances, for this mixture is trying to the palate by reason of its mawkish sweetness and richness. It is generally more satisfactory to give the ingredients separately. A soft boiled or poached egg may be given every six or twelve hours, and a little ice-cream may be allowed now and then. Clam broth is relished by some, and it is quite unobjectionable. When milk is refused, any well-strained meat soup may be given as a substitute, fortified or not by the addition of the whites of three or four eggs. Broths are usually not well borne when there is diarrhea, and consommé is especially obnoxious under such circumstances.

Albumin water, flavored to suit, is an excellent food, and when difficulty is experienced in maintaining alimentation, farinaceous gruels may be given freely. I am a little uncertain as to the value of the proprietary foods with which we are assailed by canvassers, and for that reason rarely prescribe them. Tea, coffee and cocoa are admissible under ordinary circumstances. Nourishment should usually be given at stated intervals, night and day; but when the patient has difficulty in securing a fair amount of sleep, he is not to be aroused for unimportant reasons.

Water.—The abundant internal use of water is essential to the good management of any case of typhoid fever. It promotes elimination, quiets delirium, subsultus and jactitation and favors sleep. Enough aqueous liquids should be given when possible to cause a daily urinary outflow of at least fifty or sixty ounces. The water may be flavored with fruit juices, when desired—lemon, orange, grape—and in the summer season the patient may be allowed to partake of ripe watermelon in moderation.

Medicines.—Another example of lack of correspondence between theory and practice is seen in respect to the use of medicines in typhoid fever. No intelligent physician will maintain, in the presence of his colleagues, that in ordinary cases of the affection the in-

[illegible] alimentation of the [illegible] is an essential feature of good management; but, in practice, [illegible] confronted by such a case, [illegible] does not begin at once a vigorous therapeutic bombardment, which he continues till the patient is dead or well." I am far from being a therapeutic nihilist, but as experience accumulates I find in myself an ever-increasing respect for good nursing.

A. Stimulants.—Nearly all systematic writers advocate the giving of whisky in severe cases of typhoid fever, to the extent of from eight to sixteen ounces in twenty-four hours. I have used it and seen it used by others in some hundreds of cases, and with various degrees of freedom—from an ounce to a quart in twenty-four hours; but I have felt an increasing positiveness of conviction, as time went on, that, as ordinarily used, it causes many deaths and few recoveries. In my view the indiscriminate use of alcohol in quantities sometimes that would actually imperil the life of a well man, is as irrational, reprehensible and disastrous as is the indiscriminate use of the coal-tar antipyretics. Men who parade their ignorance of the resources of their art by proclaiming their lack of confidence in medicines generally are often found insanely vigorous in the use of whisky. Alcohol does not promote oxygenation of the blood in health or in disease. It does not increase vascular tonus in health or in disease. It does not exalt the reflex functions of the spinal cord in health or in disease. I do not deny that it may lessen the labor of a weak heart and improve the condition of the circulation by dilating the arterioles. I do not deny that it may, at times, like antipyrin, but with less power, lower temperature, quiet delirium and promote sleep; but when vascular tonus is already nearly gone and hypostatic congestions and deepening cyanosis and relaxation of sphincters and involuntary discharges are taking place; when the heart-beat is feeble and the first sound obscure and the pulse is losing strength as it gains in frequency, and, according to authorities, that is the condition which imperatively calls for alcohol, I have never in one instance seen alcohol improve the condition of the patient; but in many cases I have seen the condition improve and sometimes advance to recovery when the administration of alcohol was stopped, and oxygen, strychnin and carbonate of ammonium given in its stead. While I condemn the routine employment of alcohol, I freely admit that when it is used rationally as an adjunct of the hydriatic treatment it is a remedy of value.

B. Antipyretic Medicines.—The free and sustained use of the coal-tar derivatives undoubtedly increases the duration of typhoid fever, including the number of relapses, and it increases liability to intestinal hemorrhage. The administration of an occasional dose as a palliative may be on the side of sound conservatism, but persistent repression of bodily temperature by means of these agents is, in my view, a dangerous proceeding.

C. Intestinal Antisepsis.—Assume that the average duration of the incubative period is two weeks, and that typhoid bacilli do not appear in the discharges till the disease is nine or ten days old. During the incubative period the ingested bacilli penetrate into the lymphatic structures of the bowels and thence into all parts of the body; so that by the end of the period a sufficient number has accumulated and a sufficient quantity of typhotoxin has been elaborated to cause the clinical picture with which we are acquainted. The ingested bacilli do not multiply in the intestinal contents to any important extent, as was formerly supposed. Multiplication occurs, for the most part, in the tissues; and the organisms do not appear in the discharges in important numbers until they are shed by the disintegrating intestinal lymphatics. The idea that typhoid fever can be aborted by the administration of antiseptics and purgatives is, therefore, another ruined theory. But it by no means follows that intestinal disinfection and drainage are either unscientific in theory or useless in practice. Such a view would be controverted by an overwhelming majority of the physicians of the country.

It is admitted that any good effects produced by medicines of this class must be ascribed to the inhibition of putrefactive processes in the bowel, and, thereby, of secondary intoxications of the blood. It is not claimed that a thousand square inches of mucous membrane with its numerous folds and sulci can be made aseptic; but it is a fact of familiar observation that usually the administration of well-chosen and, so far as we know, harmless antiseptic medicines, especially when coupled with a moderately loose condition of the bowels, has the effect of lessening meteorism and the fetor of the discharges and of improving the condition of the patient in many other respects. I say "usually," for it must be admitted that cases are now and then met with in which this kind of treatment utterly fails to make an appreciably favorable impression. The same statement applies equally well to hydrotherapy and every other therapeutic proceeding. Calomel is perhaps the most eligible purgative, aided at times by a saline. A mixture of aromatic oils, thyme, eucalyptus, cloves, mint and the like, given in small and frequently repeated doses, is generally effective in lessening meteorism, and in producing the other beneficial effects alluded to. Guaiacol and salol, used separately or together, but without the admixture of aromatic oils, are less satisfactory.

Hydrotherapy.—It would be hard to find an enlightened physician who would not admit that the hydriatic treatment of typhoid fever as expounded by Ernst Brand effects a saving of life, in hospital practice amounting to 6 or 7 per cent.; but it would be almost equally hard to find one in this country who, in private practice, habitually employs this treatment or who accepts it when he himself is the patient. I have had it refused again and again in the families of colleagues and by well-informed medical students. While there can be no question as to the practical success of the plan in hospital practice, its acceptability in private practice in this country is certain to be of slow growth.

Two persons are required to administer a bath to a very sick adult; and if the patient be uncommonly heavy and helpless and so sick as to require repetition of the baths every few hours night and day for weeks, the services of four attendants will be required. Such attention can not be commanded by poor people. No person in the world will be attracted to the treatment by seeing it administered, and without knowing the ultimate results; and the physician who presses it upon his people must, indeed, be impelled by a high sense of duty. The laboriousness of it; the upheaval of the household usually occasioned by it; the appeals, protests, commands and pitiful attempts at resistance, of the patient; his shudderings and cyanosis and pinched expression of misery while in the bath and the occasional occurrence of an involuntary discharge; together with the knowledge possessed by relatives, of cases of typhoid fever not treated in this way which eventuated in easy recovery, oppose a formidable resistance to the general adoption of hydrotherapy in private practice, which can be conquered only by the slow process of education. To be sure, there are cases in which the treatment is received kindly and in which its effects are less distressing than those described. On the other hand, when the patient is a pregnant woman, or one who has just aborted or miscarried, the administration of the treatment is unendurably appalling to sympathetic friends.

By far the most convenient arrangement I have ever used is a tub of ordinary shape and full size, set on a low truck with small wheels, and placed two or three feet from the patient's bed. It is kept sufficiently full of water for the purposes of a complete immersion bath. It is not necessary to change the water oftener than once a day unless it be accidentally polluted; and, standing in the sick-room in ordinary weather it maintains about the proper temperature, 65 or 70 F., for immediate use. If it is warmer than this it can be easily cooled. I shall leave to others the description of details, premising that fidelity to every detail is indispensable as a basis of fair criticism.

In the best hospitals in the world in which this treatment is systematically used, the mortality rate of typhoid fever is 7 or 7.5 per cent.; and, in hospitals of like grade in which the treatment is not employed, the mortality rate of the disease is 14 per cent. To be sure, certain hospitals quote a rate of 1 or 2 per cent., based on a small number of cases or on a large number of mild ones; but a private practitioner who has never employed hydrotherapy at all may be able to do the same thing. It is not to be forgotten that the fatality of typhoid fever is extremely variable in different years and in different localities during the same year. During the past seven or eight years the disease has been uncommonly mild; and I doubt very much if the general mortality rate of private practice during this period has reached even the smallest figure named.

If immersion bathing is refused, or impracticable, sponging with very cold water, ice-water, is a fair substitute. Indeed, in my view, efficient sponging is to be preferred in many cases, when the patient is very weak, or pregnant, or has a complicating pneumonia, and the effects of the immersion bath are overwhelming. In severe cases the sponging with ice-water may have to be continued twenty or thirty minutes and be repeated every three or four hours. A rectal temperature of 103 F., or above, is, in this country, usually regarded as the critical point requiring the immersion or the sponge bath. Vigorous rubbing is an important feature of both methods of treatment, in which respect they are much superior to the cold pack.

Perfunctory sponging with tepid water, without reference to effects, is of little consequence apart from maintaining an empty show of activity. An important result of the cold bath is the increased activity of elimination as shown by the increased toxicity of the urine following the bath.

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TREATMENT OF MEDICAL COMPLICATIONS OF TYPHOID FEVER.*

BY GEORGE W. WEBSTER, M.D.

CHICAGO.

In the consideration of any phase of the typhoid fever question, we are confronted by, and must take cognizance of, the following facts: 1, that the disease is a general infection by a germ which circulates freely in the blood and may find lodgment, and cause inflammatory reaction in almost all organs and tissues of the body, and that it possesses pyogenetic properties; 2, that typhoid infection predisposes to the occurrence of secondary infection, especially by the pyogenic organisms, as the streptococcus, staphylococcus, and also by the pneumococcus, the bacterium coli and the bacillus of tuberculosis. Furthermore, there seems to be no uniformity in the use of the term, "complication." Is it to be employed in designating all the unusual manifestations of the affection when due to the typhoid bacillus alone, or only to those complications which follow secondary infection?

I shall, as far as possible, limit my remarks to the medical complications which are now commonly attributed to secondary infection in connection with the circulatory and the respiratory systems. The most important ones in connection with the circulatory organs are endocarditis, pericarditis, myocarditis, arterial and venous thrombosis, embolism, and hemorrhage. While endocarditis and pericarditis are rare, and although they are sometimes caused by the typhoid bacillus, they are more frequently due to secondary infection by the pyogenic organisms. When the result of the blood examination demonstrates this to be the case, or even when it is suspected, the beneficial results of the treatment by means of antistreptococcic serum, together with the fact that it is harmless, would seem to justify a more extended use. It is difficult to formulate general rules for treatment, but we may be safely guided by general principles. In the treatment of acute endocarditis, the most important factor is rest, absolute rest in all that this term implies, physical, mental, sufficient sleep, and reasonable freedom from pain. Such patients should not be permitted to make the slightest exertion, nor should even the head be lifted from the pillow, and no movement or turning or unnecessary disturbance of the patient should be permitted. Food should be given through a glass tube. Even the bed-pan may have to be dispensed with and a cloth substituted.

Chilling of the surface must be carefully guarded against, when artificial warmth may be necessary. Occasional hot applications and counter-irritation in the precordial region are of advantage, and Abram's theory of the heart reflex offers a reasonable explanation of its mode of action. Such patients should be kept in bed for at least thirty days after the complete disappearance of the acute disease of which the endocarditis is a complication or sequel. The neglect of this rule very frequently leads to disaster in cases which might otherwise have recovered with only slight leakage.

In the drug treatment, it is as important to know what not to do as to know what drugs to administer. When the heart's action is becoming enfeebled, there is restlessness, some breathlessness, pain and anxiety. There is often a temptation to give digitalis; it should not be given; it is not only useless, but absolutely pernicious and dangerous. This is true not alone of acute endocarditis, but also of myocarditis, the latter being suspected when there is diffuse, feeble impulse and the first sound is greatly weakened or absent. Even in the ordinary weak heart of typhoid fever, where the heart does not respond to its use within twenty-four hours, it should be discontinued. In such cases, where it is being administered, if the arterial pressure becomes high or the heart irregular, or if the beats become interspersed with small ones, its use should be abandoned.

Opium in some form, either morphin or heroin, is the most valuable drug in the treatment of acute endocarditis. The size of the dose will be determined by the degree of restlessness and pain and the amount of sary. The same rules apply in myocarditis and pericarditis. The next in order of efficiency and value are strychnia, oxygen, ammonia, caffein, camphor hypodermically in sterilized olive-oil. Nitroglycerin is useful in those cases in which the blood-pressure is too high.

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*Read in a Symposium on Typhoid Fever, at a joint meeting of the Chicago Medical Society and the Chicago Society of Internal Medicine, Jan. 31, 1900.

The treatment of the chronic valvular lesions, or pericarditis with large effusions, is not within the scope of this paper's discussion.

In the treatment of thrombosis, the most important point is to know what not to do. Whenever it occurs, the patient should be kept as quiet as possible, and movements that are not absolutely necessary should be interdicted, on account of the danger of embolism. All rubbing unguents or liniments, massage and bandaging are especially harmful and dangerous. If in one of the extremities, it should be covered with guttapercha tissue and this surrounded by a layer of cotton wool, the limb elevated and immobilized. We thus meet the indications. Such a patient should be kept quiet in bed for at least six weeks, in order to guard against the danger of embolism. When the venous pressure is high as the result of lowered arterial pressure, careful support of the heart will get the blood out of the venous into the arterial side of the circulation, and thus lessen the danger and promote the comfort and safety of the patient. The same general rules apply in embolism, whether due to endocarditis or thrombosis.

The chief medical complications of the respiratory system are ulceration of the pharynx and larynx, bronchitis, pleurisy with or without effusion, empyema, gangrene, bronchopneumonia and lobar pneumonia. I will make a brief reference to the last two only. The first general rule is that no matter whether the pneumonia be of the bronchopneumonic type or of the lobar variety, it should be treated essentially as though it were the dominating lesion instead of a complication. The second is that each case must be carefully individualized and treated according to the condition of the patient, and in accordance with certain well-recognized principles. Some cases are mild and require little except careful watching and nursing, with perhaps a little skilful medication. The third point is that, until recently at least, we know nothing of the prophylaxis of the disease and were unacquainted with any curative treatment. It was simply a question of vitality.

The results of Pane in Italy and Antonio Fanoni of New York in the use of Pane's serum lead us to believe that the serum treatment of pneumonia is a distinctly curative measure. Fanoni reports fifteen consecutive cases, all cured. The results of treatment by other varieties of serum in this country are not so encouraging. But aside from this specific medication, we must bear in mind that we are dealing with an acute, short, self-limited disease, in which recovery is a question of vitality, and that as we know of no cure, we are not treating a disease, but a patient with an ailment. This ailment is often severe, frequently fatal in its event, the vitality lowered, resistance taxed to the utmost by pain, want of sleep, extreme toxemia and impoverished blood, high temperature and an overworked, weakened right heart. These furnish the indications for rational treatment. It should be our aim to keep the patient reasonably free from pain, see that he has a sufficient amount of sleep, promote his nutrition and maintain his strength: keep the temperature within due bounds and, above all, support the right heart.

For the relief of pain, hot applications may be used when the temperature is not too high. They relieve the pain and reflexly expand the lung. A wet compress is often all that is necessary. Ice massage is a very potent remedy and the relief is usually prompt and decided. I do not favor the continued application of cold. Opiates should be used with extreme care and in the smallest dose that will give relief.

Rest and sleep may be secured by the use of chloral, chloretone, sulfonal, heroin, or morphin in some cases. Restlessness and delirium are sometimes overcome by hyoscin. A water bag filled with ice-water and placed under the back of the neck will lower temperature, soothe the nervous system and promote rest and sleep. Warm sponging, especially in children, has a very soothing, quieting effect.

The diet should be rather more supporting and nutritious than the ordinary milk diet of typhoid fever.

The question of temperature is a vexed one, a debatable land where opposing views are in rather sharp contrast. There is no consensus of skilled opinion in regard to either the necessity for, or the best means of, lowering the temperature. When it arrives at a degree which in itself is a menace to life or threatens the disintegration of blood-corpuscles, or seriously interferes with rest, then some means should be adopted to lower it within reasonable limits. The ice bag is a powerful means, but should not be continuously applied. The wet pack to the affected side may be sufficient, or it may be applied to the abdomen. Sponging with warm water will often suffice and should be tried before we resort to more heroic measures. The cold-water bag to the back of the neck is efficacious and often sufficient. If obliged to resort to drugs, then preference should be given to phenacetin.

Last in order, but first in importance, is the support of the right heart. Because of the double toxemia, the high temperature, inadequate rest, and the added burden imposed by the increased resistance in the lung, the right heart becomes the vulnerable point, the "open door" through which death most frequently enters. Our first care should be to see that no foods nor drugs should be given which cause vomiting. This is particularly true of digitalis. The act of vomiting causes a very severe strain on the heart. As soon as the right heart begins to flag, then we should, as the necessities of the individual case demand, use strychnia, digitalis within the limits already indicated, ammonia, oxygen, camphor hypodermically in sterilized olive-oil, caffein. I wish to go on record as strongly in favor of the use of oxygen in pneumonia when there is cyanosis, and particularly where the heart is weak.

When the lungs are rapidly filling up and heart failure seems imminent, then there is nothing of such efficiency and potency as a hypodermic injection of $\frac{1}{4}$ grain of morphin. If the blood-pressure is high, and this is not often the case, nitroglycerin should be administered; if too low, belladonna should be given.

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DISCUSSION ON TYPHOID FEVER.

Dr. Frank S. Johnson—The hospital treatment of this disease has at all times furnished the data on which the usual treatment at different periods has been based. The large number of cases aggregated in hospitals gives the best opportunity to judge of the degree of virulence of the disease, and furnishes opportunity to apply therapeutic measures and to judge of their respective merits. Even carefully compiled hospital reports on special plans of management may be deceptive unless parallel series of cases under expectant management in the same year and under otherwise similar conditions can be observed for comparison. The disease presents so many complex problems to the therapeutist that he is led to accept some one phase as the salient feature and to bend his energies in that direction in combating the disease.

The hospital treatment at the present day may be classed under three general plans: expectant, intestinal antisepsis, and heat reduction. None of these alone is fully adequate. The invariable practice is a blending of two or all of them. The expectant plan is a partial acquiescence in the inevitable. No radical measures are taken to influence the course of the specific disease. Attention is directed entirely to the preservation of the strength of the patient by careful feeding, tonics and stimulants, and to guard him, as far as possible, against intercurrent and complicating disease. Under this treatment the affection probably runs a nearly natural course. In practice, however, purely expectant treatment is seldom followed: measures belonging to more radical plans of treatment have always seemed indicated in occasional cases. The author presented an elaborate array of statistics and the results under different methods of treatment. The data showed a very wide range of results obtained under the expectant plan. The differences were attributed chiefly to the variations in the severity of epidemics, and to the quality of nursing.

The plan of treatment by intestinal antisepsis was the natural deduction following the discovery of the specific cause of the disease. In the selection of an antiseptic several problems present themselves: 1. The antiseptic should be one which will destroy the specific germ together with the associated pathogenic and saprophytic organisms. 2. One which will be locally harmless to the tissues. 3. One which will be non-toxic to the patient.

In the attempt to secure an agent which would fulfil the above indications, a new and hitherto unreckoned pathologic factor presented itself. The infection was not confined to the contents of the alimentary tube, but to the intestinal walls; the lymphatics, the blood, and in fact all the fluids and tissues of the body were infected to a greater or less degree. Still another desideratum was sought for, but so far unsuccessfully, namely, an agent which after absorption and solution in the juices of the body might still have a germicidal or, at least, an inhibitory influence on the typhoid germs and others accidentally present. Intestinal antisepsis only imperfectly limits the quantity of infection. It may be serviceable in checking saprophytic growths in the alimentary canal and preventing complicating intoxications. The plan of treatment has been almost invariably modified by measures to promote the evacuation of infectious and toxic material from the bowels. Statistics of treatment by intestinal antisepsis were given.

Hydrotherapy is perhaps most efficiently carried out by means of the bed or the tub bath. In the usual hospital practice tepid, cool or cold spongings with friction, or the tepid, cool or ice-cold pack is relied on in preference to the bath in all excepting the most urgent cases.

The objects primarily sought by the external application of cold are reduction of body temperature; stimulation of the nervous system; stimulation of respiration; stimulation of circulation. The secondary objects are increase of the exchange of gases, which is estimated to be proportionate to the reduction of temperature; increase in the oxidation of harmful products of tissue destruction and their conversion into less harmful excrementitious matters.

The author gave the results of the hospital treatment by hydrotherapy, as collected from various hospitals both in this country and in Europe.

A few instances of unusual management of the disease are on record in the current literature. Paget reports a series of one hundred cases at Freemantle Hospital in 1897, with no deaths. The treatment consisted in the use of salad oil in large quantities to which was ascribed a protective effect on the mucous membrane of the bowel.

It is common practice in the majority of institutions to administer alcohol in delirium; when the tongue is brown and dry: when the heart is feeble, and when the pulse is irregular or intermittent. At Maidstone, England, in the epidemic of 1897, 1885 cases were treated, with a mortality of 7.5 per cent. A milk diet was relied on. Boric acid was administered, and whisky is said to have been given as a routine measure in quantities varying from 16 to 20 ounces per diem.

With reference to diet in typhoid fever, it is the almost universal practice to administer only liquid or very soft food. In hospital typhoid-fever dietaries milk is the chief article and is supplemented by meat broths and juices, farinaceous gruels, soft eggs, etc. Articles of diet must occasionally be selected to meet the individual digestive capabilities. The apparent wisdom of adhering to the liquid diet rule is forced on practitioners from time to time by the result of dietetic indiscretion during the height of the fever and in convalescence. A few practitioners have undertaken to disprove the need of the rigid precautions usually observed as regards diet. From the data given by the author of this paper, it would appear that many facts have been firmly established respecting the management of typhoid fever. There is still a broad field for investigation, and many details are as yet under judgment. Confusion in results arises largely from the protean aspects of the disease.

DR. A. H. BURR—In the selection of any therapeutic measure for the relief or cure of any disease, two paramount questions are to be solved: 1. What are the essential indications for treatment in a given disease? 2. What are the physiologic properties of the remedy chosen to meet these indications?

This is the essence of rational medicine. In the absence of any known specific treatment for typhoid fever, these two cardinal propositions must be carefully considered and skilfully co-ordinated, otherwise we must grope about under empiricism. Unfortunately for us, the clearing up of the etiology of typhoid fever has not solved the problem of how to cure it. What, then, are the essential indications in typhoid fever calling for treatment? Virchow, nearly fifty years ago, was the first to declare the fundamental doctrine that fever is a condition of vasomotor paresis. This is pre-eminently so in typhoid intoxication. The improved organic functions; the retarded metabolism; the defective elimination are chiefly the resultants of vasomotor paralysis, or lowered cardiac and vascular tension. Manifestly then the indications call for remedies that can safely and efficiently stimulate the vasomotor system, and support it in its task of tiding the patient through to the establishment of the self-limiting immunity.

What are the physiologic properties of the Brand bath, which make it the quickest, safest and most efficient vasomotor stimulant known? The physiologic properties of the cool bath have been as carefully worked out, and as definitely established by Winternitz of Vienna, the father of scientific hydrotherapy, and verified by other scientists, as have been the physiologic properties of strychnia or belladonna.

To get a clear knowledge of these, three laws of hydriatics must be kept in mind: 1. The brief application of hot or cold water is stimulative. 2. The prolonged application of hot or cold water is sedative. 3. The degree of stimulation or sedation is directly as the temperature varies above or below that of the body.

Thse are its thermic properties, also the physiology of the cutaneous surface on which the cool water is to act. Let us remember that the skin is the greatest sensory organ of the body. The impact of cold water on the cutaneous nerves instantly sets up a strong reflex stimulation of the respiratory centers. Deep spasmodic inhalations take place at once, which soon settle down to stronger rhythmic action. This at once increases elimination of carbon dioxid and absorption of oxygen.

Let us again remember that the skin is the greatest vesicular organ of the body: that it is capable of containing in its vessels one-third of the entire blood of the body. The impact of cool water briefly applied and repeated over and over again in its effects by the rubbing, instantly stimulates muscular contraction of the capillaries and arterioles, and the reflex speedily causes the heart to respond in a slower, stronger impulse against improved vascular tension. With an improved circulatory pressure of an improved blood, glandular activities are quickened, elimination of toxins is increased many fold, metabolism improved, and naturally temperature, which was only an expression of toxicity, is correspondingly reduced. Where this plan has been carried out faithfully, noted hospital clinicians the world over are a unit in reporting a reduction from a mortality of 18 to 20 under all other plans to a death rate of about 7 to 8 per cent.

The failure of the profession at large to adopt the cold water treatment as a general routine plan is largely due to a failure to clearly grasp the two primal questions we have already stated, namely, the essential indications for treatment in [illegible] and the physiologic properties of cold water properly applied to meet the indications. For the state of [illegible] are [illegible] properly [illegible] [illegible]

[illegible] Dr. Dreschfeld, in his article on Typhoid Fever in Allbutt's System of Medicine, says: "Abstraction of heat without much disturbance of the patient is the safest and best way of reducing the temperature, and the application of cold [illegible] fulfils the requirements." Two errors are [illegible]: 1, in regard to temperature as being the important indication to be treated, and 2, in overlooking the physiologic properties of water as a stimulant in the Brand method, and attributing its benefits to its physical property of abstracting heat. In Wood and Fitz's "Practice," this statement is made. "The most important part of the treatment of typhoid fever is that which has to do with the reduction of the temperature."

When shall we have done with this hoary-headed error of combating a temperature symptom instead of the underlying toxemia. It is not pyrexia that ails our typhoid patient, but intoxication, from a general infection. Osler throws a glimmer of light on the subject in his text-book, when he says: "The beneficial action is not so much special and antipyretic as general tonic and roborant." Nowhere do these authors give us the rationale of the cold bath, although esteeming its benefits most highly. Early resort to the bath, to my mind, is just as important in securing the lowest possible death-rate in typhoid fever as the early administration of antitoxin in diphtheria. Temperature alone should not be our guide, but constitutional conditions.

Dr. Fenton B. Turck referred to congestion of the splanchnic vessels, particularly of the mesenterics, and anemia of the extremities, accompanied by more or less asphyxia, the nails of the patients assuming a bluish color due to venous congestion. Large quantities of water in the colon in a patient in whom there is splanchnic congestion with more or less cardiac disturbance are contraindicated. The expulsion of large quantities of water from the bowel produces fatigue and increases atony of the bowel. Dr. Turck then alluded to several experiments which he had carried on to determine the beneficial effects of the alternate use of hot and cold water in the treatment of cases of typhoid fever. The use of a small quantity of cold water—say 300 c.c.—for five minutes does not over-distend the bowels at any time, in his opinion, and immediate stimulation is effected, with slight dilatation of the arterioles. There is likewise stimulation of the sweat-glands, increase of blood-pressure, and equalization of the circulation.

Dr. I. N. Love, St. Louis, said that the rules which physicians apply in hospital practice can not be applied in private practice. In every case of typhoid fever the physician recognizes the importance of individualization and of treating the victim more than the disease, recognizing the fact that each individual is a law unto himself whether he has typhoid fever or [illegible]. He has [illegible] a great deal about this disease, and [illegible] that he [illegible] realizes it is a question of good management rather than medication. If he were compelled to limit himself to any one thing in the treatment of this affection, he would use water internally and externally. There are management of cases of typhoid fever, and these were elimination, intestinal drainage, nutrition, and tranquilization. Each point he discussed at some length.

Dr. George W. McCaskey, Fort Wayne, Ind., said that elimination is by far the most important thing in the treatment of typhoid fever, and any method which improves and increases [illegible] in the elimination tells for the benefit of the patient. *Per contra*, anything like the coal-tar derivatives, which tell against patients, should be damned to perdition in his opinion. He does not think they are justified in the treatment of this disease. Physicians have to face the problem of getting rid of the toxins; they can not prevent their formation, and such measures as will eliminate the toxic products from the body should be employed with vigor. Patients should be adequately nourished. The results from the administration of semisolid food appear to have been so good in many instances that physicians should feel encouraged to feed their typhoid fever patients more freely in the future than they have in the past.

Dr. John A. [illegible] called attention to a point which he has noticed in the treatment of typhoid fever during the stage of convalescence, and which tends to strengthen the theory of the good effects of solid food. In a number of cases of typhoid fever, after all the acute symptoms had disappeared, and yet patients had a slight rise of temperature every evening, say from 100 to 101 F., and were extremely anxious to partake of food or were hungry, by giving them solid food the temperature immediately dropped to normal. This he explains on the ground that the disease had practically terminated, and that the rise of temperature each day was due to hunger.

CRANIECTOMY FOR EPILEPTIFORM SEIZURES AND GRAVE MENTAL DISTURBANCES FOLLOWING HEAD INJURY WITHOUT APPARENT FRACTURE. WITH REPORT OF A CASE.*

BY H. REINEKING, M.D.
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The following case is reported, partly because it is somewhat unique in the pronounced character of its symptoms, the absence of demonstrable organic lesion, and the promptness and completeness of relief following operative treatment; partly because it illustrates, better perhaps than any description I could give, a rare but important group of morbid phenomena following injury to the cranium; but chiefly for the purpose and with the desire of calling forth an expression of the views and experience of the Fellows of the Academy in regard to this interesting class of head injuries.

C. M., aged 20 years, American, wood carver, single, gave a family history negative as regards any neurotic or other hereditary tendencies. He was well-nourished, not addicted to the use of tobacco or spirituous beverages, had never been sick, never showed any tendency to nervousness, had had no occasion for worry, no overwork, no mental excitement, and up to the time of injury was of a lively and contented disposition. His sexual organs showed nothing abnormal, and he denied a history of masturbation or of seminal losses.

On Monday, March 6, 1899, in jumping from a slowly-moving passenger train, he was thrown violently to the ground and partly stunned. According to his own statement, he braced himself on his hands and in raising his head, was struck over the left parietal bone by the sharp corner of an oil-box. He soon recovered from the immediate effects of the fall and blow and went at once to his work. A small scalp wound over the left parietal region healed rapidly and without surgical attendance. For the next twelve days he continued at work, but found himself troubled with headache, soon associated with dizziness. Work became very fatiguing and was no longer enjoyed. His appetite failed and loss of weight was noticeable. Mentally he became somewhat dejected and irritable. These symptoms became gradually more pronounced, so that on the twelfth day after the injury he was obliged to quit his work.

On the following day, without premonitory symptoms other than those just mentioned, he was suddenly seized with violent muscular spasms, affecting, so far as could be learned, the entire system, and resembling an epileptic convulsion. He was thrown to the ground, remained seemingly unconscious for a few moments, then began rushing about, striking at whatever came in his way, throwing his hand to the left side of his head and crying: "You shot me." The mental excitement lasted for over an hour, when, for the first time since the injury, he was seen by a physician, Dr. Nutt, of Plymouth, Wis., who subdued him temporarily with hypodermic injections of morphin. The following morning he appeared perfectly well, but during the day the phenomena of the previous day were repeated. The muscular spasm was partly tonic, partly clonic in character, the former predominating, and it was noticed that the rigidity was such as to interfere with respiration to such a degree that asphyxiation seemed imminent, when suddenly the spasms would relax and respiration again become regular. At no time was any frothing at the mouth or injury of the tongue noticed Unconsciousness, though at times complete, was of rather short duration for a true epileptic attack, and soon gave way to the wild delirium mentioned. To control him at such times required the services of two or three strong attendants. The muscular movements did not have the rapid, jerking character usually observed in true epilepsy; they were irregular, the motions of the extremities extensive in range, often giving the impression of being semivoluntary.

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*Read before the [illegible] Academy of Railway Surgeons, Omaha, Neb., [illegible] 12-1[illegible], 1899.

The attacks now came on daily, with increasing severity and duration, attack often following attack for hours, with but short intermissions. Their general character remained the same. The accompanying mental disturbances were of variable duration, at times subsiding with the muscular spasm, at others lasting for hours afterward. These attacks occurred daily for a period of over six weeks, and in spite of various lines of treatment, including change of surroundings, kept increasing, both as to severity and duration. Meanwhile the attending physicians made the observation that the spasms could be brought on by pressure on a small area, about one-half inch in diameter, located over the left fissure of Rolando, 1½ to 2 inches from the vertex and an equal distance above the scar of the scalp wound. This area, corresponding to the location of the right arm center, was very sensitive to pressure, and when pressed upon the patient would sink to the ground and immediately go into one of his attacks. At the same time it was noticed that the muscular twitchings always began in the right hand, proceeding thence to the arm, trunk and other extremities. The correspondence between the initial periphereal disturbance and the apparent point of central irritation was therefore a very accurate one.

During my first visit to the patient, April 28, nearly eight weeks after the injury, I was enabled to observe and verify all the conditions just described. Aside from these disturbances there were no abnormalities of either motor, sensory or mental character; the ocular muscles and pupils acted normally; the patellar reflex was, if anything, slightly exaggerated, the functions of the bowel and bladder were normal. All evidence of fracture or depression of the cranial wall was wanting. A small scar was found over the lower portion of the left fissure of Rolando, about 3½ inches below the vertex.

Taking into consideration the history and symptoms as just described, the presence of a gross irritating lesion acting on the left cerebral hemisphere in the region of the right arm center appeared extremely probable. Operative treatment was accordingly advised and received the ready assent of the patient and his family. They were fully advised of the uncertainties both of the pathologic diagnosis and of the effects of the operation proposed, but were willing to take almost any risk, so appalling had the patient's condition become.

The operation was performed April 29, 1899, with the assistance of Drs. Nutt and Felter of Plymouth. Owing to the very pronounced focal indications, it was decided to ignore the scar and open the skull directly over the hand and arm center, corresponding to the sensitive area before described and to enlarge the opening in the direction of the scar, or make a second opening at this point, if indicated. A skin and bone flap, about 1½ inches in diameter, with the base downward, was formed, its upper portion corresponding to the sensitive area mentioned, while its lower border extended to within about three-fourths of an inch of the scar. The bone was divided chiefly by means of chisel and rawhide mallet. Not the slightest injury was inflicted on the dura, except in the upper anterior angle of the wound, where a large vein was sufficiently opened to give rise to a rapid and extremely troublesome hemorrhage. This was controlled by gauze pressure, as ligation proved impossible without considerably enlarging the opening in the bone. On raising the bone flap, the underlying dura appeared perfectly normal; there was no evidence of old or recent injury, no bulging, no evidence of fracture or depression either at the seat of injury or in its vicinity so far as it could be explored. As the locality of the scar could be quite thoroughly examined through this opening it was decided to make no further one at this time, but to await the result of this operation and meet future indications as they might present themselves. The wound was accordingly dressed, the flap having been replaced, and the patient put to bed with head and shoulders well elevated.

The subsequent course of the case was uneventful. No further hemorrhage followed. On the third day there was a sharp rise in temperature, which promptly subsided on removal of the packing and remained normal thereafter, while the wound healed readily.

From the moment of the operation there was no return of any of the disturbances described, and the young man has to all appearances been perfectly well since. He returned to work after a few weeks, and at this writing, over five months after the operation, is doing full work as laborer in a chair factory.

In the study of this case, the question which most strongly presents itself is that concerning the pathologic condition which brought on the grave disturbances noted: in other words: What was the true nature of the trouble, and what the *modus operandi* by which the apparent good effects of the operative procedure were brought about?

Malingering could be safely excluded, as neither the patient nor his relatives blamed anyone but himself, so that there could be no motive for feigning the symptoms. While in some respects the symptoms reminded one of hysteric manifestations, yet their exact anatomic grouping, together with the history of the case, seemed to preclude this diagnosis. The character of the muscular spasms did not correspond to that of ordinary epilepsy, neither would the history admit of this view.

I am inclined to look on the case as one of cortical irritation due to a mild or subacute inflammatory process, set up at the seat of injury, either from the direct effects of the blow, or from infection through the scalp wound. A pathologic condition of this nature would be likely to be benefited by the relief to the circulation and other local changes incident to the operation.

Whatever interpretation we may give, the case furnishes an interesting illustration of what violent disturbances may follow on comparatively slight traumatisms of the head, or arise from pathologic conditions so difficult of detection as to escape the surgeon's notice. The evident curative effect of the operative interference will admit of several interpretations, according to the view we take of the pathology of the case.

900 N. Fourth Street.

DISCUSSION.

Dr. J. T. Eskridge, Denver, Colo.—Did you say, Doctor, that a single convulsion would last an hour, and the attacks would repeat themselves?

Dr. Reineking—The convulsions did not last for more than three to five minutes at a time; there was no rise of temperature noticed.

Dr. Eskridge—Some of you may remember that during the War of the Rebellion, Drs. W. W. Keen, S. Weir Mitchell and Dr. Morehouse had charge of the hospital, in Philadelphia, for all of the wounded soldiers. These practitioners took a deep interest in surgical pathology and neurology at that time. The report of their observations was made in 1864, and appeared in the October number of the American *Journal of the Medical Sciences*, for 1864 or 1865. Mitchell reached the conclusion that a convulsion which lasted for more than two minutes, as a rule, was not a genuine epileptic convulsion; that a person might voluntarily so exert himself as to cause the pupils to dilate, as in genuine epilepsy, yet the convulsion be slight. The mere fact that repeated convulsions occurred for an hour or more, without loss of consciousness, and without a rise of temperature, would exclude the possibility of true epilepsy.

I can not agree with the essayist that there are no evidences of hysteria. We must remember that in hysteria there is some starting-point, and in traumatic hysteria the symptoms begin at the point of injury. This man was evidently injured; whether there was any congestion of the brain or not, the local injury would have been sufficient along with the disturbance of brain cells to determine the point of the attack. We do have symptoms in traumatic troubles where there is depression of bone. The convulsions when the depression is over a so-called motor region continue for some time, but rarely is there a convulsion without rise of temperature if the fits, Jacksonian in character, are frequently repeated. The Doctor's case was undoubtedly one of pure hysteric epilepsy due to traumatism, and I heartily indorse the treatment he pursued.

Dr. H. Reineking, closing the discussion—I have not given the subject of hysteria that thorough study which my friend Dr. Eskridge has. What led me to exclude this was chiefly the close correspondence of the symptoms to the lesions and I was under the impression that in hysteria we do not get the exact grouping, or correspondence between the injury and the symptoms, such as we had in the case reported.

SILVER CATGUT AND HOW TO TIE IT.*

BY EDUARD BOECKMANN, M.D.

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ST. PAUL, MINN.

At the meeting of this Academy in Chicago, two years ago, I expressed it as my opinion that ideal catgut had not been discovered, in spite of assertions to the contrary from certain quarters. It was universally admitted at that time that ideal catgut should be, among other things, also antiseptic, to deprive it of its qualities as a culture-medium in the human anatomy for the ever-present bacteria. To this end catgut has been treated with different chemicals, as carbolic acid, sublimate and iodoform. Aseptic catgut, rendered antiseptic with one of these agents, has certainly undergone a great improvement in the direction of ideality, but can hardly be considered ideal, as the carbolic acid is absorbed much more quickly in the tissues than the gut, leaving a culture-medium behind; as sublimate does not penetrate the gut well, forms inert combinations with albuminous substances, and is on the whole an unstable chemical; as iodoform is soon decomposed into free iodin, which makes the gut brown, very brittle and very irritating. Besides, none of these chemicals allows of sterilization of this material by dry heat, and which sterilization should be the last process in its preparation, avoiding all subsequent handling.

I tried to overcome the above objection by impregnation of the catgut with lanolin, and when this proved a failure, by impregnating it with resin, soaking the gut in turpentin oil and evaporating the oil afterward, thus leaving the resin in the gut; neither did this prove successful.

About this time Credé's views on metallic silver as an antiseptic came to my notice, and I grasped his idea with some enthusiasm, as it struck me that we now at least had an antiseptic which would not only remain with the catgut in the tissues to its last fiber but would also allow of sterilization by dry heat as the last step in its surgical preparation. Besides, metallic silver has the advantage of being neither poisonous nor irritating.

In the July number of the *St. Paul Medical Journal* I gave my views on the silver catgut. From the conclusions you will find that I consider silver catgut an almost ideal suturing and ligating material, but that I also admit that it is still open to improvements. The four months which have elapsed since the publication of my paper have also brought about some important improvements, and the catgut I have to-day, for your inspection, is certainly a superior article; still I do not claim for it absolute ideality.

Our demands of ideal catgut are necessarily severe. The raw material must be select as to tensile strength, cleanliness and sterility. Already we here meet with obstacles. The mercantile article is usually very strong, but sometimes has flaws in it, and it does not as a rule look clean, having passed through too many hands, while it is rarely sterile. Ideal catgut must, above all, be both clean and sterile, in other words aseptic. Then it must be antiseptic, and the antiseptic itself should be non-poisonous, non-irritating, able to withstand sterilization by dry heat, and be absorbed proportionately with the absorption of the gut itself, thus acting antiseptically throughout the entire life of the gut, rendering it at all times an unfit medium for the growth of bacteria, and at the same time extending its antiseptic influence to the tract of the gut. Furthermore, the tensile strength must be preserved to such a degree as to satisfy not only that surgeon who uses moderate force in tying, but also that one who practices tight ligation, as the majority persist in doing. Again, the life of the catgut in the tissues should meet the requirements of those who expect a ligature to hold from one to several weeks. The catgut should finally be as pliable as silk, breaks at the knot should not happen, and, last but not least, the knot itself should be made absolutely reliable and of as little bulk as possible.

If all these requirements could be complied with, such a catgut would be ideal and should, on account of its all-important absorbability, render the use of all and every kind of non-absorbable suturing and ligating material superfluous.

To meet the above requirements the catgut is now prepared in the laboratory of the Ramsey County Medical Society in the following way: The raw material, selected for the purpose, is first cleaned by scrubbing it with hot water, soap and sponge, until it looks perfectly white and clean. After this process the catgut will yield cultures in bouillon, but not to the same extent as before the cleaning. It is then transferred to the antiseptic solution. Of late a 2 per cent. solution of nitrate of silver has been used in preference to the 1 per cent. lactate of silver solution, recommended by Credé and has been found to penetrate the catgut just as well. In this solution the catgut remains a week or more in a dark place. Catgut, which is intended to last more than one week in the tissues, the average life of plain silver catgut, is, after cleaning, transferred to a formalin solution for one day, after which the formalin is removed by irrigating the catgut with water from the tap for another day. A 1 per cent. formalin solution is used to make a catgut with the life of two weeks in the tissues, while one of 5 per cent. will make it last several weeks. Catgut, treated with formalin and afterward irrigated with sterile—artesian—water will still yield cultures in bouillon. After twenty-four hours of continual irrigation, the formalized catgut is transferred to the 2 per cent. nitrate of silver solution. The catgut may, formalized or not, remain indefinitely in the silver salt solution without any impairment to its tensile strength. The next process consists in desiccating the catgut, stretching it back to its original length, and reducing the silver salt to black, metallic silver. This is done by stretching the gut on especially constructed frames, which are exposed to direct sunlight in a glass case, where it remains until it is not only dry, but also the most possible brown or black. It is now again tested in bouillon, but has never yielded culture; in this condition it is practically sterile, which is no wonder, as a 2 per cent. solution of nitrate of silver is a germicidal one, if soaked through and through the gut for days. But it must be borne in mind that the gut is now antiseptic and that this circumstance may account for the apparent sterility, for which reason, and because some further handling of the gut is necessary, a proper sterilizing process must come last. After completed reduction of the silver salt into metallic silver, the gut is cut up in desirable lengths, made up in coils, wrapped in paraffin paper, placed in envelopes, which can be sealed hermetically, and sterilized by dry heat. As the catgut is practically sterile, when it is placed in the sterilizer, it has not been deemed necessary to expose it to the spore-killing temperature of 284 F. for three hours, a temperature which is trying to the tensile strength. That of 260 F. continued for four hours or more, is, so far as can be judged from cultural and practical experience, perfectly reliable for the sterilization of silver-catgut.

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*Presented to the American Academy of Railway Surgeons, Omaha, Neb., Oct. 12-13, 1899.

I have already stated that I do not claim for the silver-catgut which has gone through these different processes absolute ideality, and I shall now give my reasons.

1. Although the strands are tried for weak spots, by stretching before they are placed in the envelopes, it may happen that one strand or another after sterilization may be faulty and easily broken at a certain point, for which reason the strand should be tried again before its application, to avoid disappointment.

2. As the catgut after cleansing still develops growth in bouillon, we may assume that it is only apparently clean and that it still contains traces of bacterial products. However, as far as the practical experience goes, mechanical washing seems to clean the gut satisfactorily.

3. As to sterility, the most important point, there is no doubt that the silver-catgut is ideal in this respect.

4. As to its antiseptic properties, I do not believe that silver is an ideal antiseptic for the gut, although I do believe that it is the best for the present time. It is not poisonous, either generally or locally, and it is not irritating. But, if the catgut contains free silver salt; if this, in other words, has not been perfectly reduced throughout, the gut is irritating. Silver-catgut should be of a uniform black or brown color throughout, if the silver-salt has been properly reduced. As a matter of fact the silver-catgut is always darker outside than inside; consequently the reduction is not so complete in the body of the gut, and this circumstance may explain why silver catgut sometimes seems to be slightly irritating. Until a reliable and practical method of perfect reduction is discovered long exposure of the gut to bright sunlight will have to serve the purpose. Reduced silver is evidently a weak antiseptic and more so the slower absorbable the gut is. Plain silver catgut is, therefore, more antiseptic than the formalized, but in both the silver is unquestionably able to make the catgut a neutral medium, but not sufficiently antiseptic to prevent the growth of bacteria in its tract. Such an antiseptic would be ideal, and it would allow the catgut to be used with impunity for skin sutures and without being handled "with gloves." In this respect silver catgut is not entirely ideal. Occasionally slight infection is observed, for which the gut itself is in no way responsible; it seems, however, as if the silver contained in it is able to modify, but not to nullify, such infection, judging from the fact that we never see such pronounced stitch abscesses, which sometimes are observed, when plain, aseptic catgut is used in the skin. Infections, occurring when silver catgut is used, should therefore stimulate the surgeon to improve his technique and also stimulate the man who recommended a certain catgut to seek a more ideal antiseptic. After all, we must be satisfied that silver is a stable, non-poisonous and non-irritating antiseptic which is active throughout the entire life of the gut.

5. The tensile strength of silver catgut is beyond reproach. The secret of preserving tensile strength consists in securing absolute dryness of the envelopes before or during the sterilization, to reduce the dry temperature of 284 F. by some 20 degrees, and to drive off all the formalin in the gut, so treated, as soon as the formalization is completed. If these three points are observed the catgut will come out from the sterilization process nearly as strong as in natural condition. But, as these three points demand the closest attention, mistakes may happen, for which reason the surgeon should try the tensile strength before application.

6. The life of the plain silver catgut has been estimated to be one, that of 1 per cent. formalized silver catgut to be two, and that of 5 per cent. formalized silver catgut six weeks. These figures are arbitrary and must be accepted *cum grano salis.* The finer sizes of catgut are consequently absorbed more quickly than the coarser; the more vascularized the part is, the quicker the catgut is disposed of; it lasts longer under perfectly aseptic conditions than in the presence of sepsis; the dry does not last as long as catgut impregnated with fat, etc. The one-week catgut is, therefore, sometimes disposed of in a couple of days, while the two-weeks' gut may last three weeks or even longer; and as to the six-weeks' gut, I do not really know the exact life, but I assume that it is at least six weeks.

7. It is a *pium desiderium* to prepare the silver catgut in such a manner that it is pliable as silk when removed from the envelope. As it will be very hard to comply with such a wish, the dry and stiff catgut must be rendered pliable by soaking it for a moment in a warm aseptic or antiseptic solution. However, by careful handling such a procedure is superfluous, as the gut will become moist and be rendered pliable by the natural juices of the

[illegible] Still, it is to be recommended to dip the gut in a sterile solution just before application.

8. Dry catgut is easily broken at the knot, a circumstance which soaking in a sterile solution and considerate handling will prevent.

9. As to reliability at the knot, silver catgut is perfectly reliable, if properly tied. Some precautions are nevertheless necessary, since catgut becomes very slippery when moistened. It may be possible to impregnate it with an agent which will make an ordinary granny knot or a sailor's knot entirely reliable; this would be very desirable, as these knots are the least bulky. As it is, a surgeon's knot, or double-knot, and three of them, are advisable when an absolutely reliable one is demanded. Or a combined surgeon's and sailor's knot may serve the purpose. I have conducted a series of experiments in tying catgut, which tend to prove that three knots should always be made, and these three may, under particular circumstances, be single or double.

10. Is the putting up of silver catgut in envelopes an ideal way of preserving catgut? I like this method of Benckiser better than any other one. The only objection is that the catgut can not be seen, unless the envelope is opened. And simple inspection will usually tell whether the catgut is free from flaws, whether it is of the desirable size, whether the silver is properly reduced, etc. In these respects it may be of some advantage to put the strands up in glass tubes, which can be boiled together with the instruments, rendering it superfluous to use another person to bring out the catgut from its receptacle. But I shall always insist that it is more ideal to have every strand in a separate receptacle, as sterilization in bulk always endangers the asepsis of the fluid in which the catgut is preserved.

There are consequently several improvements to be made, before we can properly speak of ideal catgut. As it is, the silver catgut is so near to ideality that it can successfully take the place of all other kinds of suturing and ligating material. I have now made exclusive use of catgut in my surgical practice for seven years, and with increasing satisfaction, and I have never for a single moment thought of changing my tactics.

Lowry Arcade.

DISCUSSION.

Dr. J. P. Lord, Omaha, Neb.—The name of Dr. Boeckmann has become inseparably connected with scientifically prepared catgut, if I may so express it. We have all used the different forms as they have come to us, and notwithstanding all of the best methods that we have had for the preparation from time to time, yet it would appear to the credit of Dr. Boeckmann that there has still been room for further improvement in catgut. I have followed his methods in its preparation, and have found that some of the objections which he has mentioned obtained in regard to the dry sterilization and the other various preparations chiefly by formalin. I have practically discarded formalin catgut because of its unreliability. Silver wire stands among the first of antiseptic suture materials, it being probably the most ideal suture, as far as its remaining aseptic is concerned, and in this preparation of absorbable material we have the same salt which is to exert its special influence, and it would appear to me that we have here, as Dr. Boeckmann has suggested, an ideal material. I should say it is practically faultless. Even its color is an advantage to it. I can not say more than this in view of the fact that I have not tried it. Its further trial will probably be necessary to determine whether or not it is going to "fill the bill." Dr. Boeckmann has already well stated what there is to be said in regard to it. I am very much impressed with the value of this material, prepared in the manner he has indicated, and am going to demonstrate my faith in it by its practical use.

Dr. E. W. Lee, Omaha, Neb.—There is one point that was brought out in the paper that should be emphasized, namely, that every time we use this or any other catgut, admitting that it is absolutely sterile in every way when it comes into our hands, we must prepare the tissues in the same perfect condition before the catgut is used. A strand may be absolutely sterile, but just as soon as you push it through infected tissue trouble will arise. The use of the cotton glove, which can be easily sterilized, is going to facilitate our work with this suture material and remove, to a great degree, the possibility of stitch abscess. With the most perfect piece of sterilized catgut we are liable to have stitch abscess if the tissues are not rendered perfectly aseptic.

TOBACCO AMBLYOPIA.*

SOME RECENT EXAMINATIONS MADE TO DETERMINE THE INFLUENCE OF TOBACCO ON VISION AMONG THE EMPLOYEES OF THE TOBACCO FACTORIES OF CINCINNATI.

BY FRANCIS DOWLING, M.D.

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CINCINNATI, OHIO.

For several months past I have been making the rounds of our large tobacco factories in Cincinnati, making examinations among the employees to determine how many of them were affected with tobacco amblyopia, as well as to collect such other statistics as were available in regard to this subject. Some years ago I spent a year or more in making a similar series of these examinations in our tobacco factories. The findings in my recent examinations correspond in most particulars with the findings in the first series.

The factories examined into employ collectively over two thousand people, of whom something over one-half are females, ranging from 16 to 45 years of age. Out of this number 153 males were examined and 50 females. Of the males, 23 were more or less affected with tobacco blindness; of the 50 females only 2 were found to be affected. The males examined were between 35 and 65 years of age, and they were all known to be heavy smokers or chewers of tobacco. Some of them both chewed and smoked but, as a general thing, the heavy smokers were not heavy chewers, and vice versa. None of these men drank to any great extent. They were largely thrifty Germans who either drank only a glass or two of beer after working-hours, or did not drink at all. This matter was very closely investigated, and the statements of the men were corroborated by the foremen under whom they worked. Two out of the number who were amblyopic, and who were at times tolerably hard drinkers, were consequently not included in the list of my findings.

A great many of the boys in these factories use tobacco in some form or other, but were not found to be affected with tobacco amblyopia. A large number of the females employed had contracted pupils, but showed no other evidences of tobacco blindness, except two out of the fifty examined, and these had pronounced symptoms of tobacco amblyopia. One of these women, aged 40, who had worked twenty years in cigar factories, had contracted pupils the size of a pinhead. She had a central oval scotoma for green, and has had failing vision for the past year. She rolls cigars and has the moist tobacco in contact with her hands during her entire working-hours. She does not use tobacco in any form, and is not a drinker of alcoholic liquors.

The other woman, aged 43, has worked in cigar factories for six years, as a cigar roller. She first complained of failing vision about a year ago, and was finally compelled to give up her work on this account. Vision, when she was examined, was 20/100. She had a central scotoma for red and green, and her pupils were irregularly dilated. There was partial atrophy of both optic discs, but it was more pronounced in the right eye than in the left. She has never used tobacco in any form, and does not drink alcoholic liquors. This woman was treated with strychnia, given internally, and eserin was dropped into the eyes every second day. At the end of six weeks she was decidedly improved.

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*Presented to the Section on Ophthalmology, at the Fiftieth Annual Meeting of the American Medical Association, held at Columbus, Ohio, June 6-9, 1899.

I am inclined to think that the tobacco-laden atmosphere of these establishments, with a goodly supply of dust included, has very little, if any, influence in the causation of tobacco poisoning, as far as the eyes are concerned; it does, however, seem to exert a deleterious influence as far as other physical symptoms are concerned. I found that the majority of the young girls were anemic looking, and had disorders of digestion, were affected with muscular tremor, and had other symptoms pertaining to a disordered condition of the nervous system. Smoking or chewing tobacco seems to be necessary to produce the peculiar poisoning symptoms on the part of the eyes.

A large number of those who had pronounced symptoms of tobacco amblyopia were examined with the ophthalmoscope, and in each case the fundus of the eye showed more or less paleness of the optic disc, and in eight of the cases there was bilateral atrophy of the temporal half of the discs.

Of all the employees, 90 per cent. used tobacco in some form or other. About 10 per cent. chewed tobacco, in addition to smoking liberally of a pipe or cigars. Most of them did their smoking in the morning or evening, before and after working-hours. The ventilation of the work-room was, as a general thing, as good as could be expected in establishments of this kind.

The principal colors confounded by those who were examined were: red confounded with pink; dark brown for black, the latter usually in the more pronounced cases; green confounded with light blue, yellow or black; white was, as a general thing, confounded with gray of different degrees of intensity, according to the degree of tobacco infection. All of these cases were only affected for the central colors of the test; the colors in the periphery could be distinguished without much difficulty.

The men examined ranged in age from 30 to 65 years, and were among the heaviest consumers of tobacco in the factories; so that they were among the best subjects that could be had for the object in view, viz., ascertaining the effects of tobacco on the system.

The majority of those who were examined showed evidence of a contracted condition of both pupils. This was present in many who showed no other evidence of tobacco poisoning, but it was marked and persistent in those who showed other well-marked evidence of tobacco infection. Twenty-three out of the 153 complained of a gradual failure of vision. Three-fourths of all the men examined were over 35 years of age, and the oldest man examined was 65. Some of those examined smoked as high as twenty cigars a day. Many of them declared that they were compelled to stop smoking for a month or so at a time on account of unpleasant feelings in the head and a difficulty in reading, from confused vision.

Among the 30 negroes examined, none showed evidence of tobacco amblyopia, although they were all heavy users of tobacco, most of them being chewers, and some of them smoking in addition. Judging from those who were examined in this instance, and others, who were formerly examined, I am inclined to think that the negro race enjoys an immunity from tobacco blindness.

When I commenced my examinations in the factories, I was under the impression that the constant inhalation of the dust, and the odor of tobacco in the work-shops, would tend in itself to bring about symptoms of tobacco amblyopia. I am inclined to think this hardly takes place, for in my examination I found that those who did not smoke nor chew were, with two exceptions, free from troubles of vision of a toxic nature.

As a result of all my investigations in this department, the following would be a fair résumé of the principal symptoms which characterize chronic tobacco poisoning, affecting both the general system and the organs of vision.

General Symptoms.—The subjects are light eaters, and the appetite is easily satisfied; a large number have a decided antipathy to meat. Constipation is usual. The sleep is usually disturbed, often by disagreeable dreams. They usually have to go to bed late, as they claim, in order to be able to fall asleep. They often wake for some time. They usually complain of more or less palpitation of the heart, and the pulse usually ranges at about 90 or over. On taking any great amount of exercise the muscles feel unusually tired, and the hand often has a characteristic tremble on holding a book or pen. A case in which this latter symptom was particularly well marked came under my treatment recently, in a man who was a heavy smoker, and who had pronounced symptoms of tobacco amblyopia in addition.

Eye Symptoms.—The subjects who usually suffer with tobacco blindness are almost always males between the ages of 30 and 60 years. Exceptions to this occasionally occur, and in my own series of examinations I found one man, aged 19, who presented a well-marked case of this trouble. He was a most inveterate chewer and smoker of tobacco. Noyes also states that he treated a boy of 15, who presented a classic case of this disease. The boy was an inveterate cigarette smoker. In speaking of this subject, Forster, of Breslau, says that he has never seen a case of tobacco amblyopia in a person under the twenty-sixth year, but that they are mostly from 30 to 65 years of age.

There is almost always a gradual but progressive failure of visual acuteness in both eyes. This was noticed more or less in a large number of all those I examined. Luminous objects dazzle the eyesight, and a bright light is worse for reading by than a subdued one. These patients see better in the evening than in the middle of the day, and in this connection Forster cites the case of an old smoker who, in playing nine-pins, could not distinguish between the upright pins and those that were down during the bright light of day, but had no difficulty in that direction as evening came on. In addition to this, patients often complain of a glimmering mist which covers all objects, especially in a bright light. These subjects almost always confound colors for central vision. First in the order comes red; this is generally taken for dark brown, pink or black. Then in order comes white, which is taken for dark gray or black. Pink to these subjects often looks like blue. It must be remembered that it is only for the central visual field that these colors are confounded; the periphery is usually seen all right.

Myosis:—Persistent contraction of both pupils is generally present, and this was the most frequent of all the symptoms noticed in the cases examined, and I could almost always tell by looking at the pupils in ad-

[illegible] of the test of the examination that the subject would fail to make out the colors of the test. This symptom was present in many cases where the men were heavy chewers of tobacco, even when there was very little other evidence of infection. It would be well to mention here that in some cases this contraction is so pronounced that it is impossible to illuminate the eye chamber sufficiently to make an examination of its fundus by means of the ophthalmoscope. All the symptoms mentioned are more marked in the case of chewers of tobacco than in smokers. This we can probably explain by the fact that in the case of chewing more nicotin is absorbed than in the case of smoking, for in the latter a great part of this poisonous agent is volatilized by the heat and escapes with the smoke; while in the former most of it is directly absorbed into the circulation through the blood-vessels of the mouth and tongue.

Lastly, the ophthalmoscopic examination of the eyes of those affected with tobacco amblyopia reveals the papilla of the optic nerve to be more than usually red in the early part of the affection. Later it appears anemic, especially on the temporal half, and finally atrophy of the disc takes place. It is quite probable that these changes in the papilla are caused by direct action of the nicotin, which enters the circulation and causes contraction of the smooth muscular fibers, and then, diminishing the caliber of the minute blood-vessels of the part, the irritation of the nerve tissue of this essentially sensitive body takes place at the same time, by means of this agent, and this explains the congested condition of the part seen in the early history of the disease. The pressure, etc., caused by the congestion finally produces a gradual atrophy of the disc, and eventually more or less of the contiguous retina, according to the duration of the disease and the amount of tobacco infection.

Statistics.—Dr. Swanzig says that tobacco blindness is more common in England and Ireland than in Germany, where light cigars are more in use than the stronger ones of England and Ireland. I think another reason, in addition to the one cited by Swanzig, is that in England and Ireland the stronger alcoholic drinks are used in preference to the comparatively weak malt liquors of Germany. These alcoholic drinks have a greater tendency to lower the tone of the system than those of malt, and thus powerfully aid the action of tobacco in producing its poisonous effects. This is particularly so among the poorer classes.

Prognosis.—The prognosis is good if the patient comes under treatment early. In some cases complete recovery occurs, and very great improvement is a rule. In long-standing cases a moderate improvement is all that can be expected. If smoking is persisted in, no improvement takes place under any system of treatment. Under proper care fully 60 per cent. recover.

Treatment.—It is necessary in the first place to absolutely forbid the use of tobacco in any form; next, the use of alcoholic drinks. The very worst cases to cure are those arising from chewing tobacco. From six to twelve weeks' treatment is usually necessary to effect a cure. Haughton, in his experiments, has shown that there is an antagonism between nicotin and strychnin, hence the usefulness of this latter agent in the treatment of this disease. I have been more successful with it in combination with arsenious acid and other tonics than with any other mode of treatment.

Literature.—Tobacco was not used in Europe till about the close of the fifteenth century, soon after the return of Columbus from his first discoveries. From that time on its consumption spread from country to country until it is now more or less extensively used throughout the world.

Statistics show that the per capita consumption of tobacco in Germany alone, every year, is 3½ pounds; in France, nearly 2 pounds; and in Austria, nearly the same quantity is consumed. Counting the adult males in Germany as one in five of the population, every adult male in that country would use seventeen pounds of tobacco per year.

The deleterious effects of tobacco, on the system in general or on the eyes, is due, as we all know, to the presence of a poisonous ingredient called nicotin. This oily, colorless fluid diffuses itself into the blood with as much rapidity as prussic acid, and a poisonous dose has been known to kill an adult in three minutes. Nicotin, when heated to 250 degrees, becomes volatilized and decomposed, but if watery vapor is present, volatilization takes place without decomposition. When dry tobacco is smoked the greater part of the nicotin is decomposed by the heat, and passes off with the smoke. The more moist the tobacco, and the cheap grades are usually damp, the more is this retarded. The cheaper grades of tobacco contain more nicotin than the dearer ones, and consequently are more injurious to the consumers; and this is probably one reason why tobacco blindness is more common among the poorer classes than among the rich. The tobacco used for chewing purposes is usually very rich in nicotin.

124 West Ninth Street.

ELECTROCAUTERY IN AFFECTIONS OF THE LIDS AND OF THE CORNEA.*

BY FLAVEL B. TIFFANY, A.M., M.D.
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Since I commenced the special practice of ophthalmology, more than twenty years ago, several drugs and modes of treatment then unknown to the profession have been introduced, and since their therapeutic value has been fully established we scarcely realize how it was possible to have done without them. Sulphate of eserin, for instance, is a drug that has aborted hundreds of cases of that most terrible disease, glaucoma. Eserin, from its myotic influence has prevented blindness and given relief from the agonizing pain, and frequently conserved vision. Cocain has well-nigh revolutionized ophthalmology. Thanks to it, general anesthesia, with its unpleasant and oftentimes serious consequences, is no longer to be dreaded in many of the operations on this delicate and sensitive organ, and we can scarcely see how the various affections could be treated and the operations made without it. So too jequirity has its special place in ophthalmology. Of late we are given the extract of the suprarenal capsule, which is also destined to prove a valuable agent in many of the affections of the eye and its appendages, as well as in the operations on these parts. When a new drug or new method of surgical treatment is introduced, there are always many enthusiasts who overestimate its value. On the other hand, there are others who are too incredulous or doubtful; who either decry or ignore its value, and thus retard its usefulness.

Not until electricity was introduced as a therapeutic agent was the thermocautery fully appreciated as a curative agent in affections of the eye. Thanks now to the more modern perfected appliances, several of the diseases of the cornea, and especially ulcers, are checked in their destructive course and the eye is saved, whereas without its use, as in former times, sloughing and necrosis would persistently go on until the eye was lost. You will agree with me that the electrocautery is one of the most efficient and reliable agents in rodent, indolent or phagedenic ulcers of the cornea. For persistent fistula of the cornea there is no medicament nor surgical treatment that will take the place of electrocauterization. For several years I have resorted to it in phlyctenular keratitis, especially in the recurrent obstinate forms. For the last few months I have used it repeatedly in pannus crassus, in which I usually first make peritomy, cutting through the conjunctiva with the neoplastic vascular tissue down to the sclera, and then, with the flat surface of the electrode at a white heat, I burn the pannus or vascular neoplasm down to the anterior elastic lamina of the cornea. I do not hesitate to make extensive searing, embracing the entire area of the pannus tissue. In no instance have I had any ill results from this extensive burning, but, on the other hand, without an exception, when the cornea was even so enmassed by the pannus as to hide from view the iris, the cornea so treated would clear up and good vision be regained.

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*Presented to the Section on Ophthalmology at the Fiftieth Annual Meeting of the American Medical Association, held at Columbus, Ohio, June 6-9, 1899.

In treating trachoma, which is the cause of pannus as a rule, I depend more especially on the expression treatment, squeezing and rolling out the granules with the forceps, but I always take care not to make the two operations at one and the same sitting, for fear of an adhesion of the raw lid to the cauterized cornea. I believe—from my experience—that the cautery in treating pannus is far superior to any other method yet introduced, especially where trachoma complications do not exist. This treatment can be given under the influence of cocain, without any pain to the patient.

Within the last two months it has been my fortune to have, for treatment, several cases of keratoconus as well as of staphyloma. Instead of excising a portion of the cornea and closing the parts with sutures, which is a very hazardous treatment and of little benefit to vision, leaving as it does a scarred cornea, I have found the electrocautery most efficient. Recently I operated for an extensive conical cornea with a leucoma directly in front of the pupil, with the electrocautery, gaining most satisfactory results. In this case the cone was so great that the patient was scarcely able to close her lids over it, and, even when they were closed, there was a marked protrusion. In this case I used the sharp cutting edge of the white hot blade, going through the first three layers down to the posterior elastic lamina. The incision was made vertically, slightly to the temporal side of the pupil, from near the upper edge of the cornea down to within a few millimeters of the lower edge; this had the effect of flattening the cornea to its normal curvature, and also of promoting absorption of the leucoma, and without the slightest scar visible to the naked eye. If this treatment proves to be as valuable an agent in keratoconus in other hands as it is in mine, it will certainly be an advantage to ophthalmology. I have not used it in cases of pterygium sufficiently to give an opinion as to its value or detriment in this affection. I do not believe that we should be warranted in using it in pterygium excepting to cauterize the apex or that part which has invaded the cornea. In doing this it will check and dissipate the growth.

The electrocautery is also a valuable agent in treating those most troublesome affections of the lids, namely, ectropion, entropion, distichiasis, and trichiasis. We all know, too well, how difficult it is to restore the edge of the lid, be it once distorted from or toward the eye, especially with the erring lashes irritating the eyeball. In former times an extensive, tedious, laborious operation had to be made, taking perhaps several hours and by no means with uniform good success, and besides, as a rule with little or no financial compensation, as these diseases are usually in the poorer and lower classes who are unable to pay a fee. With the electrocautery, in most of these cases, the same or better results can be obtained in two or three minutes, with no fatigue to the surgeon, than can be gotten by the tedious operation of former days.

For ectropion I incise with the white-hot blade, through the conjunctiva to the tarsal cartilage, from the external canthus to near the punctum, 2 or 3 mm. from the edge of the lid. This not only draws the lid up to its place against the eye, but reduces the hypertrophied, vascular tissue which usually exists in this affection. It is sometimes necessary to make more than one incision; the second and third should be parallel with the first and toward the cul-de-sac. The result from this treatment is more marked subsequently, because of the cicatrization, than at the time of the operation. For entropion I always use the clamp, putting the integument of the lid on the stretch, thus preventing too much contracting or puckering of the skin or the tissue, from the cremation. In operating for entropion I take care not to go too near to the free edge of the lid, lest the hair follicles of the lashes be destroyed by the intense heat, and as a sequent, lippitude. The patient being under the influence of chloroform, the clamp applied, an incision is made from the punctum to the canthus, 2 or 3 mm. from the edge of the lid, through the integument into the tarsal cartilage. Where there is much hypertrophy of the lid with a decided curvature of the mucous surface, after making incision with the cutting blade of the electrode, I occasionally use an electro-narrow knife with the flat blade searing the connective tissue down to the tarsal cartilage, taking care not to go too near the hair follicles. This procedure is quickly and easily done, and in the less complicated cases gains the desired results. For distichiasis and trichiasis I frequently resort to this treatment, limiting the incisions to the parts involved. The electrocautery thus used has the effect of not only turning the margin of the lid with the lashes away from the eyeball to its normal position, but it also reduces the thickened hypertrophied tissue and straightens the mucous surface curvature. Sometimes there is a slight scar from the cauterization, but not much more than from the old operation with the ordinary scalpel. Any slight scar existing, will in time, with a little massage, be obliterated.

805 McGee Street.

FOOD AND DRINK.*

BY ELMER LEE, M.D.

NEW YORK CITY.

The larger part of the activities of man are spent in search of nutriment. In his diligence nothing escapes attention either in the animal or vegetable kingdom. A ceaseless and relentless hand is laid on almost every living or growing thing to provide material to appease and satisfy human appetite. Nothing great nor small, of either real or fancied value as nutriment, is missed by man, determined to have all there is to eat and drink. The animal cell has not changed in any particular during the period of its existence, and the requirements for growth and repair remain as ever the same. Even with the vast modifications since the advent of steam and electricity, primitive and simple limitations at this time govern a considerable proportion of the human family in its food-supply. There are whole races of men of sturdy and enduring structure subsisting on one or more natural products of the ground to the exclusion of variety or flesh. The work and patience of the rice-eatng oriental outrivals the endurance of such as think strength depends on much variety and a mixed diet.

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*Presented to the Section on Physiology and Dietetics, at the Fiftieth Annual Meeting of the American Medical Association, held at Columbus, Ohio, June 6-9, 1899.

Meat eaters are not able to boast of advantages that do not also attend those whose food is a vegetable diet. In the selection of edible material taste and means to purchase it play a most important part. The habit of a varied and mixed meal of victuals thrice each day is widely taught in the homes of all classes in this and other advanced countries. There are few who stop to think whether it is useful or harmful. Sickness is nearly or quite universal among civilized nations, and less in degree among lower grades of mankind, and even quite rare in some primitive races. Eating to excess, of whatever nature of food, if frequently repeated, leads to certain unpleasant consequences. But from a failure to associate cause and its effect, it is much more than probable that much sickness and many premature deaths are directly due to the fatal error of crowding the body with more food than is safe. It is a nice point to determine as to the exact relation between the bodily need and its supply, i. e., not to under or overestimate the vital capacity under different conditions. Few, indeed, have knowledge to that required degree, and it naturally follows that the many are paying a penalty in sickness and suffering, for their mistakes.

The profession, except here and there, fails to appreciate that disease is principally self-induced through the misuses of the stomach. It would be far more helpful to the patients if greater attention were given to dietetics. Conditions of health or its absence are affected by bodily habits, and daily mistakes at the breakfast, lunch and dinner, outbalance in the long run the tendency of physiologic restitution. Let it then be clearly spoken as my experience in a practice of nearly twenty years, that pathology is a condition closely allied with the sad misfortunes of feeding the body in excess of its needs and beyond the capacity of its power of elimination. Carbonic acid gas is a directly resulting waste product and is deadly to cell protoplasm if retained in the system too long. It is reasonable to assert that it is overmuch rather than too little food which is responsible for human pain and bad stomachs. There are ample proofs to show also that it is not a need of greater variety either of vegetable, flesh or mixed diet, that is consistent with health, but the use of such diets in moderation. The organism of man is able to safely appropriate the food materials of all kinds. Any diet may be healthful that is natural, i. e., not artificial, if properly proportioned to the bodily requirements. It may be a diet of one or more substances, such as meat alone, or it may be one article day after day, as in the case of the Chinese and their rice, or it may have all the variety of the American table, if moderation governs the apppetite and prudence regulates the quantity. It is a great mistake to eat too much, and it leads to frequent fatal complications. There is no precise weight of food suitable for all persons, as each is an independent consumer, and with necessities peculiarly his own. With few exceptions every class of society abuses the pleasure of appetite, and therein lies the chiefest explanation of the origin of bodily and mental diseases. The solids, liquids and gases within are augmented in vigor or degenerated, in direct relation to the appropriateness or the inappropriateness of the food-supply. It is the refuse within the organism which, remaining in touch with the vital fluids and tissues for a too long space of time, is turned into the toxins. This toxic matter, fluid, solid or gaseous, kept too long in contact with vital tissues and nerves, induces a series of unnatural sensations. Bodily sensations, when disagreeable or painful, are the symptoms of disease. True medicine or science applies itself at this moment in rightly directed measures that stop further toxic production and at the same time also hasten a removal of such toxin as is already formed. If symptoms are wisely and promptly overcome in a truly scientific manner, little harm results to the organism and a valuable lesson may have been learned by both physician and patient. Much pitiable blundering often passes for scientific treatment, that is called "regular," but to the disparagement of the worth of capable medical science.

Two meals of food each day are safer than three, even if the quantity taken be the same. The early morning hours are accompanied with the least stomachic and intestinal resources for a satisfactory digestion. Waiting till noon or nearly the middle of the day for the first meal has, in practice, yielded benefits to patients placed on that plan. Good results are also obtained by making the first meal of fruit or some plain food, followed by a hearty lunch. It is my wish to especially emphasize this fact, learned in years of practice, viz.: It is not so important what is eaten as it is *when* and *how much*. Seasoning of food encourages overeating; the same is the rational objection to sauces and vinegars and all sorts of dressings. The needs of the stomach are easily satisfied, but the artificial appetite created by the cooks, and tradesmen who have everything conceivable to tickle the palate, is hard to satisfy. In the attempt to give it what it craves, sickness, pain and death are sometimes the logical conclusions. It takes much experience and discrimination on the part of physicians to save patients from over-indulgence. It is pleasant to gratify the natural demands of a healthy organism, but moderation is needful at all times to keep in check tendencies that grow unawares into self-injury.

DRINK.

An ocean of water and not a drop to drink is now and then one of the most pitiable of human sufferings. Could all the dwellings in any large city be open to view there would be a sight of wholesale anguish, for nearly every house has its quota of sick and dying. Yet, strange as it may seem, but few are aware that a cool drink of water has virtues superior to any and all saving agencies. There are everywhere attempts made to cheat human nature of its just heritage. There is no substitute for plain water for the animal economy. Anything added to pure water must be regarded as an adulterant. Some such mixtures are slightly injurious, while the largest number comprise positively deadly ingredients. Water drinkers, according to what may be expected, are seldom sick and are the longest lived, other conditions being equal. The wide-spread habit of drinking liquors, mild or strong, is a custom cultivated in a manner similar to that of acquiring a taste for highly seasoned food. Men everywhere are trying to find how to keep well and live happily and long, but continually miss the essentials. Few persons take an adequate amount of water to meet the daily wants of the system. A very large number are actually falling behind in health for the lack of a little more pure water to cool and refresh the overheated blood. Water is frequently repudiated by men and women, wholly unmindful that it has advantages for them beyond price. There are no known counterindications to water as a drink, and the quantity may be whatever the stomach and intestines are able to absorb. It is safe to say that pure water may be drunk at any time and with hardly any limitations save such as might appeal to anyone. In many cases, covering seventeen years of observation, drinking of water freely with meals, immediately before or after them, has not been attended with bad effects, nor does it justify the numerous precautions generally given against mixing water and food in the stomach. Rightly considered, drinking with meals ought to be a benefit. It holds the food in better solution till acted on by the juices, supplying fluid to the blood-stream, and, most important, forming a natural safeguard against gluttony. It is possible to keep well for a certain length of time without attention to physiology or dietetics, but it is a mistake which comes in for compound interest at the end. Moderately used, it is reasonably safe to indulge in coffee, tea and even alchoholics, but it is a hazard which a first-class life risk should avoid. Water is universally man's sweetest and safest drink, and rightly used would in itself largely help to extend his life well toward the century mark. Food tastes better and is more agreeably relished by the water drinker than by those who drink wine at table. Liquors confer no useful assistance in passing the dangers of life, and in self-interest it would be nearer to safety to let Nature's provision for drink have full credit, as being the best, and accept no tradesman's substitute. The best drink for man is pure water, and the ordinary drinking water of a country is always superior to any of the so-called health waters or bottle drinks.

10 W. Forty-ninth Street.

A SULPHOSALT OF THE ALIPHATIC CREOSOTE-ESTERS, AND ITS THERAPEUTIC USEFULNESS.*

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Early in May, 1898, Dr. G. Wendt, of Berlin, the manufacturer of a series of sulpho-acid salts of the aliphatic creosote-esters, through his American agents,[1] placed some of his products in my hands for therapeutic investigation. In responding to the kind invitation of your secretary, I grasped the opportunity to report at this meeting the therapeutic qualities of one of these salts.

Besides the lime salt, of which I shall presently speak, a salt of silver, argentum eosolicum, $C_6HOCH_3OC_2H_3OAg_3(SO_3)_3$, resp. $C_9 H_7 Ag_3 S_3 O_{12}$ and one of quinin, chininum eosolicum, $(C_9H_7S_3O_{12})(C_{20}H_{24}N_2O_2)_3$, were given to me in order to determine their therapeutic usefulness. Experimental work of another nature, however, prevented me from taking up the latter combinations on a larger scale.

The *calcium salt* was the one most experimented with by me. Three distinct therapeutic elements enter into its composition, viz., sulphur, creosote-ester and calcium.

Sulphur stimulates the mucosa of the alimentary tract and its administration is frequently followed by a slight increase of intestinal secretion and peristalsis. Besides its valuable antifermentative properties, it seems to exhibit an especial affinity for one or the other components of the tissue albumin. Thus, I think, it facilitates the resorption or the deposition of the creosote derivative into the glandular system.

The therapeutic value of creosote or its esters is too well known to be discussed here at length. Undoubtedly creosote is gradually split up into more simple bodies, in which forms it is carried to the different organs. The neutralizing and antiputrefactive powers of creosote are comparatively limited if tested in the laboratory; in the body, however, it exerts these qualities in a greater measure than the majority of the more energetic so-called antiseptics. This fact I attribute to its non-coagulating of albumin. Mercuric corrosive chlorid, carbolic acid, salicylic acid, alcohol, beta-naphthol-sulphonate, resorcin, zinc chlorid, zinc sulphate and other antiseptic agents are coagulants of albumin, and as such may become tissue destroyers. In consequence thereof great caution is exercised with most of these antiseptics when administered internally, and only small doses of them, in many instances insufficient for the purpose, are as a rule prescribed. Moreover, as is the case with corrosive sublimate for instance, Koch's "strongest antiseptic," the mercury coagulates and throws down the albumin occurring in the medium to be disinfected, combining to mercury albuminate, also possessing antiseptic qualities but which, by its formation, deprives the supernatent fluid almost totally of its contents of mercury. The internal administration, therefore, of mercuric chlorid, and the antiseptics belonging to its class, should be restricted to certain specific and well-defined pathologic conditions, and their employment as disinfectants or germicides, if not otherwise combined, should be abandoned altogether, both on account of their toxicity and their relative inefficiency in all those chronic affections, characterized by progressive systemic decline.

Calcium, finally, that is the form found in this salt, lessens the acid degree of the material contained in the alimentary organs, thereby preventing or allaying undue irritation and neutralizing certain substances of toxic tendencies.

The *eosolate of calcium* considered as a guaiacol derivative has this formula: $(C_9H_7S_3O_{12})_2$. Ca_3 and contains, therefore, in the neighborhood of 25 per cent. of creosote. It is a grayish powder, feeling to the touch like finely pulverized pumice-stone. Its odor is slightly pungent and somewhat ethereal, its taste a little acrid and leathery. It is soluble in from eight to ten parts of cold, and in seven parts of hot water. It is very slightly soluble in alcohol, and insoluble in chloroform and turpentin, but is readily dissolved by hydrochloric and by citric, and by some other organic acids, while it dissolves only slowly in acetic acid.

In a dog, weighing 16 kilog., 3 gm. of the eosolate of calcium produced severe vomiting and catarrhal condition of the nasal and pharyngeal mucosa. In a dog weighing 7.5 kilog., 3 gm. of the salt brought on vomiting, intense purgation and marked emaciation. In the healthy human organism 0.33 seemed to exert but little influence; 0.6 has produced a fulness in the epigastric region, slight constipation and diaphoresis; 1 gm. has produced griping pains in the intestines, and the ingestion of 2 gm. was followed by a profuse diarrhea.

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*Presented to the Section on Materia Medica, Pharmacy and Therapeutics, at the Fiftieth Annual Meeting of the American Medical Association, held at Columbus, Ohio, June 6-9, 1899.

[1] The Fischer Chemical Importing Co., New York City.

Eosolate of calcium, in doses less than 1 gm., does not impart the greenish tint to the urine which generally appears after the ingestion of phenols. When 2 gms were administered, a discoloration was noticeable in some instances.

I have clinically experimented with *calcium eosolicum* in a variety of disorders. I report the following cases:

DIABETES INSIPIDUS.

Case 1.—W. C., male, aged 16 years, an American with no occupation, was referred to me for treatment on May 22, 1898.

Anamnesis.—Healthy parentage. The patient met with a severe accident when 7 years old, from the effects of which he never fully recuperated. Hydruria or polyuria were present ever since, and the body development came to a standstill; he was under the care of a score of physicians.

Inspection.—He to all appearances looked like a 9 or 10-year-old boy; height, 4 feet 8¼ inches, weight 35.5 kilog. Temperature, rectal, was 36.7 C. (98 F.). Pronounced emaciation and nervousness was evident. Physical examination of the heart and lungs revealed no disorder. The digestive organs and abdominal viscera were apparently normal. Mental acuteness was very keen, memory good, and there were no luetic symptoms.

Urine (voided in my presence).—570 c.c.; watery, odorless, sp. gr. 1002, very clear, acid (degree 0.03); solids, 1.5 gm.; carbamid, 0.571 gm.; chlorids, 0.285 gm.; phosphates, see degree of acidity; no albumin, no dextrose.

Treatment.—No dietetic restrictions were imposed, but a bath of 37.5 C. every other night; extract ergot fl., 3 gm., four times a day. On May 31 the patient was still more emaciated—weight 35 kilog.; rectal temperature 36.6 C. (97.8 F.). He had voided, since 8 p.m. of the previous day, the following amounts of urine:

No. of Micturition.	Time.	Amount.
1	May 30, 8 p.m.	420 c.c.
2	May 30, 9:30 p.m.	420 c.c.
3	During night	780 c.c.
4	During night	570 c.c.
5	May 30, 7:20 a.m.	690 c.c.
6	May 30, 9:55 a.m.	960 c.c.
7	May 30, 12 m.	630 c.c.
8	May 30, 4 p.m.	930 c.c.
9	May 30, 6 p.m.	660 c.c.
10	May 30, 7:30 p.m.	630 c.c.
		6690 c.c.

The specific gravity of the twenty-four hours' urine was 998.5.[2] I mention this fact in particular, as I have never before seen a specimen of urine lighter than water, and as I, in the literature of this subject, failed to notice any references to urines of a specific gravity less than 1000. I must add that the urine had cooled before the specific gravity was ascertained: Two hydrometers standardized at 25 C. were employed; both indicated the same degree. The urinoglucosometer devised by me, one of the scales of which descends to 990 degrees, pointed to a density somewhat higher, but still below 999 degrees. This instrument being standardized at 15.6 C., it was necessary to cool off the urine to that temperature. Pycnometric measurements were not made.

Treatment.—This was free ingestion of milk, to the total exclusion of all other nutrients and water; sitz baths slightly above body temperature; faradism, the ergot withdrawn and substituted by calcium eosolicum, 0.3 gm., three times daily.

The patient, as seen from the table, steadily gained in weight under this treatment. This was the more remarkable, as an increase in weight had not been noticed for years. At the same time the patient lost much of his nervousness and developed a healthy appearance. The hydruric condition improved gradually, that is in a relative sense. The quantity of the twenty-four-hours urine for the total period became remarkably diminished, though occasional increases were recorded, and the amount of solids excreted, as seen by the urinometer, was far in excess of that prior to the institution of this treatment.

From June 1-2 to June 17, the following records were taken:

Date.	Time.	Quantity of urine voided in c.c.	Number of micturitions.	Average amount of urine voided at each micturition.	Specific gravity of 24 hours' urine.	Quantity of milk ingested in c.c.	Body weight in Kg.
June 1- 2, 1898	From 7:30 P.M. to 6:50 P.M.	7,800	10	780	1002	8,000	35 25
June 2- 3, 1898	From 6:50 P.M. to 8 P.M.	7,050	9	783 33	1006	7,500	
June 3- 4, 1898	From 8 P.M. to 6:30 P.M.	6,600	11	600	1001	7,000	35 75
June 4- 5, 1898	From 6:30 P.M. to 6 P.M.	6,720	10	672	1007	8,000	36
June 5- 6, 1898	From 6 P.M. to 8 P.M.	8,160	14	582 86	1001	8,000	
June 6- 7, 1898	From 8 P.M. to 8 P.M.	6,000	10	600	1008	8,000	
June 7- 8, 1898	From 8 P.M. to 8 P.M.	6,600	10	660	1004	8,000	37
June 8- 9, 1898	From 8 P.M. to 8 P.M.	5,400	10	540	1006	8,000	
June 9-10, 1898	From 8 P.M. to 8 P.M.	5,700	10	570	1006	8,000	37.5
June 10-11, 1898	From 8 P.M. to 8 P.M.	6,000	10	600	1005	8,000	
June 11-12, 1898	From 8 P.M. to 8 P.M.	4,800	9	533 33	1008	8,000	
June 12-13, 1898	From 8 P.M. to 8 P.M.	7,500	12	625	1007	8,000	38 5
June 13-14, 1898	From 8 P.M. to 8 P.M.	5,400	8	675	1005	7,000	
June 14-15, 1898	From 8 P.M. to 8 P.M.	5,250	11	477 27	1009	7,000	
June 15-16, 1898	From 8 P.M. to 8 P.M.	5,100	10	510	1008	7,000	
June 16-17, 1898	From 8 P.M. to 8 P.M.	4,500	9	500	1009	7,000	39 25

June 19: Weight, 39.75 kilog.; rectal temperature, 37.2 C. (99 F.), and improvement plainly noticeable. Treatment: Diet, 5 liters of milk per diem; calcium eosolicum, 0.3 gm. four times daily.

June 26: Weight, 40 kilog.; rectal temperature, 37.2 C. (99 F.), the hydruric symptoms still improving. Treatment: Diet, 4 liters of milk daily (the amount had to be lowered as the patient developed a dislike for it); calcium eosolicum, 0.5 gm. four times daily.

July 7: Weight, 40 kilog., hydruria diminished.

July 11: Weight, 40 kilog.; the amount of urine voided 4200 c.c. Treatment: Mixed food and water *ad lib.*, and calcium eosolicum continued.

July 20: Weight, 40.5 kilog.; rectal temperature, 37.1 C. (98.8 F.), with diuresis somewhat more pronounced.

July 23: Weight, 40 kilog.; rectal temperature, 37.2 C. (99 F.), diuresis declining. The patient felt very comfortable, with thirst diminished. Calcium eosolicum was advised to be continued and he was discharged, improving.[3]

Case 2.—E. R., male, aged 47, married, American; first consulted me on May 19, 1897. He had felt depressed for some time, and complained of anorexia, constipation, great thirst, polyuria and deterioration of sexual power, and of an eczematous condition on the neck and extremities. His weight was 68.5 kilog.; temperature (axilla), 37.1 C. (98.8 F.), with hydruresis very pronounced. The urine was pale, limpid, sp. gr. 1002, neutral; no excess of phosphates, chlorids or sulphates; urea increased absolutely; neither albumin nor glucose.

Treatment.—No restriction of diet or water was imposed, but alcoholics were prohibited, and antipyrin, 0.35 gm. given three times daily, with local medication for eczema. The symptoms did not improve, and successively ergot, Fowler's solution, salol and strychnia were prescribed without effecting any change in the general condition.

On November 16 an absolute milk diet was ordered. Dipsesis decreased somewhat, as well as did diuresis. All medical agencies were dispensed with, excepting local applications. Toward the middle of January, 1898, the patient had to abandon the milk regimen and return to the unrestricted diet.

January 26: Weight 69.25 kilog., temperature normal. He was very irritable; thirst and diuresis slightly augmented.

The status of the patient, in general, remained unaltered, with no permanent improvement.

May 14: The milk regimen was resorted to again, and a fortnight later calcium eosolicum in 0.3 gm. doses four times daily was ordered to be taken.

June 12: Patient weighed 72 kilog. and felt very well. The eczema had disappeared; feeling of thirst and diuresis greatly improved—amount of twenty-four hours urine, 3800 c.c., while 5 liters of milk were taken.

The milk regimen was dispensed with after another week and the dose of calcium eosolicum increased to 0.75 gm. four times daily. A decided and progressive improvement followed the administration of this medicine, which, in this dose even, was well borne by the stomach; an occasional slight constipation was caused by the calcium salt, but readily yielded to mild evacuants. I found the patient, when last seen in August, 1898, in high spirits and he was reminded of his recent condition only by transitory attacks of dipsesis and subsequent hydruria.

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[2] [illegible] for the present purpose to give all the [illegible] urinary examinations. I [illegible] to report this case in full at some other time.

[3] The patient returned to his native village in a neighboring State. The last time he wrote to me he reported further improvement.

CASE 3.—B. I., female, aged 24, married, American, and mother of one child, suffered from polydipsia, hyperdiuresis, progressive emaciation and dysphoria for about six months, when she was referred to me for treatment on Sept. 26, 1898. Her weight was 55.5 kilog., her rectal temperature 37.2 C. (99 F.); bronchial irritation and cough were present, the lungs and abdominal organs apparently sound. The urine was pathognomonic of hydruria; excessive in quantity, of water-color, of low density and a faint acidity. The patient was put on an exclusive milk diet and on calcium eosolicum, 0.5 gm. four times daily. She reported improvement on September 30. The milk regimen was continued (5 liters for the twenty-four hours), and the dose of the medicine increased to 0.75 gm.

October 6: Her weight amounted to 56.5 kilog., and her rectal temperature was 37.3 C. (99.1 F.); polydipsia and diuresis were diminished.

The urine voided from October 12, 11 a.m., to October 13, 11 a.m., was 3150 c.c.; the milk ingested, 4500 c.c. Her weight, October 13, was 58 kilog.; rectal temperature 37.3 C. (99 F.). She continued to improve when seen last in November, 1898.

DIABETES MELLITUS.

I have tested calcium eosolicum in five diabetic patients. I shall not endeavor to relate the complete clinical history of these cases, but will refer briefly only to the periods during which the medicine was taken.

CASE 1.—Mrs. B., aged 65, English, had been affected with diabetes mellitus since her 58th year, the quantity of urinary glucose under a milk regimen and a moderate mixed diet fluctuating between 0.25 and 2.5 per cent. Absolute proteid nourishment was not permissible, on account of excess of acetone and the presence of ethyldiacetic acid in the urine.

May 27, 1898: The amount of glucose in the urine was 2.25 per cent. Treatment: Milk diet and calcium eosolicum, 0.3 gm. three times daily.

June 2: Traces of glucose; treatment continued.

June 16: Glucose absent; treatment continued.

June 25: Traces of glucose. Treatment: Moderate, mixed diet, calcium eosolicum, 0.4 gm. thrice daily.

July 6: Glucose present—0.25 per cent. Treatment: Diet continued; calcium eosolicum, 0.5 gm. thrice daily.

July 14: Traces of glucose; diet continued, with calcium eosolicum, 0.5 gm. four times a day.

July 28: Traces of glucose, strict proteid nutriment; calcium eosolicum as before.

August 2: No glucose; milk diet; calcium eosolicum dispensed with.

August 6: No glucose; moderate mixed diet; no medication.

The patient, without further medication, continued fairly well until the end of September, when she was taken with endocarditis to which she succumbed on October 3.

CASE 2.—Mrs. G., aged 47, German, had had the disease five years.

June 1, 1898: Under a diet largely albuminous, her weight was 72.5 kilog. The sp. gr. of the urine was 1026.5, glucose 2 per cent. Treatment: The same diet, of sufficient caloric value, was continued, and calcium eosolicum, 0.3 gm. three times daily.

June 6: Weight 73 kilog. The urine showed a sp. gr. of 1024, and glucose 1.75 per cent.

June 11: Weight 74 kilog., with sp. gr. of 1024, glucose 1.15 per cent.

June 19: Weight 74.75 kilog., urine's sp. gr. 1021.5, glucose 1 per cent. Treatment: Same diet continued; calcium eosolicum, 0.5 gm. three times a day.

August 12: Weight 76 kilog.; the urine showed a sp. gr. of 1017, and traces of glucose.

August 25: Weight 77.5 kilog.; sp. gr. of the urine 1019, and no glucose.

September 16: Weight 80.125 kilog.; sp. gr. of the urine 1019, with no glucose. The medicine was withdrawn.

CASE 3.—Mrs. W., aged 53, German, presented herself, but the duration of the disease was unknown.

July 22, 1898: Weight was 98 kilog. The diet was unrestricted contrary to the advice of the family's physician. The urine presented a sp. gr. of 1034, glucose 3.02 per cent. Treatment: Absolute proteid nourishment; hydrargyrum chloridum mite, 0.005 gm. every two hours.

July 24: Weight 97.5 kilog.; urine's sp. gr. 1028, glucose 2.1 per cent.

July 30: Weight 95.75 kilog.; sp. gr. of urine 1029.5, glucose 1.2 per cent. Treatment: Diet as above; calcium eosolicum, 0.4 gm. four times daily.

August 6: Weight 96.5 kilog.; sp. gr. of urine 1026, glucose 0.45 per cent.

August 13: Weight 96.5 kilog. The urine showed a sp. gr. of 1026, and traces of glucose. Treatment: Proteid diet, 100 gm. of carbohydrates allowed for the twenty-four hours, and the medicine continued.

September 16: Weight 96 kilog.; sp. gr. of urine 1023.5, and traces of glucose. The medicine was withdrawn.

CASE 4.—Mrs. S., aged 64, Hebrew, the duration of the disease three years, was in charge of her family physician.

Aug. 5, 1898: Urine, glucose 0.2 per cent, serum albumin in appreciable quantity, acetone present. Treatment: Dietary, milk; medicinally, calcium eosolicum, 0.3 gm. three times a day.

August 6: Urine showed no glucose, serum albumin in appreciable quantity, and traces of acetone.

August 8 and 9: Urine showed no glucose, nor serum albumin and no acetone. Diet and medicine were continued for some time afterward.

CASE 5.—Mrs. R., aged 47, Hebrew, apparently had alimentary diabetes of short duration.

Oct. 14, 1898: Urine presented a sp. gr. of 1019.5, glucose 0.5 per cent.

October 16: Urine's sp. gr. 1022, glucose 0.45 per cent. Treatment: Milk regimen; calcium esolicum, 0.35 gm. three times a day.

October 20: Urine's sp. gr. 1021, glucose, 0.2 per cent.

November 1: Urine's sp. gr. 1022.5, with traces of glucose. Treatment discontinued.

CHRONIC ULCERATIVE PHTHISIS.

The action of calcium eosolicum in ten cases of this affection which were under my observation, during the course of the year, is recorded in the following:

CASE 1.—M. C. G., aged 26, female, single, American. The disease was first recognized 2½ years previously.

May 28, 1898: Patient having just returned from a sanatorium, weight 56 kilog., axillary temperature, 4 p.m., 38.1 C. (100.5 F.). The disease was unilateral; coughing and expectorating moderately; tubercle bacilli in the sputum; heart's action full and accelerated; complaints of drenching perspiration, of great weakness—patient hardly able to walk—but of little pain. Treatment: Overalimentation; calcium eosolicum, 0.5 gm. every three hours.

June 1: Weight 55.5 kilog., temperature (axilla), 6 p.m., 37.8 C. (100 F.); feels much stronger.

June 4: Weight 56.25 kilog., temperature (axilla), 4 p.m., 37.8 C. (100 F.); feels stronger. Treatment: Diet as above; fresh air; sun baths; calcium eosolicum, 0.6 gm. every three hours.

June 12: Weight 57.5 kilog., temperature (axilla), 3:30 p.m., 37.2 C. (99 F.).

June 18: Weight 58 kilog., temperature (axilla), 4 p.m., 37.2 C. (99 F.); feels comfortable. Treatment: Diet, etc., as above; calcium eosolicum, 0.7 gm. every three hours.

June 25: Weight 58.25 kilog., temperature (axilla) 37.2 C. (99 F.); no cough; little perspiration; tubercle bacilli in the sputum.

The patient insisted on going home (Maryland); discharged—improving. When heard from last, improvement persisted. The large doses of this salt of eosol, averaging for the last week 4.2 gm. daily, were very well borne by the patient.

CASE 2.—M. M. D., aged 24, a female, married, Irish. The disease was first recognized six months previously.

May 30, 1898: Weight 54 kilog., temperature (axilla), 3 p.m., 38.9 C. (102 F.); adhesions of pleura; constant pain beneath left scapula; dulness in left clavicle region; cavities at the apex; cough loose, expectoration, grayish-purulent; tubercle bacilli in sputum; nocturnal perspiration. Treatment: Overalimentation (milk and fats); fresh air.

R.	Calcii eosolici	7.5
	Aquæ font....................................	50
	Extracti hyoscyami fluidi	2
	Syr. pruni virginianæ	60
	Glycerini q. s. ad	150

M. Sig. A teaspoonful every three hours.

June 8: Weight 55.5 kilog., temperature (axilla), 3 p.m., 38.3 C. (101 F.)

[illegible] Weight 60 kilog., temperature (axilla), 5 p.m., 38.3 C. (101 F.)

[illegible] Weight [illegible] kilog., temperature (axilla), [illegible] p.m., 37.8 C. (100 F.)

[illegible] Weight [illegible] kilog., temperature (axilla), [illegible] p.m., 37.2 C. (99 F.). Treatment: Mixed diet, milk in abundance; [illegible] as above. [illegible] three times daily.

July 22: Weight 60.5 kilog., temperature (axilla), 4 p.m., 37.2 C. (99 F.) Treatment: Mixed diet, milk in abundance, as above; [illegible] three times daily.

September [illegible]: Weight [illegible] kilog., temperature (axilla), 3:30 p.m., 37.2 C. (99 F.). Treatment as above; to continue medicine twice daily for two months.

March 8, 1899: Weight 66.5 kilog.; temperature (oxilla) 6 p.m., 37.2 C. (99 F.): no pain; very little cough and expectoration; no tubercle bacilli in sputum; no nocturnal perspiration.

Case 3.—M. T. B., aged 37, male, German, the disease was first recognized in December, 1897.

June 5, 1898: Weight 81 kilog., rectal temperature 38.5 C (101.3 F.); disease fully developed; tubercle bacilli in sputum; pallor exilmius; marked adynamia. Treatment: Forced feeding: 6 liters of milk per day; sun baths; lung gymnastics; calcium eosolicum, 0.3 gm. tablets, 3 per day.

June 19: Weight 80 kilog., rectal temperature 38.3 C. (101 F.). Treatment: As above; calcium eosolicum, 0.3 gm. tablets five per day.

July 1: Weight 81.5 kilog., rectal temperature 37.1 C. (98.8 F.)

July 14: Weight 83 kilog., rectal temperature 37.7 C. (99.9 F.)

September 6: Weight 85.75 kilog., rectal temperature 37.2 C. (99 F.); patient discontinued treatment.

December 27: Attack of la grippe; rectal temperature 40 C. (104 F.); acute affection lasting three weeks.

Feb. 3, 1899: Weight 79 kilog., rectal temperature 37.5 C. (99.5 F.) Treatment: As above.

℞. Heroin .... 0|15
Calcii eosolici 8
Aquæ .... 50|
Syr. tolutani |
Glycerini, ää 60
M. Sig. A teaspoonful every three hours.

February 7: Weight 79.25 kilog., dyspeptic symptoms. Treatment: Diet as above; mixture discontinued, instead of it:

℞. Calcii eosolici
Natrii bicarbonici, ää .... 0|3
Carbo animalis purificatus .... 0|75
Ft. pulv. d. tal. dos. triginta. Sig. One powder four times daily.

February 14: Weight 81 kilog., temperature (axilla), 37.1 C. (98.8 F.); dyspeptic symptoms subsiding.

February 22: Weight 82.5 kilog., temperature (axilla), 37 C. (98.6 F.)

March 1: Weight 84.25 kilog., temperature normal.

March 10: Weight 85 kilog., temperature normal.

May 4: Weight 88.5 kilog., temperature normal; medication discontinued.

Calcium eosolicum, plain, tended to purge the patient. Together with syrup and glycerin, in the form of a cough mixture, indigestion followed its administration; combined with bicarbonate of soda and animal charcoal, it caused no unpleasant effects.

Case 4.—T. T., aged 34, male, American, with duration of disease unknown, probably nine months.

June 5: Weight 77 kilog., temperature (axilla), 6 p.m., 37.8 C. (100 F.); physical signs of local disease very pronounced; hectic condition; asthenia, cough and expectoration loose; no tubercle bacilli in sputum. Treatment: Absolute milk regimen, starting with 4 liters a day; to spend twelve hours in bed, and the rest of the day in the open air; calcium eosolicum, 0.3 gm. four times daily.

June 17: Weight 78.75 kilog., temperature (axilla), 6 p.m., 37.2 C. (99 F.) Treatment: Diet, 5 liters of milk daily; calcium eosolicum, 0.3 gm. three times daily.

July 3: Weight 81 kilog., temperature (axilla), 11 a.m., normal. Treatment: Diet, 6 liters of milk daily; medicine as above.

July 25: Weight 84.5 kilog., temperature normal; asthenia and hectic condition greatly improved; very little cough and expectoration; discharged; improved.

The daily dose of calcium eosolicum had to be somewhat reduced in the course of treatment on account of the loose bowels of the patient.

Case 5.—S. K., aged 32, female, American, presented, the duration of the disease five months.

June 11, 1898: Weight 61.5 kilog., temperature (axilla), 37.9 C. (100.3 F.); apical disease very marked; cavity formation on both sides, cough aggravated, expectoration profuse and purulent; great debility; nocturnal perspiration profuse and extremely exhausting; bacillus tuberculosis in sputum. Treatment: Overalimentation; salad oil, full cream pancreatin; calcium eosolicum, 0.3 gm. every three hours.

June 16: Weight 60.75 kilog., temperature (axilla), 38.3 C. (101 F.)

June 23: Weight 60 kilog., temperature (axilla), 37.5 C. (99.5 F.)

June 29: Weight 60 kilog., temperature 37.8 C. (100 F.)

Calcium eosolicum had to be withdrawn as the patient seemed to be idiosyncratic against it.

Case 6.—M. F., aged 44, male, Austrian; the duration of the disease 2½ years, presented himself.

July 6, 1898: Weight 54 kilog., rectal temperature, 11:30 a.m., 38.5 C. (101.3 F.); disease far progressed; pulse very weak and frequent; edema of feet; dyspnea; pronounced hectic condition; asthenia; bacillus tuberculosis in sputum. Treatment: Mixed diet; olive-oil subcutaneously, strychnia internally; calcium eosolicum, 0.3 gm. three times a day.

July 7: Weight 54 kilog., rectal temperature, 4 p.m., 38.9 C. (102 F.)

July 8: Weight 54 kilog., rectal temperature 38.3 C. (101 F.)

July 10: Weight 53.75 kilog., rectal temperature 37.7 C. (99.9 F.); treatment discontinued; patient insisted on going to Colorado at once.

Case 7.—D. T., aged 59, male, German; the duration of the disease as three years.

August 14, 1898: Weight 52.5 kilog., rectal temperature 37.8 C. (100 F.); repeated attacks of hemoptysis from excavation; cough loose; expectoration profuse; diarrhea; pronounced adynamia; tubercle bacilli in sputum. Treatment: Overalimentation; hypodermic injections of strychnia; calcium eosolicum, 0.3 gm. three times a day.

August 21: Weight 53 kilog., rectal temperature 37.7 C. (99.9 F.) Treatment: As above; calcium eosolicum, 0.4 gm. thrice daily, combined with sodium bicarbonate and charcoal.

August 28: Weight 54 kilog., rectal temperature 37.8 C. (100 F.)

September 4: Weight 54 kilog., rectal temperature 37.7 C. (99.9 F.)

September 6: Weight 53.5 kilog., rectal temperature 37.2 C. (99 F.) Treatment: As above; calcium eosolicum, 0.3 gm. twice daily.

September 8: The medicine was discontinued as the diarrhea seemed to increase under its administration, greatly weakening the patient.

Case 8.—M. J. G., aged 33 female, married, American. The duration of the disease was 1½ years.

December 23, 1898: All symptoms characteristic of the disease were present, including tubercle bacilli; both lungs affected; temperature (axilla) 39.2 C. (102.5 F.) Treatment: Milk regimen; calcium eosolicum, 0.3 gm. three times a day with sodium bicarbonate.

December 28: Temperature (axilla), 37.5 C. (99.5 F.)
December 30: Temperature (axilla) 37.7 C. (99.9 F.)
Jan. 5, 1899: Temperature (axilla) 37 C. (98.6 F.)
January 16: Weight 55.5 kilog., temperature (axilla) 37.2.

℞. Calcii eosolici .... 5|
Aquæ .... 35|
Ext. lobeliæ-infl. fl .... 0|5
Aquæ anisi, q. s., ad .... 100|
M. Sig. A teaspoonful every three hours.

January 27: Weight 56.25 kilog., temperature (axilla) 37.1 C. (98.8 F.)

March 1: Weight 59 kilog., temperature (axilla) 37.2 C. (99 F.)

Case 9.—F. U., aged 31, female, married, American; duration of disease 10 months.

Jan. 10, 1899: Disease well pronounced; thickening of pleura; cough very persistent; expectoration scanty; tubercle bacilli in sputum; temperature (axilla) 38.3 C. (101 F.); urine contains serum albumin, but no casts. Treatment: Milk diet.

℞. Calcii eosolici .... 10|
Aquæ .... 70|
Natrii benzoici .... 20|
Syr, tolutani |
Aquæ camphoræ, ää .... 75|
M. Sig. A teaspoonful every two hours.

January 11: Cough looser; temperature (axilla) 37.5 C. (99.5 F.)

January 12: Cough looser; expectoration increased; temperature (axilla) 37.6 C. (99.7 F.)

January 15: Cough and expectoration loose; temperature (axilla) 37.3 C. (99.1 F.)

January 20: General condition much improved.

February 4: Weight 65.75 kilog., temperature (axilla) normal. Treatment: Overalimentation with milk; calcium eosolicum, 0.3 gm. four times daily.

February 7: Weight 66.25 kilog., temperature normal.

February 11: Weight 67 kilog., temperature normal.

February 24: Weight 69.25 kilog., temperature normal.

March 3: Weight 70.5 kilog., temperature normal; symptoms in general relieved; patient feels very comfortable. Treatment: As above; calcium eosolicum, 0.3 gm. twice daily.

May 6: Weight 76 kilog., temperature normal; shallow and labored breathing; bronchial râles, somewhat crackling; very little cough and expectoration; no tubercle bacilli.

Case 10.—M. N. M., aged 41, male, German. The disease was first recognized about two years previously.

Jan. 21, 1899: Weight 60 kilog., temperature (axilla) normal; pain over scapulæ; dyspeptic symptoms; infiltration of apices; cough persistent; expectoration mucopurulent, occasionally containing minute particles of blood; tubercle bacilli in sputum; drenching night sweats; emaciation; asthenia. Treatment: Milk diet, 200 c. c. every 1¾ hours; to facilitate digestion, sodium bicarbonate, nux vomica and hydrastis combined; calcium eosolicum, 0.3 gm. in capsules four times daily.

January 25: Weight 60.75 kilog., temperature normal.

January 31: Weight 62 kilog., temperature normal; patient removed to Baltimore, whence he reported improvement in March.

NEPHRITIS.

My observations as to the therapeutic usefulness of calcium eosolicum in the various forms of nephritis are very limited. Only of late have I started to employ this sulphocreosote salt in renal affections. As my cases are not long enough under the influence of this drug, I am not enabled to give any definite data at this early date.

A study of the clinical reports tends to demonstrate at once that this sulphocreosote derivative can be administered for long periods without effecting gastric or intestinal disturbances. It was well borne in nearly every instance, even in well-advanced cases, and also where dyspeptic and other symptoms of alimentary difficulty prevailed.

The medicinal action of calcium eosolicum seems to depend on the first instance in its neutralizing qualities, which others may be tempted to call "antiseptic" or "germicidal." I doubt, however, the propriety of classifying calcium eosolicum as a germicide in the strict sense of the meaning; it does not destroy germs or micro-organisms, but it apparently effects a condition of the system, especially of the fluids, which is averse to bacterial growth. If it is potent in the destruction of the already formed toxic products of bacterial life, I can not say, but I maintain that the eosolate of calcium besides its apparent neutralizing power just mentioned, is a positve and harmless neutralizer of a number of toxic substances of non-bacterial origin.

All the other medicinal qualities of calcium eosolicum seem to depend more or less on its action as a neutralizer and are therefore secondary to the latter. Its antipyretic, analgesic, emolient, stimulating, tonic and restorative properties—sufficiently demonstrated by this report—seem to be nothing else but mere enunciations of its neutralizing force.

Vaginal Irrigation for Leucorrhea.

℞.	Potassii chloratis	12 parts
	Vini opii	10 parts
	Aquæ puræ	300 parts

M. Sig. Add ℥ii or iii to a quart of warm water. *Lutaud*

CREMATION.*

BY ROBERT MARSENA STONE, A.M., M.D.

OMAHA, NEB.

A study of the customs of civilized nations of this and many past generations shows that we have blindly accepted one custom and followed it for indefinite years, without much question. It is that of the disposition of our dead. Long-accepted custom has decreed that earth-burial is proper, and we have accepted it. Once in a great while we experience a rude shock as we learn of an event that took place in Cuba during the late war—the necessary saturation of the bodies of the victims of yellow fever with oil, and their burning on vast pyres because the sanitation of a city demanded it—but we lapse into reacceptance of the old custom and continue to think earth-burial the only procedure for ordinary death. Few men care to think and reason about such matters until forced by the presence of grim death, and then grief holds sway and the time for dispassionate thought has passed.

This particular study and address is due to a discussion of the general question of the disposition of the dead apart from any personal interest. It arises from a query presented: "Is it best that we bury our dead?" "Is there good reason for a custom so long established, so well settled, so thoroughly accepted by the civilized world?" Is there any good reason why some other method of disposition should be adopted?" And still another question is put, and to the physician this is the hardest of all: "Do the living suffer harm by reason of the almost universal custom of earth-burial?" Still another: "Are these few of whom we occasionally hear, who cremate their dead, fanatics, who without good reason have adopted that method, or are they wiser than the masses, have a deeper love for their fellows, an unwillingness to see them harmed, and have they as tender affections and sentiments as the rest of humanity?"

One of the noblest sentiments, the possession of which is characteristic of the civilized nations of the world, is that of a reverence for the dead which impels us to honor them after death, to erect monuments to perpetuate their memory, to beautify the places of interment, the cemeteries, and to regard as holy and sacred the particular spot selected for the last resting-place of one's own dead, to be kept beautiful by constant care and by adornment by flowers. This sentiment is most deeply rooted in the innermost recesses of the hearts of the best people of all cultured lands. The custom of acting on this sentiment can never be changed until we learn that the presence of the urns containing the ashes of our most loved ones renders the chamber in which they are placed, in our own houses, or the columbaria in a cemetery, equally sacred places for communion, for reflection on the virtues of the dead, places to be beautified with flowers as the graves now are and having the advantage over them, especially when they are in one's own home, of constant access, regardless of weather or ill health.

I am firmly convinced that this substitution of sentiment, from the grave to the urn, this recognition that the urn with its ashes renders its home sacred, will sooner or later be accepted and will result in the transfer of our holy regard from the grave to the urn, also, beautified with constantly changed flowers, and result in the adoption of cremation by thinking, cultured people of all communities.

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*Presented to the Section on State Medicine, at the Fiftieth Annual Meeting of the American Medical Association, held at Columbus, Ohio, June 6-9, 1899.

METHODS OF DISPOSITION OF THE DEAD.

A careful study of the various methods practiced by different nations, ancient and modern, shows that there are many more than one would, on slight reflection, think possible. The Colchians and Phrygians, and some tribes of our American Indians dispose of their dead by exposure on platforms erected on the tops of tall poles. The Syrcanians abandoned theirs to wild dogs. The Ethiopians threw theirs into water to be devoured by aquatic animals. The Parsees, as far back as 400 B. C., exposed their deceased friends on high gratings, called "towers of silence," where birds of prey fed on the remains. In India it is the custom to place the bodies on a stone slab on the top of a high hill. The vultures pick the bones clean of flesh, after which the friends secure the skeleton. The Hindus in some cases lay the body on the bank of a river for the crocodiles to devour, and some of the Kaffir tribes remove their dead into the bush for the wild beasts.

Maritime nations have often been in the habit of sending dead bodies out to sea for burial, just as now when death occurs at sea. The aborigines of the Chatham Islands have a peculiar custom: When a fisherman dies they place his body in a boat, well lashed to its sides, place a baited fish-rod in his hand, and set the boat adrift. Attempts have been made to petrify bodies and preserve them from decay, but without success. The Peruvians also have a strange custom: They make a sun-dried coffin of earthen material and place the body in it. These coffins are then piled into mounds called *Huacas,* one of them being large enough to measure 14,500,000 cubic feet. They resist decay in a most wonderful manner.

The primeval races used the caverns once inhabited by beasts for their dead. The Persians hewed out holes in the solid mountains, for the same purpose. The Inguishes of the Caucasus bury in vaults of masonry. The Chinese practice earth-burial, but not in a cemetery. They inter wherever fancy dictates, by the roadside, in unenclosed spots, etc.

The Egyptians embalmed their dead from the remotest times. Their belief in the transmigration of souls and their return after 3000 years was no doubt the real reason for this practice.

One of the South Australian tribes places its dead in a sitting posture near the top of a hut, and keeps up fires until the body is dried, when it is bandaged and hidden among the branches of a tree.

In Japan, the Ainos dispose of a dead chief in a peculiar manner: They remove the viscera and wash the body daily in the sun for a year. They then coffin it and bury it. Dr. Livingston's body was similarly treated.

That cremation was practiced in ancient times is certain. The Chinese and Jews, of the ancients, are the only peoples who did not practice it. The Burmese cremate the Buddhist priests in a strange manner: They embalm the body in honey, lay it in state for a time, and then blow up with gunpowder both the body and the hearse. It is a matter of history that the Roman emperor, Galba, was murdered at the same time as Piso Licinianus and their heads taken to Otho. The widow of Piso bought her husband's body and had it cremated. The ashes were placed in a marble cippus in the family tomb. In 1885 this very tomb was discovered and the cippus found with ashes intact. Whatever the practice or method of the ancients, or however much they practiced cremation, the custom fell into disuse and earth-burial took its place. During all the ages all cities have had the same experience. Burial spots have been chosen when the population was small, in a district not far removed from the city. The population has increased, the city has at last reached beyond the plot of the cemetery, which has become full to overflowing, is no longer a pleasant and desirable spot, and is abandoned; those interested in its preservation have died and no one longer cares for it. The city needs the ground for parks or playgrounds for school children, and absorbs it, and the bones are dug up without protest and the monuments used for making a roadway. This is a common history and has been true even in this very young city of Omaha.

In districts where the undersoil is of clay "hardpan," and it is impossible for the fluids to soak down, or in districts like New Orleans, La., where the water reaches to the surface, rendering earth-burial impossible, the conditions are at their worst. Sir Henry Thompson aptly said, in 1874: "No dead body is ever placed in the soil without polluting the earth, the air and the water above and around it."

Pasteur showed that earth-worms had carried to the surface, twelve years after death of an animal from splenic fever, the germs of the fever which brought about a new outbreak of the disease. Professor Selmi, the great Italian, proved that the common constituents of the body, brain, blood and fibrin, are converted by decomposition into most virulent ptomains. Freire of Rio Janeiro proved that the soil of the cemeteries in which yellow fever victims had been interred teemed with micro-organisms identical with those found in the vomit and blood of yellow fever victims. These and other scientific observers have established without any question the proposition that earth-burial not only pollutes earth, air and water, causing diseases of various forms, and even the very specific infectious and contagious diseases from which the dead met their death.

A few instances of English cases will show the matter in its most horrible light. Dr. Quirke reported, in 1889, that he found the grave-diggers at work digging through the remains of persons formerly interred there; the coffins and putrid remains soon sank into the water as they got deeper and they baled the water out, throwing it over the graves near by. During the disgusting process a pestilential stench was wafted through the graveyard, infecting the air. Lord Bessborough, to whom the Doctor was reporting, said that he saw in the same cemetery a coffin held down with a spade during burial to keep it from floating. He naively suggested that some sort of a filtering tank should be used to filter the water that oozed from the graveyard before the people used it for drinking purposes. Minchinhampton was decimated by a disease caused by the use of a fertilizer used on the gardens of the town, which was the rich soil of an abandoned graveyard. The epidemic of cholera in London in 1854 was thought to be due to the upturning of the soil where the cholera victims of 1665 were buried, and there is no longer room for discussion as to the great danger from the use of water of wells infected by drainage from a cemetery near by.

Dr. S. D. Gross thus wrote of "Burial, a Horrible Practice:" "If people could see the human body after the process of decomposition sets in, which is as soon as the vital spark ceases to exist, they would not want to be buried; they would be in favor of cremation. If they could go into a dissecting-room and see the horrid sights of the dissecting-table, they would not wish to be buried. Burying the human body, I think, is a horrible thing. If more was known about the human frame while undergoing decomposition, people would turn with horror from the custom of burying their dead. It sometimes takes a human body fifty, sixty, eighty years—yes, longer than that—to decay. Think of it! The remains of a friend lying under six feet of ground, or less, for that length of time, going through the slow stages of decay, and other bodies all this time being buried around these remains. Infants grow up and pass into manhood or womanhood, grow old and get near the door of death; and during all that time the body which was buried in their infancy lies a few feet under ground in this sickening state, undergoing the slow process of decay. Think of thousands of such bodies crowded into a few acres of ground, and then reflect that these graves, or many of them, in time fill with water and that water percolates through the ground and mixes with the springs and wells and rivers which furnish the water we drink. Why, if people knew what physicians know, what they have learned in the dissecting-room, they would look upon burning the human body as a beautiful art in comparison with burying it. There is something eminently repulsive to me about the idea of lying a few feet under ground for a century, or perhaps two centuries, going through the process of decomposition. When I die I want my body to be burned. Any unprejudiced mind needs but little time to reflect in forming a conclusion as to which is the better method of disposing of the body. Common sense and reason proclaim in favor of cremation. There is no reason for keeping up the burial custom, but many against it, some of the most practical of which are but too recently developed to need mention. There is nothing repulsive in the idea of cremation. People's prejudice is the only opponent it has. If they could be awakened to a sense of the horror of crowding thousands of bodies under the ground, to pollute, in many instances, the air we breathe and the water we drink, their prejudice would be overcome. Cremation would be taken for what it truly is, a beautiful method of disposing of the body."

Nothing better can be found to show the utter disregard of sanitary precautions than the following quotation from the official proposal of the Kensal Green Cemetery Company in England: "It has been found that seven acres will contain 133,500 graves; each grave will contain ten coffins; thus, accommodations will be found in the seven acres for 1,335,000 deceased paupers." And the English government would not listen to the board of health and permitted this to be inaugurated.

The Battersea Cemetery Company, being short of room, permitted graves to be dug deep enough to hold the coffins of fourteen adults or twenty-six children. The percolation of water into these common graves produced decomposition before the fourteenth or twenty-sixth was buried. The emanations from the open graves during burial, after the first or second, seriously endangered the health of the clergyman and mourners.

The death-rate of London in 1872 was nearly 77,000. This gave not less than a million of festering bodies in all stages of dissolution in and around the city at that time. These figures are appalling to us who live in a less closely packed district.

Sir Spencer Wells, in an address in favor of cremation, called especial attention to the great danger to the living of burials in such churches as Saint Paul's and Westminster Abbey. He said: "The late Lord Mayor was left in Saint Paul's to slow decay, dangerous it must be to successive congregations. Think what our ancient churches might be if, instead of the coffins and their corrupting contents—sources of danger to the living—we had the ashes only arranged in vases and urns."

Various objections have been urged against cremation. The most puerile is that it destroys all evidence of poison and may often hide a murder. No one can deny that this might happen. To prevent it as much as possible, the greatest care is taken that all bodies are accompanied by certificates from regular boards of health. The escape of a murderer from punishment because the evidence of his crime has been burned is of slight importance beside that of the danger of earth-burial to the living. In many crematories much more exact certificates as to death having been due to well-known causes are required, and signed by two medical men. In all cases of doubt a post-mortem must be had.

The religious objection was at first very pronounced. Many of the clergy called cremation irreligious, heathenish and pagan. Such objections are no longer heard. On the contrary, most eminent religious men are now the strongest advocates of the practice. The Bishop of Lincoln has said: "Only weak-minded brethren might have their belief shaken in the doctrine of the resurrection." Lord Shaftesbury said: "What an audacious limitation of the power of the Almighty! What has become of the blessed martyrs who were burned at the stake." Canon Liddon said: "The resurrection of a body from its ashes is not a greater miracle than the resurrection of an unburnt body." Father Buccelatti, a professor of theology, wrote to Professor Polli: "You ask me in what relation cremation stands to religion. As a reasoning Catholic, free from prejudice, I openly declare that cremation is not inconsistent with the teachings of religion." Right Rev. Phillips Brooks said: "I believe there are no true objections to cremation." Rev. Heber Newton said: "The religious objection has always seemed nonsensical. Nothing but the stupid blind prejudice of a blind orthodoxy could allow any notion of a religious objection to have weight."

Catholic Italy has to-day more adherents of cremation than any other nation, and Milan and Rome have two of the most imposing crematories of the world.

Slight objection has been made that the parting with our loved ones, knowing that the next moment will see them consigned to the furnace, will prove a greater source of anguish than to see them lowered into the open grave and to hear the earth fall on the coffin. Earth has no greater anguish than the last sight of the dearest face on earth to us, but if there can be any difference, it seems to me that the placing a loved one in a cold, damp, lonesome grave to rot, would be far the greater.

WHAT IS CREMATION AND HOW IS IT PERFORMED?

The Hindus still practice it in its simplest form. One of their crematories, called *Ghats,* is located on the River Hoogly. On the earth floor are placed three tiers of logs at right angles. Upon these the body is placed. The elbow, wrist, knee and ankle joints are then broken and the arms placed under the body. Three more tiers of logs are placed on the body and live coals put beneath. An oil, called *ghee,* is thrown over the body, which is soon consumed. The expense is about $1.75. Incidentally I may add, another custom of most horrible character is also carried out at these *Ghats.* The sick are daily brought to the river bank near. The mud of the river bank is put in the mouth, eyes, nose and ears of the sick one and he is shaken till suffocated. He is then placed again on the cot, and the cot held under the water until all signs of life are gone, when the body is taken into the *Ghat* and cremated.

This method of the Hindus, the pyre, was probably the only one in use among the ancients, and was probably practiced up to the close of the third century. From the fourth to the middle of the sixteenth century no mention of cremation is to be found in literature. The crowding of the cemeteries around Paris, about the time of the French Revolution, had brought up the subject of cremation, but without any practical result, though investigated by the French Government. Just prior to 1822, Byron and Shelley promised that the survivor should cremate the one who died first. They expected great opposition both from the government and the people. In 1822 Shelley and a companion, Williams, were drowned in the Ligurian Sea near Leghorn, Italy. The quarantine laws ordained that all waste material drifting in from the sea should be burned. Byron was thus enjoined by the law to carry out that which he had promised. He did so with the assistance of Leigh Hunt and Edward John Trelawny. The cremation of these well-known men attracted public attention. The noxious effects of earth-burial were freely discussed, but the open-pyre method of cremation was not approved.

The discussion then reached this country, for Henry Laurens, a friend of General Washington, at one time on his staff, and the first President of the American Congress, was cremated in North Carolina.

This was probably the first cremation in America. About 1876 Dr. Julius Le Moyne became so much interested in the question that he erected a crematory at Washington, Pa., in which the body of Baron de Palm was cremated in 1877. This was the first of modern cremations in America, with methods fairly similar to those now used. The Italians began modern cremation in the year prior, 1876.

In the earlier crematories the body was placed in a clay crucible, shaped like the body; it had a cover which was perforated for the escape of the gases. The heated air alone touched the body; there was neither fire nor flame. In the later ones flame is admitted to the bodies since, as Professor Richards of the Massachusetts Institute of Technology has said: "A body can not be reduced to ashes without flame." "The retorts must admit oxygen else the carbon could not be consumed."

All modern crematories have a chapel connected with them. They are of beautiful architectural design, handsomely furnished and adorned with flowers and foliage plants in profusion. Some have an organ, so that a full religious service may be held if desired.

The body is placed on a catafalque in the chapel. Any service desired is held. The catafalque is the floor of an elevator, and at the proper moment in the service the elevator with the body noiselessly descends, carrying the body to the door of the furnace. The family and friends remain in the chapel. The retorts have been previously heated. The opening of the furnace doors to admit the body cools the retort down to a cherry-red. The body is wrapped in a wet alum sheet, previously applied. The carriage rolls into the retort and, by a mechanical arrangement, the body is lowered to its floor and the carriage withdrawn. The first effect of the heat is to cause a fine mist like dense snow or fog to rise; this continues till the soft tissues are reduced to ashes; then the retort rises about six inches above the body. This continues till the bony structures are reduced to ashes, the oxid of lime, most beautiful and white, much of it lace-like in appearance. The ashes of the clothing and the coffin, if that is burned, as it is in some places, are so fine and light that they have gone up the chimney during the process. In some places they allow the coffin to be removed, if the death was not from an infectious or contagious disease, and given to a hospital to be used for some worthy poor person for whom earth-burial is desired. A body of average weight, 140 or 150 pounds, is cremated in about 90 to 120 minutes. The cooling of the ashes and furnace requires from two to four hours longer, though it is not usually possible to secure the ashes for twenty-four hours. The ashes are given to the friends in a copper box 5½ inches square and 4 broad. It is hermetically sealed and the name of the person placed on the sealing ribbon.

For the permanent care of the ashes urns of various simple and artistic designs are made. They are modeled after the urns found in ancient ruins, and made of all materials, terra cotta, copper, bronze, marble and porphyry.

In connection with crematories are found columbaria. Many people do not wish to keep, or are situated in such a manner that they can not keep, their urns in their own houses. For such the columbarium has been built. The one in San Francisco is the most ornate and expensive in the United States. It is original and unique in design, of classic architecture, and contains over 4000 niches for the reception of urns. The columbarium is really a cemetery of urns. The niches are of various sizes, some for the reception of but one urn; some for two and some for several; in fact, enough for those of a whole family. The fronts of the niches are of plate glass, marble or bronze as desired. The cost of niches in the columbariun varies from $10 for a single niche on the second floor, to $500 or $800 for one on the main floor with a memorial window. The cost covers perpetual care as well. Each niche has a flower holder. In comparison with the amount of space required for earth-burial, it is said that columbaria, capable of caring for 20,000,000, could be placed in grounds of but twenty acres.

WHAT DOES CREMATION ACCOMPLISH?

First and most important of all, it does away with the harm and injury arising from the pollution of the air, earth and water by the decomposing bodies of the dead. Death is no longer a menace to the living. The possibility of burial alive which, rightly or wrongly, is a constant terror to many, is obviated. With cremation there is no grave to be robbed and no possibility of scandal as there was, with reference to the alleged attempts to rob the graves of A. T. Stewart, Lincoln and Garfield. To the masses, the question of expense is a most vital question in the disposition of the dead. Reverence, or respect for the dead, as we so often hear the sentiment called, is a profound one found in a high degree in all parts of America. I regret to say that among the masses in this country it has ceased to be a true reverence for the dead, and has become too often a matter of display and ostentation on funeral occasions. Pride, vanity and a desire to escape the criticism of being called mean and stingy in such a case, lead people of very moderate means to far exceed their resources.

While the funerals of senators and congressmen are wildly extravagant, because the government purse is deep and Washington embalmers are greedy, the funerals of the rich are not nearly so much so as those of the poor. This is the universal testimony of the undertakers. The poor seem to think that a funeral of moderate expense shows an utter lack of respect for the dead. The body must be embalmed at a cost of $25; an expensive coffin costing from $40 to $75 used; the family must have mourning garments; a lot must be purchased at a cost of $25 or more, and carriages must be provided in large numbers. So it comes about that the death of a mother in a family of a day-laborer whose income has never exceeded $500 a year is followed by a funeral which costs from $100 to $150, and deprives the family of all comforts and many necessaries for many months. I myself recall a funeral of a husband, who earned $500 or $600 a year, which cost over $200, in which a brass band led the procession and the widow and children went home without a dollar in their house or a loaf of bread. She paid that bill by washing.

The disposition by cremation does not involve many of the expenses which belong to earth-burial. It is now possible in many of the large cities for the total expense from death until the return of the family to the house not to exceed $30 to $40. In non-contagious cases, the crematories will furnish the worthy poor a coffin for the service and transport the body to the crematory and cremate it for $30. The cost of cremation in San Francisco is $45, in Davenport, Iowa, $35, in Boston, $30, in St. Louis, Mo., Milwaukee, Wis., and Chicago, $25. In Milan it is $1.60.

With the positive knowledge that earth-burial of bodies dead from cholera, yellow fever, smallpox and similar diseases has been the means of starting a new epidemic after later disturbance of the bodies, there can be no question that cremation should be the only method of disposing of the bodies of those who die from infectious and contagious diseases.

In Japan cremation is practiced in about one-third of the deaths. A funeral pyre is built on the border of a river and the body burned, with wood as the fuel. After both body and fuel have been reduced to ashes, the immediate friends search among the ashes for a little pebble of crystal. This is preserved in a small shrine of glass mounted on wrought metal and enclosed in a tiny cabinet of lacquer of artistic design. The pebble is supposed to symbolize the spirit of the departed one. The ashes are allowed to be swept away by the rising waters of the river. Dr. J. R. Chadwick, of Boston, through whose courtesy I received this information, has five or six of these lacquer cabinets containing the pebbles of crystal inside their glass coverings. This unique custom idealizes the cremation even more than the preservation of the ashes.

Much has been said about cremation being a pagan practice, horrifying in its nature, one violating all the tender sentiments of the human mind, running counter to all proper ideas of reverence for the dead instilled from infancy. On the contrary, I firmly believe that nothing is so blindly destitute of reverence for the dead as the act of placing the body where it must putrefy. Nothing could be found more fitted to destroy all reverence for the dead or the slightest feeling of regard for them than familiarity with earth-burial as seen around London. We know to a certainty that rotting must take place; that worms must devour them; that snakes often make their nests in the coffins. We dare not think of them once after death as we really know they are, under ground, and it seems utter irreverence, a total disregard of all sacred ties for us to so place the bodies of our loved ones.

On the other hand, the surroundings of a crematory are of the highest. A beautiful chapel adorned with pictures and flowers is furnished. The solemn music of the organ is a part of the service, after which the body is noiselessly lowered from the chapel at the last moment, and is not again seen. This closing scene is much less harrowing than the lowering of the coffin into the open grave.

I have gathered a number of expressions as to cremation from an esthetic standpoint:

Rev. Joseph May says: "I am persuaded that cremation is esthetically even more attractive than burial. We can not let our imagination follow the remains of our dead if buried."

Julia Thomas says: "One has such a horror of rotting slowly. Who would not prefer the sweeter, swifter process of rosy heat."

Ella Wheeler Wilcox writes of burial and cremation as follows: "For those who have witnessed the ghastly spectacle of a modern funeral, no description of that barbarous rite is necessary. Who has not seen it all—the darkened room, stifling with its mingled odors of flowers and disinfectants; the sombre, hideous casket; the awful ceremony of screwing down the lid over the beloved face; the black army of pall-bearers; the long, slow, mournful journey to the desolate, disease-breeding cemetery; the damp, dark, yawning pit, the lowered coffin, the sickening thud of the earth as 'dust returns to dust.' Oh! could the most savage race invest death with more terrors than this frightful custom of the civilized world? Then follows the long process of decay, the darkness, the gloom, the weight of the earth upon that dear breast, the grave-worms slowly eating their slimy way into the flesh which has thrilled under our warm kisses—God! are we not cruel to our dead? Compare this with the beautiful ceremony of cremation. A snowy cloth envelops the dead. A door swings open noiselessly, and the iron cradle, with its burden clothed as for the nuptial bed, rolls through the aperture and disappears in a glory of crimson light, as a dove sails into the summer sunset skies and is lost to view. There is no smoke, no flame, no odor of any kind. Nothing comes in contact with the precious form we have loved but the purity of intense heat and the splendor of great light. In a few hours, swiftly, noiselessly, with no repulsive or ghastly features in the process, the earthly part of our dear one is reduced to a small heap of snowy ashes. All hail the dawn of a newer and higher civilization, which shall substitute the cleanliness and simplicity of cremation for the complicated and dreadful horrors of burial."

Kate Field, whose body was cremated in 1896, once wrote: "I believe cremation is not only the cleanest but the most poetical way of disposing of our dead."

Rev. Dr. Henderson said: "Rightly understood, cremation is the most rational, most esthetic and least repulsive method to surviving love."

Rev. E. B. Payne said: "The tongue of flame certainly seems more spiritual than the clod."

T. C. Williams wrote: "The grave, the tomb, are necessarily revolting to any imagination that looks beyond the surface."

Charles Francis Adams says: "Instead of seeking to prolong the process of decay by leaden caskets, marble boxes, and hermetically sealed vaults, we should seek to promote it by means known to science. As a matter of sentiment I fail to see why we should rather consign the remains of those we love to the tender mercies of worms than to the tender mercies of heat. There is nothing dreadful in the thought of cremation, but the other thought, that the form once dear to me lies for years rotting in the ground, a slowly wasting, hideous mass of putrefaction and that the ingenuity of man has been employed to prolong this terrible process, that thought *is* horrible."

Brooke Lambert said: "I have lost three very dear kinfolk in remote quarters of the earth. I would give everything I have if I could receive their ashes and keep them by me in a vase."

Frances Willard, whose body was cremated in Graceland, Chicago, said in her will: "I have the purpose to help forward progressive movements, and desire that the earthly mantle, which I shall drop ere long, shall be swiftly enfolded in flames and rendered powerless to affect, harmfully, the living. I stand for cremation even in death as I have sincerely meant in life to stand by the great cause of poor, oppressed humanity."

Mrs. Alice N. Lincoln, who had witnessed the cremation of some much loved one, said: "As we stood in silence watching the rosy glow which played over the white surface of the retort, a feeling came to me of awe, certainly, but also of peace and rest. There was something spiritual, elevating in the absolute purity of the intense heat; it seemed far less appalling and depressing than the blackness of an open grave."

And thus only may we rest in peace.

Continental Block.

DISCUSSION.

Dr. C. F. Ulrich, Wheeling, W. Va.—I have been fighting for cremation for almost forty years. I have always said that if I can induce my relatives to cremate me when I am gone, I want them to do it. I have spoken of the sanitary view of it where I live for the last twenty-five years, and I tell them sometimes that if they had seen what I have seen they would change their views very quickly. Cremation is the most beautiful, the cleanest, and I might say the most esthetic way to dispose of the dead. This paper takes up this subject from every point of view, and I am glad that I was here to hear it. Some years ago I wrote an article on cremation which was published in a Southern medical journal (*Moody's Magazine of Medicine*, Atlanta, Ga., since discontinued) and quite favorably commented on at the time, but it was not as well written nor as complete as the one we have just heard. I advocated the cremation of the dead from a sanitary standpoint. That is the view I took of it. I think everybody who will think of this thing, and who will look at the matter in the right way can but say that the disposition of the dead by cremation is the best and only way.

Dr. Fishe, of Missouri—I can not agree with the principles involved. In dealing with this question we have to go a little beyond our human interest, and consider the welfare of the world at large: what it would do with any human body or any body. In burning our dead we destroy a certain amount of matter which by no means can be restored to the world, and which lessens the amount of ordinary animal or vegetable life which otherwise could be used in the service of ourselves. Perhaps this objection may appear trivial, but if you will consider the amount which, according to these principles, would have to be burned every year, the amount of nitrogenous substance destroyed in this way is enormous, and it can in no way be replaced. Any forest fire, any destruction of organic substances, means a loss to the world, and therefore the principle of the cremation of our dead means that loss to us.

SCARLATINA: SCARLATINOUS SORE THROAT.

A SYNOPSIS OF THREE HUNDRED CASES SHOWING THE PRESENCE OF THE DIPLOCOCCUS SCARLATINAE.*

BY W. J. CLASS, M.D.

CHICAGO.

In presenting this paper it is not my intention to give a detailed description of the germ discovered by me, nor to enter into a discussion of its cultural characteristics, etc., as these are things that do not interest the clinician to the same extent that they do the bacteriologist. What I will attempt to bring forward is the clinical aspect of the finding, its value in diagnosing scarlatina, and also, briefly, my reasons for believing that the diplococcus scarlatinæ is the specific causative factor of the disease under consideration. I have examined cultures taken from the throats of more than three hundred patients with scarlet fever and scarlatinous sore throat. Of 300 of these, a brief record was made; 212 were cases of what is generally called scarlet fever, i. e., a fever accompanied by a more or less distinct eruption consisting of small red spots, separated at first, but soon becoming united by a diffuse scarlet erythema and followed by desquamation; 88 were cases of angina without any, or at least a scarcely perceptible, skin lesion. In all of these 300 patients the primary throat culture showed the presence of the micro-organism previously described by me as the specific scarlet fever germ. In about 80 instances the different germs composing the throat cultures were isolated by means of a modification of the plate method, and the "diplococcus scarlatinæ" obtained in pure culture.

The throat normally contains a great variety of micro-organisms, therefore every culture taken from it shows the presence of a contamination. It might therefore be asked: "Is the 'diplococcus scarlatinæ' present in sufficient numbers in cultures taken from scarlet fever throats to lend a distinctive character to them?" I wish to answer this in the affirmative, particularly if the culture-medium advocated by me is used, although coagulated blood serum also furnishes a fair medium. Cultures taken from a scarlet fever throat on the first or second days of the disease will invariably show its presence in great numbers, while those taken later in the disease, though still present, show it in diminished numbers.

There is little difficulty for one at all familiar with bacteriology to recognize it after once having become familiar with its cultural and morphologic characteristics as already described by me. Its chief cultural one is the glutinous character of the growth. This characteristic is usually, though not always, well marked in primary cultures of the scarlet fever germ taken from the throat; subcultures, as a rule, do not show it. The chief morphologic features are their size, primary cultures usually showing it as an organism resembling a huge gonococcus, and the fact that unless the culture is rubbed very hard the germs will show a distinct tendency to group in bunches. A given culture taken from the throat therefore, which, when a loop of the material of which it is composed is taken up, shows a tendency toward being drawn out in threads, and which under the microscope shows large numbers of large diplococci having a tendency toward clumping, may be safely called a scarlet fever culture. In this connection I wish to state that when grown on blood serum the culture usually adheres very firmly to the surface of the medium. The germ also shows quite well in slides made directly from the mucus of the throat, but this method is less accurate than by means of the culture.

I have made mention in this paper of a scarlatinous angina without the eruptive phenomena of scarlet fever, something in regard to which all may not agree. Dr. Jaques, in a paper read before the Chicago Medical Society recently, stated that at present a large number of cases of tonsillitis were caused by the "diplococcus scarlatinæ." My experience in this respect agrees with his, and I think the majority of those present to-night have frequently met with anginas, the throat lesions of which were identical with those seen in typical scarlet fever. I would like to mention a few instances in which the connection between the scarlet fever and the tonsillitis was so evident that, even without finding the same germ, it was plainly shown that the contagion was the same.

Case 1.—This concerns a family consisting of four members, the father, mother and two daughters aged 18 and 14, respectively. I was called to see the oldest daughter, March 11, 1899, and found her showing all the symptoms of a typical attack of scarlet fever, the rash fully developed. The throat showed a catarrhal erythema with a granular deposit on each tonsil. Cultures were made from the throat and from a few drops of blood taken, under antiseptic precautions, from the lobe of the ear. These, when subsequently examined, showed the presence of the "diplococcus scarlatinæ." The course of the disease was favorable and, excepting a slight albuminuria, no complications occurred. The patient desquamated profusely, this beginning about the seventh day after the onset of the disease. While the desquamation was still in progress, although I had ceased my visits, I was again called, as the father and younger daughter had been taken ill. The symptoms of both patients were almost identical: both complained of a sore throat, headache and malaise. The throats showed a catarrhal erythema with similar patches to those that had been noticed in the throat of the other patient. Cultures were made from the throats of both father and daughter at the time of this visit, and examination the next morning showed the "diplococcus scarlatinæ" in both in great numbers. On calling the next day the scarlet rash was well-developed in the daughter, while the father showed no sign of any eruption, nor did he develop one. In both, however, there was a pronounced albuminuria.

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*Read before the Chicago Pediatric Society, Dec. 14, 1899.

CASE 2.—In a family consisting of a father and four children, aged 3, 4, 7 and 10 years respectively, I was called Jan. 6, 1899, to see the youngest child. Examination showed that it was suffering from a typical attack of scarlatina. Cultures made from the secretion of the throat and blood showed the "diplococcus scarlatinæ." At the time of my first visit two of the other children in the family, aged 4 and 7 years respectively, were also feeling rather bad; their throats showed a marked catarrhal erythema, and there was some rise in temperature. On this account I took cultures from their throats, and these also showed the diplococcus. Upon visiting the patients the following day, the two children, who had only a sore throat the day previous, also had the scarlet rash. The cases ran the usual course and desquamation began on the sixth day of the disease, the scales again showing the presence of the diplococcus.

On January 16 I was called to see the oldest child, who had been taken sick in a manner similar to that of the other children. Temperature was 104 F., and there was catarrhal erythema of the throat with two small white granular patches on the tonsils. The throat culture showed the same germ as in the other cases. This boy, however, did not develop any rash, and there were no germs present in his blood, although repeated examinations were made.

CASE 3.—This family consisted of father, mother and five children, three boys and two girls, the oldest child being a boy of 10 years, the youngest a girl of 2. The youngest boy was seen about the middle of September, 1899, and was suffering from a typical attack of scarlet fever. The throat secretion and blood showed the presence of the "diplococcus scarlatinæ." As the family had only three small rooms at their disposal, no attempt at isolation could be made. About three days after the first child was taken sick, the second youngest boy developed scarlet fever, and about a week subsequently the oldest boy, all three cases being absolutely typical.

After these three patients had recovered and had almost completed their desquamation, I was called in to see the youngest girl, who had been taken ill suddenly, with vomiting and high fever. On examining the child she presented a sore throat, considerable swelling of the upper cervical glands and a temperature of 104.6 F. A culture was taken from the throat and, the following morning, showed great numbers of the diplococcus. Not much change in the patient's condition was to be seen, except that there were noticed, on close examination, a few scattered papules over the upper part of the chest. These disappeared within a few days. The patient made a slow recovery on account of a subsequent nephritis and bronchitis. At no time was there any reddening of the skin. The oldest girl escaped altogether, although not protected by a previous attack.

I have mentioned only these three instances of those that could be given *ad infinitum* in my experience and that of other physicians for whom I have had the pleasure of examining cultures from scarlet fever cases, because they show, with almost absolute certainty, even without considering the presence of the germ, that the infection was the same in all of the patients. These cases of what I would call scarlatinous sore throat, mentioned in these three instances, occurred simultaneously with the presence of typical scarlet fever in the family. Admitting, therefore, for the present, that their occurrence in the presence of scarlet fever is possible, I would like to ask whether their sporadic occurrence would not also be possible? In this connection I also wish to state that I have found the "diplococcus scarlatinæ" in about 20 per cent. of the cases of acute tonsillitis examined during the last few months. Recently I made a few additional experiments toward establishing the relationship of the germ under consideration and scarlet fever, which it may be of interest to briefly mention.

As stated in some previous articles of mine, the diplococcus, when obtained from the blood of scarlet fever patients, grows very poorly, especially when the culture is taken after the second day of the disease. This was thought to be due to the inhibitory action of the blood present. In order to determine whether the same action would occur when blood from a patient who had passed through an attack of scarlet fever was added to a culture obtained from the scales, a number of experiments were made:

A loop of pure culture of the diplococcus was diluted with fifteen minims of distilled water. One-half of this was poured over a plate of glucose agar, to the other half were added ten drops of blood from a patient who had just recovered from an attack of scarlatina, and this mixture was poured over a similar plate. Both were put in an incubator the temperature of which was kept at about 36 F. At the end of twenty-four hours the plates were examined. The plate made from the culture without the addition of the blood showed innumerable minute colonies of the diplococcus, while on that to which the blood had been added there were only very few colonies. Presumably these had grown, because, from the tendency of the germs to clump, some of them had not been exposed to the action of the blood. This experiment was repeated five times with almost identical results. Each time there was a slight growth of the culture to which the blood had been added, but the growth was so much more profuse in the one made without this addition that the inhibitory action of the scarlet fever blood on the growth of the germ could be plainly demonstrated. Blood from a child 5 months old, where the possibility of a prior infection with the germ could safely be excluded, produced no inhibitory action. My own blood gave a partial reaction, but the inhibitory one was not nearly so well marked as it was when the blood from a recently recovered patient was used. Never having had scarlet fever, this reaction could only be ascribed to an attack of scarlatinous sore throat passed through some years ago.

The other experiment consisted in inoculating four ordinary gray mice, each of which received five minims of a solution of a virulent culture of the "diplococcus scarlatinæ" in distilled water. Two of the mice had previously received, by subcutaneous injection, five minims each of blood serum taken from a patient recently recovered from scarlet fever. The two animals that had not received the blood inoculation died within eighteen hours, while of the two that had been injected with the blood, one lived about forty and the other seventy-two hours. This last experiment will have to be repeated before arriving at a positive conclusion, still, it seems to suggest that the blood of a patient who has passed through scarlet fever contains an antitoxic substance.

In closing, the writer will briefly state his reasons for believing his "diplococcus scarlatinæ" to be the causative factor of scarlet fever.

1. Because the germ is invariably present in the throat secretions, blood and scales of a patient having scarlatina, and because it is a separate and distinct organism not heretofore described.

2. Because it has been proven to be a pathogenic micro-organism, killing mice, when injected in minute quantities, in a space of time varying from less than one to twenty-four hours according to its virulency.

3. Because it produces, in swine, a disease whose macroscopic lesions closely resemble those seen in scarlet fever as it occurs in the human subject.

4. Because the presence of blood from a patient who has just recovered from an attack of scarlet fever inhibits its growth.

5. Because the subcutaneous injection of a virulent culture into guinea-pigs will, under certain conditions, produce a nephritis.

6. Because the experiment quoted in this paper apparently shows that the blood serum of a person who has passed through scarlet fever protects an animal against the invasion of the germ.

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Therapeutics.

Treatment of Typhoid Fever.

The profession is fairly well agreed on the hygienic treatment of this disease. The dietetic treatment, however, is undergoing some change. Certain eminent physicians, not only in the United States but in Europe, have recently advocated feeding typhoid patients with light or solid food. One physician reports that he has allowed ten patients in succession to have solid food the moment they craved something to eat. Their recovery was uneventful and rapid.

During the course of typhoid, water is needed more than nourishment. Large quantities of water serve to eliminate waste products. The character of the blood indicates a deficiency of water and patients should be encouraged to drink freely of it whether they ask for it or not. It is well to remember that in this disease the sense of thirst is as much obtunded as that of hunger. The late Dr. John Forsyth Meigs was an enthusiastic advocate of water in typhoid fever, and his graphic description of the disease, in a lecture at the Pennsylvania Hospital, in 1879, when he was insisting with great emphasis on supplying water in abundance to typhoid fever patients, is worthy of quotation:

When I stand by the bedside of a severe typhoid fever, and see the patient motionless, insensible, dead to all the usual senses of the living; when I look at his half-closed eyes, his gaping mouth, his dried and fissured tongue; when I brush the [illegible] face, and when I touch his hot and burning skin, I ask myself into what lower estate the human body can fall. Not only has the patient lost all appetite for food, not only is he dead to all that surrounds him but this hot and withered body, his dry and pasty mouth, filled with desiccated crusts and sordes, knows no longer even the sense of thirst. This has been the last sense of which he has been deprived. So long as he retained any consciousness at all he would ask for water or for ice. Now he feels not even this great want. It is in this crisis of his life that he is to be saved, if saved at all, only by the constant care of his physician, nurses, and relatives. And woe to the physician who can look on such a sight and not yearn to know all that his art has acquired through centuries of experience and study.

The fact that the majority of typhoid fever patients will recover on the hygienic and dietetic treatment alone does not justify in every case the withholding entirely of medicinal and other treatment.

In another portion of THE JOURNAL, the treatment of typhoid fever is most ably discussed by competent authorities. Here, we will quote formulæ and methods recommended by other physicians for treating complications; making disinfectants, etc.

DIARRHEA.

Dr. Frederick P. Henry, says: "Among the most efficacious means for this purpose are opium suppositories, acetate of lead, gallic acid, nitrate of silver, sulphate of copper, and salicylate of bismuth. Of these drugs I have found the last in 5-grain powders every three hours decidedly the best, and this I attribute to its well-marked antiseptic properties."

Dr. J. W. Wilson says: "The preparations of bismuth, as the subcarbonate, subnitrate, salicylate or subgallate, administered by the mouth in full doses and with a frequency dependent upon the urgency of the diarrhea, either alone or in combination with small doses of opium, Dover's powder or deodorized laudanum, constitute in most cases efficient medication; or, again, opium may be advantageously administered in enemata of starch-water or in suppository; or a combination of the aqueous extract of opium and the extract of cannabis indica in suppository may be employed. Such drugs as naphthalin, thymol, and resorcin, supposed to act directly as intestinal antiseptics have in my experience proved far less useful, while such astringents as alum, plumbic acetate, silver nitrate, tannic acid, catechu, and kino have only a historic interest. If the stools be highly fetid or ammoniacal, half-dram doses of animal charcoal in the form of an impalpable powder may be administered in the broth. Creosote and carbolic acid may also be of service."

Notwithstanding Dr. Wilson's opinion of intestinal antiseptics, many able physicians believe them to be efficacious not only in diarrhea and tympanitis, but in shortening the duration of the disease.

In addition to the Woodbridge treatment, which is too familiar to every physician to quote, the following prescriptions have been recommended by various clinicians:

℞. Creosoti carbonatis........................ʒxix
Thymoli ....ʒvi
Mentholi ....ʒiii
Eucalyptoli ....ʒviss
Alcohol, commercial, q. s., ad..............℥viii
M. ft. solutio. Sig.

This is stock solution of carbonate of creosote compound.

To make an emulsion from the above, in order to better administer it, use

℞. Creosoti carb. comp., solution................ʒv
Acaciæ gummi, pulv......................ʒiss
Aquæ puræ ....℥iv
M. Sig. One teaspoonful every three hours in a wineglass of water, to be followed by a drink of water.

—*T. W. Simmons.*

℞. Pulv. carbonis ligni........................℥iii
Iodoformi ....gr. xv
Naphthalini ....gr. lxxv
Glycerini ....ʒvi
Carnipepton ....℥iss
M. Sig. A teasponful every two hours in one-third glass of water.

—*Boucharḍ.*

℞. Thymoli ....ʒii
Saponis medicinalis, q. s.
M. ft. capsulæ No. xxx. Sig. One every four hours.

Or
℞. Thymoli
Guaiacol carbonatis, āā ... ʒiss
Saponis medicinalis, q. s.
M. ft. capsulæ No. xxx. Sig. One every four hours.
—*Royster.*

℞. Salol ... ʒi
Thymoli ... gr. xxxvi
Bismuthi subnitratis ... ʒii
Mucilag. acacia ... ℥ii
Syr. tolutani ... ℥iv
M. Sig. Tablespoonful three times daily. *Alfred Moore.*

℞. Methylenæ bichloridi ... ʒi
Sol. hydrogen peroxidi ... ℥i
Acidi hydrochlorici dil ... m. xxx
Aquæ destil., q. s., ad ... ℥vi
M. Sig. One-half ounce every three hours in half a tumbler of water.—*B. W. Richardson.*

℞. Naphthol (alpha) ... gr. iv
Phenacetin ... gr. iii
Pulv. rhei ... gr. i
Tinct. cinnamoni ... m. ii
For one tabloid. One or two six times a day.

℞. Naphthol (alpha) ... gr. viii
Bismuthi salicylatis ... gr. ii
Pulv. rhei ... gr. ii
Ext. belladonnæ ... gr. 1 6
Pulv. cinnamomi ... gr. iii
In cachet. One four to six times daily.—*Maximowitsch.*

TYMPANITIS.

Dr. Frederick P. Henry says that meteorism is best treated by the application of cold compresses to the abdomen, and by charcoal and alcoholic stimulants internally. These failing, an enema of cold water may induce contraction of the intestinal parietes at the same time as it mechanically dislodges and expels some of the accumulated gas. As a last resort a rectal tube may be carefully inserted and pushed upward as far as possible.

Dr. J. C. Wilson also advocates the use of alcoholic stimulants in this condition. Turpentin or camphor, he says, together with minute doses of opium, may be added to the treatment, and active preparations of pepsin or peptenzyme, alone or together with hydrochloric acid, should be administered with the food. Compresses wrung out of iced water, or turpentin stupes, should be applied, and cautious, gentle massage of the abdomen is also useful. Small enemata of iced water and cold enemata containing turpentin are sometimes followed by good results.

Dr. Julius Dreschfeld, in "Allbutt's System of Medicine," advises enemata with turpentin or tincture of valerian. Turpentin may be given internally in capsules of 10 minims. If there be much flatulence, carbolic acid, or creosote, or sulphocarbolate of soda (15 grains) may be tried. Hare recommends the following in excessive tympanitis:

℞. Olei terebinthinæ ... ʒi to ii
Olei olivæ ... ℥iv
Mist. asafetidæ ... Oi
M. Sig. Use as an injection. Shake well before using.

INTESTINAL HEMORRHAGE.

The last named author advises that hemorrhage from the bowel be treated according to its point of origin, i. e., if in the small intestine, as from ulceration of Peyer's patches or other glands, the medicines must be used by the mouth; if it be from the colon or rectum or from hemorrhoids medication must be by way of the anus.

"Hemorrhage of the first class," quoting from Hare, "is best combated by the application of a small piece of ice to the belly and by the use of Monsel's salt (ferri subsulphas); 3 grains (0.15) made into a pill should be given every half hour or oftener, the pill being made hard enough to reach the intestine without being dissolved and decomposed in the stomach. The other remedies which are of service are sulphuric acid in the dose of 5 to 10 drops in water in acute or passive bleeding, or turpentin given in capsule, or better still, in emulsion with acacia, in the dose of 10 drops every half hour, particularly when the hemorrhage is not active. Acetate of lead and camphor in the following pill may be of service in some cases.

℞. Plumbi acetatis ... gr. x
Camphoræ ... gr. x
M. ft. pil. No. v. Sig. One pill every hour.

Henry believes that ergot administered both *per os* and hypodermically, with application of ice-cold compresses to the abdomen, is about the best treatment.

Wilson believes little can be done for excessive intestinal hemorrhage outside of absolute bodily quiet, and complete withdrawal of food, even water being administered only in small quantities repeated at short intervals, or small pieces of ice, opium internally, cold to the abdomen, and small enemata of iced water not exceeding four ounces at a time, repeated at short intervals.

Dreschfeld agrees with the authorities mentioned above, regarding the use of drugs in intestinal hemorrhage. He recommends the use of acetate of lead, gallic acid, opium, and turpentin, ice to the abdomen, etc. He advises that milk should be stopped or given with carbonate of soda, or in the form of alum whey, that is, mixed with finely powdered alum and the curds separated from the serum.

Osler says: "Lead and opium pill by the mouth and small doses of morphin hypodermically."

Normal salt solution is injected when there is much loss of blood, and favorable results follow its use in most desperate cases. A fatal result may follow in typhoid fever without blood appearing externally, so we must be on our guard.

The following prescription has been recommended:

℞. Benzonaphthol ... ʒi¼ 5
Bismuthi salicylate ... ʒiiss 10
Ext. opii ... gr. iss 10
Syr. rhatany
Syr. orange flower, āā ... ʒviiss 30
Mucilage ... ʒxxx 120
M. Sig. Soupspoonful every half hour.

CONSTIPATION.

Dreschfeld says that constipation lasting only a few days, and not accompanied by much tympanitis and flatulency, need not be treated medicinally; an admixture of beef tea and milk may be tried. If the constipation be more obstinate, glycerin or cold-water enemata may be given; should these produce little effect, and the constipation have gone on for five days or more, small doses of castor-oil—one or two teaspoonfuls in milk—may be given, and repeated after some hours, if necessary.

PERSISTENT VOMITING.

For this distressing symptom, the same authority says, food should be given in small quantities and often. Milk and lime water or some of the prepared foods or cold meat juice with acid.

℞. Bismuthi subnitratis ... gr. x
Cocainæ hydrochloratis ... gr. ¼
M. ft. chart No. 1. Sig. A powder this size three or four times a day. A sinapism to the epigastrium may also be applied.

Wilson recommends 1/12 gr. of calomel every half hour or full doses of chemically pure cerium oxalate or of dilute hydrochloric acid. Small amounts of iced dry champagne are also useful, together with applications of a wet towel sprinkled with chloroform or sinapisms to the epigastrium.

INSOMNIA.

Chloral and bromids are undoubtedly the best hypnotics, although paraldehyde, trional, chloralamid and sulphonal are preferred by some physicians because they are thought to be less depressing to the heart.

The writer has never noticed any untoward effects from the administration of chloral and frequently combines with it small doses of morphin.

DELIRIUM.

Dreschfeld recommends ice to the head, a sinapism to the back of the head, and morphia with quinin; if of low muttering character, stimulants may be given.

Dr. J. C. Wilson also recommends stimulants, and adds that "alcohol stands first and almost alone, spirit of chloroform and spirit of camphor are of use in emergencies, the latter may be administered hypodermically in 5 per cent. solution in ether, of which 10 minims may be repeated once or twice at intervals of several hours, the toxic effects of large doses of camphor being carefully considered. The hypodermic administration of ether alone in 10-minim doses is of advantage. Hyoscin hydrobromate in small doses hypodermically, codein, and suppositories containing asafetida are also useful in the treatment of active delirium, while in cases of hysteroidal delirium the bromids in elixir of ammonium valerianate are frequently followed by good effects."

EPISTAXIS.

Referring to this complication, Dr. Wilson advises "local applications of ice to the nose and brow, an ice-bag to the nape of the neck: the slow instillation into the nostril of very hot water, and the introduction of slender cotton tampons moistened and then rolled in antipyrin or wet with fluid extract of hamamelis are measures likely to control the bleeding. Should persistent hemorrhage from the nose occur, the anterior and posterior nares are to be plugged with strips of antiseptic gauze.

Dr. Henry says excellent results are usually produced by the injection into the nares of a solution of alum or tannin, or of pure lemon juice.

BED SORES.

Bed sores can usually be avoided. They are too often an indication of ignorance or negligence on the part of the physician or nurse or both.

Constant cleanliness and watchfulness, a vigilant eye to discharges, attention to the smoothness and dryness of the sheets, and judicious changes of position, are the secrets of success. All parts exposed to pressure and soiling must, at least twice daily, be washed with soap and water, well dried, rubbed with alcohol, and dusted with powder. A useful mixture is one part boric acid to two of starch. If the skin is inclined to be tender it may be painted with collodion or balsam of Peru and powdered. When it is difficult to maintain dryness lanolin or zinc ointment may be rubbed in and powdered.

Dreschfeld recommends the following procedure: "If the skin become rough, reddened, or show slight abrasions, the part may be washed with boracic acid solution and some ointment, such as zinc or boracic acid ointment, or iodoform powder, may be applied to the abraded part. If a slough have formed, antiseptic and stimulating dressings, such as carbolic acid (1 in 40), or compound tincture of benzoin, or balsam of Peru are required. Over the lint, which ought to fit exactly into the ulcer, a piece of gutta-percha tissue is applied, and outside this again some folds of lint, and the whole fixed by a strip of diachylon plaster. When the slough is large it is best to dust it over with iodoform, or iodol or aristol; this is covered by gutta-percha tissue and over this lint dipped in an antiseptic or stimulating lotion is placed."

TO PREVENT THE SPREAD OF THE DISEASE.

The same authority advises that the following measures be adopted: "The dejections—both urine and feces—are to be received into a bed-pan containing a strong disinfectant—1 to 20 carbolic acid—and a sufficiently large quantity of the disinfectant is to be added to the discharge and well mixed with it. The nates must be well cleansed with paper, or with linen moistened with dilute carbolic acid; this refuse is burnt or added to the contents of the bed-pan. The bed-linen, blanket, and body linen of the patient should be changed at once when soiled; they should be placed in a sheet soaked in carbolic acid —1 in 40—and afterward kept for some hours in carbolic acid solution of the same strength; before they are sent to the laundry they should be well boiled. The feeding utensils are to be cleaned in dilute carbolic acid, and afterward with boiling water. The nurse, after attending to the alvine discharges or changing the linen, and always before she takes her meals, should wash her hands in corrosive sublimate solution, 1 to 1000. Every precaution should be taken after the death of a patient as regards the bed clothing, sheets, etc. Mattresses, pillows and clothes should be sent to a disinfecting oven, when this is feasible.

"Instead of carbolic acid as a disinfectant some use strong commercial hydrochloric acid or corrosive sublimate. Chlorid of lime is an excellent disinfectant which quickly destroys typhoid bacilli, and it may be used to disinfect the feces.

"If there be any expectoration, the sputa are to be dealt with in like manner."

The following formulæ are given, of well-known antiseptic and disinfectant solutions:

THIERSCH'S SOLUTION.

℞. Salicylic acid. .. ..1 part.
Boric acid.............................6 parts.
Water ....500 parts.
Mix. Dissolve and filter.

CONDY'S FLUID.

℞. Potassii permanganate...................gr. iv
Aquæ .. ..℥i
Mix.

VOLKMAN'S ANTISEPTIC SOLUTION.

℞. Thymoli .. . .1 part
Alcoholi ....10 parts
Glycerini ....20 parts
Aquæ ....100 parts

Dissolve the thymol and the alcohol, add the glycerin, then the water.

GREEN VITRIOL SOLUTION.

℞. Copperas ....4 lbs.
Water ....2½ gals.
Used for disinfecting bed-pans, closets, etc.

WHITE VITRIOL SOLUTION.

℞. Sulphate of zinc.. ....℥ii
Carbolic acid...............................℥i
Hot water...........................1 gal.
Used principally for washing clothing in contagious diseases.

Medicolegal.

Not Necessarily Slanderous.—An accusation of the use of morphin, the court of civil appeals of Texas holds, in King vs. Sassaman, is not actionable per se.

State Hospital Not Liable For Negligence.—A public corporation, such as a state hospital for the insane, which exercises exclusively governmental functions, the supreme court of appeals of Virginia holds, in the case of Maia' Administrator vs. Directors of Eastern State Hospital, is not liable for the negligence of its agents.

Board of Health Can Charge for Milk Licenses.—A board of health being authorized by law to pass ordinances to protect the public from the sale of unclean and unhealthful milk, the supreme court of New Jersey holds, in State (Blanke, prosecutor) vs. Board of Health of the City of Hoboken, that it is by implication empowered to pass ordinances requiring a license fee sufficient to pay the expense of the license and the necessary expense of inspecting the milk, and that for the labor and expense which must fall on the Board, in the proper discharge of its duty in this connection, a license fee of $2 is a very reasonable charge.

Communications to Railway Surgeons.—A brakeman on a railway train met with an accident in which he sustained injuries that caused his death a few days later. A surgeon in the employ of the railway company, as such, visited him at the instance of the company on the day following the accident. He called to ascertain the extent of the injuries, how they were received, to diagnose the case, to consult with the attending physician, and to approve or disapprove the treatment, and, if necessary, to administer treatment. During the course of his interview with the brakeman, he informed him why he had called, and reduced to writing statements made by him as to how the accident occurred, which statement the brakeman signed. This statement, and the doctor's evidence as to other statements made to him by the brakeman as to how the accident happened, were admitted in evidence over the plaintiff's objection as being incompetent, in an action subsequently brought to recover damages from the railway company for the death of the brakeman. But, the supreme court of Iowa holds, Keist vs. Chicago Great Western Railway Company, objection should have been sustained, as the communications were privileged.

Conductor Can Not Employ Surgeon for Trespassers.—In a railway accident were some trespassers—men stealing a ride on a freight train. On arrival at the station the conductor and engineer engaged surgeons to treat the injuries of some of the trespassers. Some hours later, after the services were rendered, the station agent, in response to an inquiry, received from the superintendent of the railway company the following: "Surgeons should understand we will not bear any expense in connection with injured tramps." The surgeons sued the railway company to recover payment for the professional services rendered. They obtained judgment. But the supreme court of North Carolina reverses the latter. It holds that nothing in the record disclosed the conductor's authority to bind his employer, upon the facts presented, and that the authorities were against the right of the plaintiff to recover in this case, of Adams vs. Southern Railway Company. It says that the question presented was not one of negligence on the part of the railway company in causing the injury, but a question of the conductor's authority to employ the plaintiffs at the railway company's expense, under the circumstances. The conductor, it goes on to state, has no authority to make contracts binding on his employer, outside of the scope of his employment, unless express authority is given or necessarily implied from his employment. There are some emergency instances in which the conductor may engage a physician for the company's servants or passengers, when injured, but as to trespassers on its road no such authority is found to exist.

Right of Board of Health Physicians to Quarantine.—Whidden vs. Cheever was brought to recover damages from the physician member of a city board of health for using the plaintiff's dwelling-house and building for smallpox patients, and for confining him to the premises against his will, and exposing him to contagion. The house was situated about three miles from the city, and was occupied by a lessee, the plaintiff reserving certain rooms for the separate use of himself and his sister. Members of the lessee's family were afflicted with the smallpox. The board of health physician thereupon took charge of the sick persons and the buildings, established a quarantine, and posted notices on the outside of the house forbidding any person to leave or enter it. The plaintiff, who was not ill, protested against his confinement to the buildings and the use of his premises, and requested the physician to remove the patients to a pest-house. Nevertheless, he was confined by the physician until the quarantine was raised, when he was released. Upon these facts, could he maintain this action? The supreme court of New Hampshire holds that he could not. It says that it is well settled that such an officer is liable for acts in excess of his authority, but, if he acts within the limits of his authority, and in good faith, he is not liable for errors of judgment. Besides, it holds, statutes enacted for the preservation of the public health are to receive a liberal construction. The statute here especially considered provides that the health officers may remove any person infected with the smallpox to some suitable house provided for that purpose, if it can be done without endangering the life of the person, and may make such regulations respecting such house and for preventing unnecessary communication with such persons or their attendants as they may think proper, or, where they judge that he may remain without endangering others than his own family, they may give license to persons who have been exposed to the danger of taking the disease to be inoculated and to remain in the same house, subject to such regulations as they may impose. The case did not show whether the lives of those sick with the smallpox would have been endangered by their removal to a pest-house. But upon this question the court holds that the decision of the health officers, acting in good faith, would have been final; and, as there was no imputation of bad faith, that it may be assumed that, in the opinion of the health officers, the lives of the patients would have been endangered by their removal. The doctor, it adds, did what he was authorized to do by the statute. He allowed the sick persons to remain in the house, and that was the extent of the possession exercised by him. In forbidding inmates of the house not afflicted with the smallpox to go abroad, and persons from abroad to enter, he conformed to the usual practice. Moreover, the court holds that there was no taking of property for public use without compensation. It says that it was merely the exercise of a reasonable health regulation under the police power of the state, within the limitations of the statute. Such regulations as are reasonably calculated to preserve the public health are valid, though they may abridge individual liberty and rights of property. And for these several reasons the court holds that notwithstanding the plaintiff suffered on account of his exclusion from association with the community during the prevalence of the disease to which he was exposed, the defendant, physician of the board of health, was not liable to him for damages.

Expert and X-Ray Evidence.—An injury was diagnosed by a medical expert as a dislocation of the cervical vertebræ, complicated with a fracture. He then testified, without qualification or limitation, that the accepted treatment of a dislocation of cervical vertebræ, as laid down by the medical authorities, was a reduction of the dislocation. Later he was asked, on cross-examination, whether a certain work—admitted by him to be a standard authority—did not lay it down that, where the dislocation was complicated with a fracture, no physician would be justified in attempting to reduce the dislocation. This was an action for malpractice, and the supreme court of Minnesota holds it was proper cross-examination, and that it was error to exclude the question. The court goes on to say that all hypothetical questions put to an expert witness must be based on facts admitted or established, or which, if controverted, might be legitimately found by the jury from the evidence. They should also embody all the facts relating to the subject on which the opinion of the witness is asked. Accordingly it holds a hypothetical question to have been properly allowed, when it did not include all the facts bearing on the subject on which the opinion of the witness was asked, and also because it was based in part on a fact not admitted or established, and which there was no evidence tending to prove. Then a much more interesting question was raised: during the progress of the trial, the defendant, case of Wittenberg vs. Onsgard, introduced the testimony of a medical expert, tending to prove that the nature of the injury to the plaintiff's neck could be ascertained by the application of the Roentgen (commonly called "X") rays, that the witness had some experience in the use of these rays in surgery, and that no evil effects could result from their use, except that, if there was a very long exposure of the parts to the rays, there might be a burning of the skin, but that there would be no necessity for any such prolonged exposure for the purpose of taking a photograph of the plaintiff's neck. On this showing, the defendant's counsel requested the court to give him "the privilege of taking an X-ray photograph of the plaintiff's neck." Although peculiarly worded this was construed as asking the court to require the plaintiff to submit his neck to the X-rays for the purpose of taking a photograph of it. The court's refusal to so order was assigned for error. This leads the supreme court to say that the discovery of the X-rays is comparatively recent. Its utility and the reliability of its results, however, are already so well established as scientific facts that courts ought to take judicial notice of them. And, if the fact that the exposure of the person to these rays is harmless becomes as well established in science as is the accuracy of photographs taken by them, there is as much reason why, in a proper case, under proper safeguards, and at the reasonable request of the defendant, the plaintiff should be required, in a case like this, to submit his neck to those rays for the purpose of photographing it, as there is for requiring a party to submit his person to a physical examination. Whether science is as yet sufficiently advanced on the subject to so hold may admit of doubt, and a person can not be required to submit his person to any process which is liable to injure him. It is impracticable to stop the trial in order to ascertain by evidence whether the exposure of a part of the human body to these rays is liable to result in injury. Moreover, if any such practice should obtain, there would be no uniform rule on the subject, as each case would depend on the evidence introduced, and the conclusion which the particular judge would draw from it. Hence a party ought not to be required to submit his person to the X-rays until it is so well established as a fact in science that the process is harmless, that the court will take judicial notice of it. It may admit of doubt whether that time has yet arrived. But, without passing on this last question, the supreme court holds that the defendant's request was properly refused for two reasons: 1, that the request was not seasonably made; and 2, that it did not sufficiently appear that the person by whom the defendant desired the photograph to be taken had the necessary skill or experience to properly and safely apply the rays without injury to the plaintiff.

Current Medical Literature.

Titles marked with an asterisk (*) are noted below.

Boston Medical and Surgical Journal, February 8.

1.—*Massachusetts State Hospital for Consumptives at Rutland: Its Purpose and the Work Accomplished the First Year. Vincent Y. Bowditch.
2.—*Hydrophobia, with Report of Case. Richard F. [illegible]
3.—*Brief Notes on Some of Those Grave Visceral Lesions which Often Defy Diagnosis. Thomas H. Manley.
4.—Case of Multiple Cerebral Hemorrhages from Chronic Lead Poisoning with Necropsy. J. W. Courtney.

Medical News (N. Y.), February 10.

5.—*Policy of the State Relative to the Spread of Tuberculosis. Enoch V. Stoddard.
6.—*The Justo-Major Pelvis as a Factor in the Causation of Perineal Injuries. Joseph Brown Cooke.
7.—*Report of Bacteriologic Investigations on Yellow Fever. Aristides Agramonte.
8.—Atresia Vaginae, Solid Uterus, Hematoma of Left Ovary. H. J. Garrigues.

New York Medical Journal, February 10.

9.—*Benefits of Medical School Inspection. Henry Graham MacAdam.
10.—*Clinical Studies of Cardiac Diseases in Infancy and Childhood. John Zahorsky.
11.—*Malarial Hematuria. (*Concluded.*) Bat Smith.
12.—*Recovered Consumptives who Remain Well. Paul Paquin.
13.— Fracture of Patella: Complete Union by Open Operation Seven Months after Injury. Joseph B. Bissell.
14.—*Suggestion for Tablet Triturate Manufacturers. Charles J. Proben.
15.— Case of Mixed Typhoid and Malarial Fevers. James L. Bevans.
16.—*Athletics in Public Schools. J. Gardner Smith.

Medical Record (N. Y.), February 10.

17.—*Remarks on Subphrenic Abscess; with Report of Three Cases. A. A. Berg.
18.—*Results of So-Called Conservative Treatment of Appendicitis. Samuel Lloyd.
19.—*How the Milk Supply of New York May be Improved. Henry Dwight Chapin.
20.—*New "T" Bandage. W. O. Green.

Philadelphia Medical Journal, February 10.

21.—*Celluloid Yarn: A New Method for Sutures and Ligatures. Sanitaetsrath J. Pagenstecher.
22.— Position Symptoms in Joint Diseases. Harry M. Sherman.
23.—*Some Casual Remarks on Prostitution and Venereal Diseases in Their Relation to the Public. Isadore Dyer.
24.—Albuminuria. Its Significance and Detection. Thomas P. Prout.
25.— Locomotor Ataxia. Recovery in a Case Repeatedly so Diagnosed. David S. Booth.
26.— Syphilitic Fever. A. C. Morgan.

Cincinnati Lancet-Clinic, February 10.

27.—*Diagnosis of Rectal Diseases. Geo. J. Monroe.
28.— Surgery in the Country: How We Do It. P. C. Layne.

Medical Review (St. Louis, Mo.), February 10.

29.—*Observations in Treatment of Cystitis and Prostatitis. D. A. Richardson.
30.— Retrodisplacements of Uterus, Indications for and Methods of Treatment. Milo B. Ward.

Virginia Medical Semi-Monthly (Richmond), January 26.

31.— Meningitis and Appendicitis. R. I. Hicks.
32.—*Perfect Antidote for the Poison of Snake and Spider Bites. S. T. A. Kent.
33.— Septic Thrombosis of the Sigmoid Sinus. Charles W. Richardson.
34.— Report of Two Cases of Laceration of Cervix and Perineum. Johannes C. Bodow.
35.— How Does Albumin Get in the Urine? M. D. Hoge, Jr.

American Journal of the Medical Sciences, February.

36.—*Some Cases of Dilatation of the Stomach. John H. Musser and J. Dutton Steele.
37.—*Surgical Treatment of Acute Puerperal Sepsis, with Special Reference to Hysterectomy. Hiram N. Vineberg.
38.—*Case of "Family Periodic Paralysis." James J. Putnam.
39.—*Increasing Prevalence of Cancer as Shown in the Mortality Statistics of American Cities. G. Betton Massey.
40.—*Narcolepsy: A Contribution to the Pathology of Sleep. D. J. McCarthy.
41.— Critical Summary of the Literature on Influence of Heredity on [illegible] W. [illegible]

Annals of Gynecology and Pediatry, January.

42.—*Experience in Operations for Typhoid Perforations. Hugh M. Taylor.
43.—*Beef-Gall Enemata in Treatment of Post-Operative Obstinate Constipation and Intestinal Obstruction. F. C. Ameiss.
44.— Two Cases of Vesicovaginal Fistula. John O. Polak.
45.— Multiple Pregnancy, with Report of Cases. A. W. Shea.
46.—*Cervical Flexions: Their Importance and Means of Curing Them. T. J. Bell.
47.— Tubal Pregnancy, with Report of Cases. J. M. Black.
48.— Some Remarks on Heredity. I. A. MacSwain.
49.— Gastro-Enteritis. Robert W. Hastings.

Archives of Otology (N. Y.), October-December, 1899.

50.— Case of Influenza Followed by Mastoid Abscess, Sinus Thrombosis, Meningitis and Death: Autopsy. Frank Allport.
51.— Multiple Tubercular Tumors of Skull and Both Tympanic Membranes. H. Freysing.
52.—*Otitis Media in Early Childhood. A. Barth.
53.— Case of Epidemic Cerebrospinal Meningitis with Bilateral Otitis; Trepanning of Both Mastoids, Exposure of Transverse Sinus; Recovery. Stanislaus v. Stein.
54.—*Thyroid Treatment of Chronic Deafness. Alfred Bruck.
55.—*Tinnitus Aurium. Rudolph Panse.

Chicago Medical Recorder, January.

56.—*Case of Pulmonary Tuberculosis Successfully Treated by Drainage and Iodoform, with Apparent Recovery. Alexander Hugh Ferguson.
57.—*Relation of Mental Disease and Residence in an Asylum or Sanitarium to Life Expectancy. Harold N. Moyer.
58.—*Relation of Chronic Ear Diseases to Life Insurance. J. Homer Coulter.
59.—*Examination of Women for Life Insurance. Denslow Lewis.
60.— Fracture of Upper Third of Left Femur in an Infant. Robert T. Gilmore.
61.— Report of Case of Cerebral Tumor; Operation; Death; Autopsy. D. A. K. Steele.
62.—*Some Additional Cases of Brain Tumor. Hugh T. Patrick.
63.— Diagnosis and Operation of a Case of Cerebral Tumor. O. M. Stellenson.
64.— Surgical Cases. Daniel H. Williams.
65.— Cystoscopic Demonstrations. F. Kreissl.
66.— Vesicorectal Anastomosis. Jacob Frank.

Medical Review of Reviews (N. Y.), January 25.

67.— Four Cases of Epithelioma of Eyelids. David Webster.

Western Medical Review (Lincoln, Neb.), January 15.

68.—*Surgical Diseases of Biliary Passages. Byron B. Davis.
69.—*What Should be the Position of the Surgeon Relative to the Treatment of Appendicitis. J. E. Summers, Jr.
70.— Premature Casting off of Products of Conception, with Their Management. W. L. Downing.
71.—*Surgery in Relation to Persons of Advanced Age. Milo B. Ward.
72.— Management of Puerperal Eclampsia. J. Lue Sutherland.
73.—*Pathology of Pneumonia. W. R. Lavender.
74.— Uric Acid a Factor in Functional Neurosis. J. M. Aikin.
75.— Abortion. (*Continued.*) A. D. Wilkinson.

Pennsylvania Medical Journal (Pittsburg), January.

76.— Typhoid Fever and Our Water Supply. Edmund W. Holmes.
77.— Syphilis of Nose and Throat. W. S. Brenholtz.
78.— Later Development of Roentgen Ray Method of Diagnosis. Chas. L. Leonard.
79.— Some Reasons Why Antitoxin is Condemned and How the Objections to Its Use May Be Overcome. W. S. Plotner.
80.— Report of Two Cases of Metastatic Choroiditis Occurring in Children, Following Measles. Edward Stieren.
81.— The Reflexes. Theodore Diller.

Cleveland Medical Gazette, January.

82.—*Observations on Abdominal Sections Based on Four Hundred Operations. George W. Crile.
83.—*Croupous Pneumonia in Children. J. Park West.
84.—*Early Intubation in Laryngeal Diphtheria. Wm. E. Lower.

Journal of Boston Society of Medical Sciences, January.

85.— Instruction in Bacteriology in Medical Schools of America and Europe. H. C. Ernst.

Annals of Otology, Rhinology and Laryngology (St. Louis, Mo.), November, 1899.

86.—*Diabetic Ulcerations of the Throat. W. Freudenthal.
87.—*Surgical and Pathologic Features of Tuberculosis of the Esophagus with Reports of Two Autopsies. William Bartlett.
88.—*Effect of Atmospheric Changes on Hearing in Chronic Catarrhal Otitis Media. Seymour Oppenheimer.
89.—*Dilatation of Heart Complicating Obstructive Lesions of Upper Air-Passages. John A. Thompson.
90.— Suppurative Ethmoiditis and Its Treatment. Frank S. Milbury.
91.— Plasmine Solution as a Rational Cleansing Agent. A. D. McConachie.
92.— Personal Observations in Therapy: Valsalva's Method Reversed: Muco-Cutaneous Lesions: Hemostatic for Mucous Surface Operations: Splint for Septal Operations. A. T. Mitchell.

Bulletin of Cleveland General Hospital, October, 1899.

93.— Report of Several Cases of Typhoid Fever with Interesting Complications. I. Friedman.
94.— Treatment of Stone in the Bladder. C. B. Parker.
95.— Case of Puerperal Mania with Albuminuria. C. F. Dutton.
96.— Osteomyelitis of Fibula with Spontaneous Casting Off of Entire Bone, Empyema, Pyemic Abscesses and Recovery with a Useful Limb. J. C. Steurer.
97.— Report of Case of Persistent Priapism. W. J. Scott.
98.— Case of Appendicitis. Geo. W. Crile.
99.— Guaiacol in Orchitis and Epididymitis. William Nuss.
100.— Kryofin in Neuralgia. Charles J. Aldrich.

Richmond Journal of Practice, January.

101.—*Experience in Operations for Typhoid Perforation. H. M. Taylor.
102.—*Tight Lacing as an Etiologic Factor of Disease. Thomas J. Hughes.
103.— Typhoid Fever Complicated by Cancrum Oris. George E. Barksdale.

St. Louis Courier of Medicine, January.

104.— Sanatoria for Consumptives. Beverly Robinson.
105.— Relative Value of Antisepsis and Improvement in Technic, as Regards Actual Results in Operative Gynecology. L. Gustave Richelot.

106.— Functional Derangements of Ocular Muscles. Edward R. Wright.
107.— Typhoid Fever Complicated with Chorea and Diabetes Insipidus. Carl Orth.
108.— Torpor of the Retina Due to Exposure in the Klondike. J. Ellis Jennings.
109.— Report of Results of Eighteen Tests Made for Rendering the Hands Aseptic Before Operation. N. B. Carson.
110.— Removal of One Hundred and Seven Polypi at One Sitting. H. W. Loeb.

Toledo Medical and Surgical Reporter, February.

111.—*Question of Surgical Intervention in the Aged. John Chadwick Oliver.
112.— Pulmonary Tuberculosis Treated with Hypodermic Injections of Bromin-Iodin Compound, with Clinical Reports. Paul Plummer.
113.— Annual Address. Walter H. Snyder

Indiana Medical Journal (Indianapolis), February.

114.— Spontaneous Escape of Cerebrospinal Fluid from Nose. Ludwig Hektoen.
115.— Relation of Mental States to Making of Wills. P. W. Payne.

Denver Medical Times, January.

116.—*Mastoid Disease with Report of Cases. Charles K. Cole.
117.—*Gall-Stones with Report of Cases. I. B. Perkins.
118.—*Chalicosis Pulmonum, or Chronic Interstitial Pneumonia Induced by Stone Dust. William Winthrop Betts.

Occidental Medical Times (San Francisco), February 1.

119.— Large Solitary Tubercle of Heart. A. W. Hoisholt.
120.— New Materia Medica and Modern Doctors. H. D'a. Powers.
121.— Leucopathia Unguium of Nervous Origin: Coincidence of Dermatosis: Nondescript Disease of Nails. Wallace A. Briggs.
122.— Report of Case of Subglottic Tumor. George H. Powers.
123.— Hydrocephalus: Cranial Paracentesis: Lumbar Puncture. W. N. Sullivan.
124.— Report of Case of General Tuberculosis. Dextrocardia Meningitis, Lumbar Puncture. S. J. Hunkin.

Atlanta Journal-Record of Medicine, January.

125.— Relative Digestibility of Breads Made with Different Leavening Agents. Edgar Everhart.
126.— Some Cases of Conservative Gynecology. G. Betton Massey.
127.— Numerous Obstructions of the Larynx. W. Jay Bell.
128.— Whooping-Cough in Infants and Treatment to Prevent Complications. C. E. Murphey.

St. Louis Medical and Surgical Journal, February.

129.—*Successful Removal of Tattoo Marks and of Powder Stains. A. H. Ohmann-Dumesnil.
130.— Employment of Iron Preparations in Treatment of Syphilitic Anemia. A. H. Ohmann-Dumesnil.

American Therapist (N. Y.), January.

131.— Portraiture of Medical Practice. Albert Abrams.
132.— Study of the Value of Alcohol. J. M. French.
133.— Argonin: Its Use in Acute Urethritis. T. A. Hopkins.

Texas Medical News (Austin), January.

134.—*Something About Living Corpses (Cadavers). A. Schirman.
135.— Strangulated, Incomplete Infantile Inguinal Hernia, with Nondescended Testicle in the Inguinal Canal: Operation: Recovery. Henry A. Barr.
136.—*Malignant Dysentery. E. A. Malsch.
137.—*Hemorrhagic Malarial Fever and Its Treatment. Walter Shropshire.

New York Lancet, January.

138.— Ten Years' Experience with Alexander's Operation. A. Lapthorn Smith.
139.— Surgical Intervention for Severe Intestinal Hemorrhage Complicating Typhoid Fever. Edwin Ricketts.
140.— Indefiniteness of Our Nomenclature. H. A. Fairbairn.
141.—*Headaches and Their Treatment. T. Lauder Brunton.
142.— Series of Cases of Arthrotomy for the Relief of Pain, and for Removal of Synovial Fringes, Loose Bodies and Fibro-Cartilages. C. B. Lockwood.
143. Treatment of Uterine Cancer. Thomas More Madden.
144.— Case of Ovariotomy. E. H. Tipper and A. E. Philipps.

American Journal of Surgery and Gynecology (St. Louis, Mo.), January.

145.— Removal of Superior Maxilla, Turbinates, Palate, Vomer and Parts of the Ethmoid and Malar for Osteosarcoma: Deformity Relieved by Obturator: Eight Years Without Recurrence. Emory Lanphear.
146.—*Application of Roentgen Rays to Surgery. C. Mansell Moullin.
147.— Short Clinical Contribution to Relation of Surgery to Nervous and Mental Diseases. M. P. Sexton.
148.—*Case of Sarcoma of Conjunctiva, with Remarks on Metastatic Sarcoma and Carcinoma. James Moores Ball

Southern Practitioner (Nashville, Tenn.), February.

149.— Is There Any Causation or Etiologic Relation Between the Extensive Use of Alcoholic Drinks and Continued Increase of Epilepsy, Imbecility, Insanity, and Criminality in All the Countries of Europe and America? N. S. Davis.
150.— Two Troublesome Cases Cured, One of Chronic Rheumatism and Another of Constipation. D. C. Rees.
151.— Hypo-Quinidol. Q. Cincinnatus Smith

Southern Medical Journal (La Grange, N. C.), January.

152.—*Experience in Operations for Typhoid Fever. Hugh M. Taylor.
153. Acute Bronchopneumonia in Infants. John W. Kyger.
154. *Lithemia. J. W. P. Smithwick.

New England Medical Monthly (Danbury, Conn.), February.

155.— Present Day Treatment of Diphtheria. Robert E. Coughlin
156. Modern Cesarian Section. George G. Hopkins.
157.— Recent Progress in Renal Surgery. W. Wendel.
158.— What Suture Material Do You Use? Rufus A. Kingman.
159.—*Lithemia. J. W. P. Smithwick.
160.— Perfect Substitute for Quinia. F. E. Burgevin.

Brooklyn Medical Journal, February.

161.— Typhoid Fever. J. Harrigan.
162.— Injury of the Eye, Necessitating Enucleation Twenty Years Later, with Illustration. P. C. Jameson.

AMERICAN.

1.—This paper was editorially commented on in The Journal of February 17, p. 433.

2. **Bradycardia.**—Chase analyzes thirty five cases of idiopathic bradycardia, and discusses the condition generally. The points to which he calls especial attention are: 1. A pulse-rate under 60, which is synchronous with the heart's systole, constitutes a bradycardia, according to Grob. 2. The condition, all classes considered, is of common occurrence. 3. It is much more common in males than in females. 4. There are three types of bradycardia, as classified according to their clinical aspects. 5. The class here termed idiopathic bradycardia, on account of its usual fatal termination, must not in any case be passed by as a mere curiosity.

3. **Obscure Abdominal Lesions.**—The class of cases discussed by Manley comprises those abdominal lesions where the actual conditions are not readily or easily diagnosed, and he points to the necessity of caution or thorough deliberation before attempting the operation of laparotomy If in doubt, don't interfere, he says. Three cases are reported, all fatal, occurring rapidly, in succession. They have chilled his enthusiasm for early operation in these cases, and he says that unless we are sure that a large rent or a hollow organ is involved, immediate section for violent contusion should be discouraged, while in any case, before reaction is established, it is a 'desperate resource of very questionable expediency.

5. **State Policy as Regards Tuberculosis.**—Stoddard does not believe in the state caring for tuberculosis cases, excepting in a few sanatoriums, which will serve an educational purpose. Incipient cases only should be cared for.

6. **The Justo-Major Pelvis and Perineal Injuries.**—Cooke argues that in the abnormally increased caliber of the justo-major pelvis, the head does not "mold" and, when it is delivered, it distends the surface parts to an excessive degree, further increasing the liability to laceration.

7. **Yellow Fever.**—Agramonte criticises Wasden and Gedding's methods and findings, noticed in The Journal of August 26, 1899, p. 559. He claims that their technique was faulty and the chances of contamination almost infinite. He also claims that with more careful methods his results have been materially different, and offers the following conclusions: 1. The specific pathogenic micro-organism of yellow fever is as yet an unknown entity in spite of the work reported by various observers; apparently, new methods of cultivation must be initiated or new culture-media be devised in future research. 2. The bacillus icteroides of Sanarelli is no more concerned in the production of this disease than the common colon bacilli which are constantly found in the blood and viscera of individuals suffering or dead from yellow fever. 3. When approved bacteriologic methods are employed, the bacillus of Sanarelli does not, as a rule, appear in cultures from the blood of yellow fever patients. 4. The bacillus icteroides may be and has been found present in the tissues of cadavers dead from other diseases, neither allied nor similar to yellow fever. 5. The bacillus of Sanarelli, when subjected to agglutination tests, is not affected by the serum of yellow fever patients or convalescents. 6. The serum of convalescent yellow fever cases affords absolutely no protection against infection by the bacillus of Sanarelli. 7. None of the organisms thus far isolated from yellow fever cases can be considered as the pathogenic agent of the disease. 8. Experimental evidence has demonstrated that the serum of individuals convalescing from yellow fever, or who lately suffered an attack of this disease, will very materially and favorably affect those actually under the influence of the infection if injected under the skin, on or before the fourth day after the invasion; but that it requires further study to determine the protective power of different sera and the dosage. 9. From the experimental evidence above referred to, we are led to believe that the subcutaneous injection of convalescent's serum will convey immunity to individuals.

whom we to-day consider as susceptible to the disease. The larger part of this paper is devoted to the author's methods of obtaining material and the results of autopsies. In three cases which were not yellow fever, he found the bacillus icteroides. The article is to be continued.

9. **Medical School Inspection.**—The history of medical school inspection is first noticed by Macadam, who then describes the methods adopted in New York. The physician simply examines the children and sends them home for treatment, never prescribing or visiting. The diseases in which he decides are chicken-pox, parasitic diseases, contagious eye diseases, mumps, whooping-cough, and certain skin disorders. In cases of measles, diphtheria, scarlet fever, or croup, the children are admitted to school again on presentation of the usual board of health certificate. The statistics for 1898 show 7606 cases excluded, each one of which was a seed of disease capable of multiplying itself indefinitely. Under the system now in practice, closing the schools on account of epidemics has become an impossibility.

10. **Cardiac Diseases in Infancy.**—Zahorsky reports a number of cases showing the frequency of cardiac diseases in young children, frequently overlooked by practitioners. His paper is illustrated by diagrams showing the condition. He urges that cardiac disorders are exceedingly common in infancy and childhood, and if sought for will be readily discovered. He has made it a rule, at the St. John's Hospital Dispensary, to examine the heart as a routine procedure; to map out its size, noting the pulsation and auscultating sounds in every case, and it is astonishing how frequently disorders of this organ are discovered. One great difficulty is to determine the enlargement of the heart. On account of the varying obliquity, the breadth of cardiac relative dulness is very unreliable.

11. **Malarial Hematuria.**—Smith's article takes up the diagnosis of malarial hematuria, especially from yellow fever, which has some positive resemblance and may be at times difficult to distinguish. One characteristic symptom of yellow fever absent in hematuria is capillary stagnation producing dermography and also a swollen, bloated appearance and a remarkable expression of the face which is difficult to describe. Vomiting in hematuria is frequently an early symptom; in yellow fever it usually appears shortly before death. In malarial hematuria, the vomited substance rarely contains blood, but large quantities of blackish-green grumous and disintegrated bile. Its reaction is acid, contrasting with that of yellow fever, which is alkaline. As regards treatment, he finds the best results from calomel. Diuretics are the remedies chiefly contraindicated, and quinin treatment he condemns absolutely.

12. **Cures of Consumption.**—The serum treatment of tuberculosis is advocated by Paquin, who here publishes a number of cases of patients who have been treated since 1894, and who have recovered and remained well. With the improved methods now possible, he hopes for still better results.

14. **Tablet Triturates.**—The suggestion offered is to make a distinction in color, labels and otherwise of the actively poisonous alkaloids in tablet triturates, from other less dangerous drugs.

16. **Athletics in Public Schools.**—Gardner Smith's article is a plea for greater attention to physical training in public schools, especially gymnastic exercises.

17. **Subphrenic Abscess.**—Berg describes the symptoms, diagnosis and treatment of subphrenic abscess, with its complications, and reports three cases. The diagnostic points, as given by Leyden, are: 1. The previous history of the patient, which points to a primary trouble somewhere in the abdomen, and not in the chest. 2. The absence of cough and expectoration, or of any pulmonary lesion which could give rise to a pyopneumothorax. 3. The presence of normal vesicular murmur, with normal fremitus at the apex, with a sharp line of differentiation from the amphoric breathing below; furthermore with deep inspiration the line of normal breathing descends to where the amphoric breathing has been. 4. The very slight displacement of the apex-beat. 5. The rather inconsiderable bulging outward of the intercostal spaces, and the absence of immobility of the chest wall. Neuser has added the observation that the basal line of thorax dulness is crescentic, with the convexity downward, instead of horizontal, as in encapsulated pyopneumothorax. In Berg's cases the diagnosis should have been easy, but in one the high site at which the pus was aspirated led him to expect to find a sacculated empyema. If he had kept in mind the absence of previous pulmonary lesions and the presence of abdominal trouble, he would have made the diagnosis correctly. The important point as to treatment is to avoid opening the pleural cavity. He can not lay too much stress, he thinks, on this point.

18. **Treatment of Appendicitis.** Twenty-five cases are here reported, of conservative treatment of appendicitis; 6 terminated fatally, making a mortality of 24 per cent., which is not a favorable showing. In the author's 154 cases operated on he has had but 4 deaths. He concludes that one attack of appendicitis predisposes to recurrence, and that operation offers the best, safest and shortest method of treating the condition.

19. **Milk Supply.**—Chapin advocates the co-operation of physicians with milk producers, as an improvement over the present condition. If the milk is approved by the physician, the public can feel safe, and he believes that the method will be a practicable one.

20. **New "T" Bandage.**—This consists in simply a bandage passed around the body with the long end passed through a slit in the other end of the bandage, and brought forward between the limbs and fastened in front with a single bow-knot.

21. **Celluloid Yarn.**—Pagenstecher strongly recommends celluloid yarn for sutures. It is strong, smooth and non-absorbent, can not unravel nor expand, and its knots are absolutely secure and do not require excessive constriction. He employs it for internal as well as external sutures and ligatures, and in every case it has given satisfaction. Sterilization before use can be done by boiling or steaming.

23. **Prostitution.**—Dyer believes prostitution can be best checked: 1. By the education of children before and as they become sexually mature; by teaching them physiologic laws in their application to animals and to mankind, especially sexual laws. Pruriency flies before the knowledge of the truth. 2. By creating in the minds of civilized men and women a spirit of tolerance, instead of abhorrence, of fallen women; by offering opportunities of reform for them, not by public institutions advertising their former lives, but by affording opportunities of education in lines of interest, opening unadvertised homes where they may be casual or permanent visitors, and where music, literary, and other occupations may be had; for the life of these women is full of every kind except wholesome occupation. 3. Have the profession know that a sexual pervert is not a criminal but a victim of civilization forced to the wall by the necessity for the morbid in the development of the pure. Recognize this class of individuals, from the mere prostitute, male or female, up to the pederast, Sadist, or fetich-lover, as victims of disease needing care and treatment just as much as, or even more than those otherwise afflicted. Let education be unrestricted, and where ignorance dictates a judiciary judgment on the work and the author of the educational volume, let this be resented instead of upheld. Zola, Lombroso, Kraft-Ebing, and Havelock Ellis have committed no crime because they have pictured life and tried to make people know their kind. The very impugning of their motives has, through a false justice, created the very morbid desire which each of these men has sought to overcome by making a special sort of knowledge common property. He believes in the hospitalizing of gonorrhea and syphilis, and thinks that a law making the spreading of venereal diseases an offense punishable by fine or imprisonment or both would be advisable. He admits this would be hard to enforce, but an occasional example only would have a valuable educational effect.

27. **Diagnosis of Rectal Diseases.**—Monroe briefly reviews the general points in rectal diseases. He describes his methods and thinks the rectal speculum is almost unnecessary for this purpose. For anesthesia he prefers chloroform.

29. **Cystitis and Prostatis.**—Richardson, having tried the procedure recommended by Edgar, of injecting iodoform into the urinary bladder in cystitis, finds that in males it was sometimes followed by abscesses of the prostate and also an uncomfortable eczematous and pruritic condition. This led him to look for some drug as a substitute, and he found this in europhen, which did equally good service without the uncom-

fortable complications. It never causes irritation, nor is its application to the mucous membrane of the bladder followed by untoward results. It can be retained indefinitely with comfort. The vehicles used by him are pure olive-oil or water. The former is preferable in many cases, but other oils are not desirable. From three to six treatments of ten grains or less each usually cure a case of subacute cystitis, and he claims he has cured many cases of chronic gonorrhea of long standing in this way. He gives his method of administering the injection, generally using an ounce of olive-oil on alternate days. The patient is placed flat on his back with the knees drawn up and recti muscles relaxed, and kept there at least twenty minutes at each treatment, when the upright position may be resumed. He is instructed to retain the injection as long as comfortable. Several cases are reported illustrating this method.

32.—This paper has been previously printed as an original: see THE JOURNAL of February 3, ¶ 75, p. 287.

36. **Dilatation of the Stomach.**—The authors report seven cases of stomach dilatation, occurring mostly in medical students, who, from their habits of life, seem to be given to hasty eating, and to too great a proportion of fried and fatty foods, etc., common factors in the causation of the condition. The conclusions are: 1. The symptoms on which most reliance can be placed in determining the presence of gastric motor insufficiency are—*a*, the presence of food and fluid in the stomach lasting over night; *b*, the ready entrance of fluid through the tube and difficulty in the return flow; *c*, the absence of visible gastric peristalsis; *d*, evidences of fermentation and intoxication by the products thereof; *e*, thirst; *f*, scanty and concentrated urine. 2. In determining the position and size of the stomach, by far the most certain method has been inflation by air through the stomach-tube; auscultatory percussion, Dehio's method, and determining the capacity of the stomach by the amount of water required to produce a sense of fulness, while signs of value, may lead to error. 3. It may be inferred from the somewhat small number of cases just reported that the condition is not uncommon in students. An analysis of the etiologic factors is as follows: myasthenia caused by chronic gastritis from the abuse of alcohol and tobacco, 4 cases; myasthenia from deficient innervation, 2; myasthenia, probably of congenital origin, and myasthenia occurring in the course of acute disease, each 1 case.

37. **Surgical Treatment of Acute Puerperal Sepsis.**—Vineberg's paper illustrates his views with reports of several cases of puerperal sepsis, and with special reference to hysterectomy. The points he endeavors to make are: 1. Puerperal sepsis is wound fever, and wound infection in the female genital canal, as elsewhere, calls for surgical measures, such as free drainage, irrigation, and the removal with a sharp instrument of any debris or exudate that may form on the surface of the wound. These means failing to accomplish the desired result, ablation of the diseased organ or organs as a *dernier ressort* is indicated. 2. In a given case of puerperal sepsis a thorough search is to be made of the whole of the genital canal in order to determine the site of the original infection. 3. If this is situated in the uterus, currettage, drainage, and irrigations are to be employed. In 95 per cent. of the cases of puerperal sepsis nowadays met with this plan of procedure will be all that is necessary to bring about a cure. 4. In the remaining 5 per cent., roughly speaking, these measures will not be efficacious to arrest the progress of the infection, as will be evidenced by the pulse, temperature, general course of the disease, and sometimes by local signs. An exploratory laparotomy is then indicated, the further course to be guided by the pathologic lesions found. In most of these cases total hysterectomy will be required. 5. When large collections of pus form and are so situated that they can be readily reached either with a vaginal incision or with one above either of Poupart's ligaments, no time should be lost in resorting to surgical relief. When, however, they are not so favorably situated, judicious delay is advisable, with the hope that ultimately the pus may be evacuated without the risk of soiling the general peritoneum. Such a course not only averts the risks to which the patient would be exposed by a more radical procedure, but affords her an opportunity of being restored to health with the conservation of her sexual organs.

38. **Family Periodic Paralysis.**—A case is reported by Putnam, and his theory of the disorder is given. He is inclined to consider it a functional affection due to abnormal inhibition or hyperexcitability of the nervous system in this direction.

39. **Prevalence of Cancer.**—Massey gives a statistical study in which he supports the view of the increase of cancer as stated by Roswell Park and criticised by Andrews and others. He gives diagrams showing the gradual increase for a number of years in seven American cities, showing a rise from about 35 or 36 to nearly 70 per 100,000 in less than thirty years. Extending these figures, he says, to the 75,000,000 inhabitants of the whole country, and assuming, as he thinks is correct, that there are a larger number of cases in rural than in urban districts, there must have been 49,800 deaths in 1898 from this cause, and at the present moment about 100,000 cases of the disease are within our borders. He calls attention to the general apathy which he thinks exists in regard to the subject, and the little special work that has been done toward the bettering of the condition.

40. **Narcolepsy.**—McCarthy considers this condition as simply a syndrome indicating degeneracy, and reports two cases complicating hysteria. For comparison he also reports cases of epileptoid and toxemic somnolence. He has found nothing in his study of the condition to support the idea that it is a distinct neurosis or disease. In the only autopsy reported, out of the eighteen cases collected by Weir Mitchell, the results were entirely negative. In cases like that reported lately by Skerrit and Stewart where the patient recovered from a fifty days' sleep with signs of cerebral disorder, however, he thinks an examination of the brain, were it possible, would reveal cellular changes. The present paper does not touch on the sleeping sickness of the negroes of Africa, which is due to poison generated by a parasite in the blood.

42.—See below, ¶ 152.

43.—This paper appeared previously, and was abstracted in THE JOURNAL of January 27, ¶ 38, p. 223.

46. **Cervical Flexions.**—In summarizing, Bell says: 1. Cervical flexions do not command the attention which their importance demands, and they are often overlooked as being the cause of dysmenorrhea and sterility. 2. Anteflexion of the uterine corpus is a very rare occurrence, and this, as well as corporal retroflexion, is a mechanical impossibility without prolapse. 3. The first cause leading up to anteflexion lies in, and an elongated conical cervix always means, faulty development. 4. Dysmenorrhea in unmarried and married women, with sterility in those who are married, should raise a suspicion of flexion at the internal os. 5. As doctors, we should advise the correction of flexions in both married and unmarried women, at the earliest possible moment. 6. The method of correcting them, whatever it may be, must be thorough.

52. **Otitis Media in Childhood.**—Barth gives a comprehensive general account of the condition and his method of meeting it. The more remote parts of the ear are not as likely to be involved in early childhood as in adults, and in young children in uncomplicated cases, he has nearly always brought about a rapid cure. The infection, he thinks, usually passes by way of the Eustachian tube. The symptoms differ somewhat in the child from those in the adult. There is less thickening and redness with the bulging of the drum, and the surrounding parts are not usually implicated. Spontaneous rupture of the drum is the exception in childhood. In the main the treatment is adhering to the same principles as in adults. At the first symptoms of retention of pus, puncture should be performed, and the opening kept from closing as long as acute symptoms are present. For this purpose he uses direct applications of chromic acid, removing it with a cotton probe when it has acted sufficiently. He has never seen a case where it has done damage. In view of the fact that the danger of mastoid complications is not great, he thinks we are justified in using air-pressure to force the pus through the Eustachian tube into the pharynx. Inflation from the nasopharynx may also be practiced. The use of gauze tampons is condemned. The general symptoms in children are more marked than in grown people, and sometimes completely mask the ear disease. He therefore advises a daily examination of the ears of all sick infants, from the beginning of their trouble and through convalescence. The possible mastoid complications are noticed at length.

[illegible] than a later one.

54. **Thyroid Treatment in Chronic Deafness.**—The use of thyroid for deafness, which has been recommended by Vulpius, is criticised by [illegible] [illegible] [illegible].

55. **Tinnitus Aurium.**—The conclusions of this rather monographic paper of [illegible] are as follows: 1. Almost all sounds should be designated by their pitch. 2. The pure conduction-sounds arise from the diminished outlet of sound, due to rigidity of the conducting apparatus. Inasmuch as the motility of the latter is required for hearing very low notes, its fixation is an obstacle to the outlet of these notes alone. Pure conduction-sounds are mainly placed between 16 and 256 vibrations. 3. The higher pitched sounds are due to processes in the inner ear. This statement is sustained by their occurrence in normal persons after such influences as are known to injure the inner ear, and also by the effect that therapy has on them. They may be produced by reflex from the external meatus, middle ear, and many different parts of the body; or by changes in the inner ear or the nerve itself. In rare cases, however, low sounds may, perhaps, also originate in the inner ear. 4. Hearing of complex sounds like melodies, etc., is not prima facie proof of a cerebral affection. In respect to treatment, we may formulate the rule not to perform any grave operations on the conducting apparatus when the sounds heard are high pitched, and especially not to attempt the removal of the stapes.

56. **Iodoform in Tuberculosis.**—Ferguson reports a case of pulmonary consumption, with abscess and consolidation of the lungs, relieved surgically and by the introduction of iodoform into the consolidated portion of the lungs. The patient is now apparently in good health, but the tuberculin test, when tried, was nearly fatal, so severe was its reaction.

57.—See The Journal of January 20, ¶ 39, p. 159.

58.—See abstract in The Journal of Dec. 30, 1899, p. 1655.

59.—Ibid.

62. **Brain Tumors.**—From an examination of a number of cases of brain tumors here described, Patrick concludes that the symptomatology is exceptionally variable. All the so-called general symptoms may be absent, also all the focal ones, and it may be impossible to affirm or deny the presence of an intracranial growth. When undoubted signs are present, it may be impossible to localize the tumor. In any case of cerebral disease, whether apparently functional or organic, the history should be minutely studied and every detail elicited, as the only means of avoiding gross errors. The surgery of brain tumors is exceedingly unsatisfactory in every respect, and the results far from brilliant.

63. **Surgical Diseases of Biliary Passages.**—The surgical affections noticed are suppurative cholangitis and gall-stones, chiefly the latter. Davis considers operation required for the latter in the following conditions: 1. Jaundice, long continued, with or without pain, produces so much depression that the patient's welfare is best protected by an operation. 2. Severe attacks of biliary colic with or without jaundice, occurring at regular intervals, call for operation. 3. Mild attacks of colic occurring frequently, or constant tenderness in the region of the gall-bladder, keeping the patient continuously on his guard, should be operated on if the patient's business compels an active life. 4. Whenever infection is present leading to suppuration, a prompt operation is a life-saving procedure. He reports two cases of fatal cholelithiasis, one after operation. It seems to be a rule to have a permanent cure after operation, and he thinks this is evidence of the infectious nature of the disease. In all cases he objects to immediate closure without drainage. The so-called ideal operation is anything but ideal in results.

[illegible] **Treatment of Appendicitis.**—[illegible] objects to the free operation by unskilled men, and would not operate when general septic peritonitis is well under way. He also sees little use in secondary operation for removal of the appendix after [illegible] and dullness of the abscess. He believes there are but few cases of catarrhal appendicitis that do not recur, and that only about 50 per cent. of primary cases are safely curable by medical treatment.

71. **Surgery and Old Age.**—Ward believes that after 60 surgery is borne as well as, or better than, at an earlier age. The patients suffer less from shock, and there are fewer post-surgical complications. He reports three cases supporting his views.

72. **Pathology and Pneumonia.**—Lavender reviews the pathologic factors and conditions of pneumonia, and offers the following summary: "The mechanical interference with the circulation exerted by the consolidated area is not so important in the production of symptoms present in pneumonia as the action of liberated micro-organic toxins during the infective processes; the pathologic factors in such areas are those commonly found in defensive and reparative changes in so-called inflammation. These toxins enter the circulation and, more or less diluted, act on nerve-elements in the centers governing metabolic balance, regulating the body temperature—hence the sudden onset of pyrexia, with its precedent chill—and produce innervation of the heart, disturbing its function and nutrition. In addition such toxins in the blood, circulating in auricles, ventricles, and coronary arteries, exert a local poisonous effect directly on the heart's muscle-elements and their peripheral nerve terminations. When micro-organisms are also present in the circulation the conditions are increased, resulting fatally, with more or less generalized infection."

82. **Abdominal Sections.**—The general observations on 400 abdominal operations, related by Crile, include the consideration of the following points: the value of the blood count in preliminary examinations, the preference for the intramuscular incision, the need of the slightest possible amount of manipulation of the peritoneum and bowels, the use of strychnin to avoid shock, and alcohol when there has been absorption of toxins, and normal salt solution intravenously injected in case of great danger. He is collecting data in regard to the use of normal salt solution for a future paper, and he believes that a more lasting effect is obtained from its injection under the skin and into the rectum than from intravenous injection. From his clinical experience he is inclined to think that in many cases overstimulation is practiced, and judgment must be used in this regard. The best results in his cases were in acute appendicitis, pyosalpinx, renal and hepatic calculi. The least satisfactory were obtained in operations performed for subjective symptoms in the female; he has some failures to report in these. He thinks it impossible to make a definite prognosis in operations for subjective symptoms. As regards mortality, he finds that it decreases as experience widens. In 144 operations for appendicitis, there were 8 deaths—all patients in whom perforation had occurred without walling off. He has not yet lost one where this has occurred, nor has he had any mortality in operations between attacks, nor in attacks before infection has become extra-appendicular. In the removal of large fibroids and large ovarian tumors, he has occasionally lost a patient. In 18 laparotomies for ventral fixations, 55 for operations on the ovaries alone, 27 for operations on the tubes alone, 24 for resection of the ovaries alone, a number performed for subjective symptoms, 57 for operations on both ovaries and tubes, making a total of 181, not a death occurred. Adding to these the 128 appendectomies above mentioned, we have 309 abdominal sections with no mortality. Contrasted with this we have 40 per cent. mortality rate in acute appendicitis with perforation without walling off, or in operations performed for intestinal obstructions and some others.

83. **Croupous Pneumonia in Children.**—West's paper reviews the symptoms, physical signs, diagnosis and treatment of pneumonia in children, and especially the differences between them and adults in this regard. As regards treatment, he thinks we should be cautious and not try to do too much. There is no routine treatment except in abundance of fresh air and no forcing of food. He believes in the use of a bath at 95 to 100 degrees in cases of high temperature with gentle rubbing from three to ten minutes, repeated as needed.

84. **Early Intubation in Laryngeal Diphtheria.**—Lower pleads for early intubation in cases of obstructive laryngeal diphtheria, without waiting for cyanosis. The child is stronger, can bear the operation better if taken before exhaustion

occurs, the time for wearing the tube is lessened, the amount of nourishment is less and there is less chance for the introduction of septic matter into the trachea, and less chance of septic or bronchial pneumonia. Intubation should therefore be resorted to when the breathing first becomes labored, when prolonged expiration, slight stridor, supraclavicular retraction and marked restlessness appear. Of course, antitoxin should be used.

86. **Diabetic Ulcerations of Throat.**—Freudenthal reports cases of throat ulceration associated with diabetes, which he thinks must be rare, as he finds no special mention of such in the literature. He recognizes two different forms, the malignant, which does not yield to treatment, though he does not report microscopic findings as to its nature, and the benign ulcerations, which are manageable. It is not surprising that among the other trophic disorders of diabetes these ulcerations should occur, though he has not seen them reported. In some of his patients they look like tuberculous, and again like syphilitic ulcers, but the histories do not fully bear out such diagnoses. In his benign ones, recovery occurred without evidences of tuberculosis, and such were not found even in the malignant forms.

87. **Tuberculosis of Esophagus.**—Two autopsies are reported by Bartlett, in which extensive lesions of the esophagus, associated with tuberculosis there and in other organs, were found. He notices the comparative paucity of the literature of the subject, and explains the incidence of the disease by swallowing of the sputum, the eating of tuberculous food, extension by continuity of tissue, a possible general miliary involvement, and lymphogenic contagion, which he thinks can not be positively denied, and contiguity of tissue as illustrated by the contents of softened peribronchial lymph nodes breaking into the lumen of the tube. The surgical treatment is mentioned, and he thinks that in one of his cases it might have been practicable. He concludes his paper with a bibliography containing thirty-one titles.

88. **Influence of Atmospheric Changes on Chronic Otitis.**—Observations of fifty-one cases of otitis under different changes of weather lead Oppenheimer to the following conclusions: 1. The hearing in at least 70 per cent. of cases with chronic catarrhal deafness becomes worse under adverse weather conditions. 2. The degree of impairment of audition, as influenced by atmospheric changes, is determined to a great extent by the location and character of the pathologic process in the tympanic cavity. 3. The morbid alterations most susceptible to barometric variations are those of hyperplasia. 4. In purely atmospheric changes in the middle ear, weather variations have little or no effect on the auditory functions. 5. Atmospheric changes also impair the hearing by unfavorably affecting catarrhal processes of the upper respiratory tract and Eustachian tube. 8. All things being equal, the impaired audition in chronic catarrhal otitis is diminished more—under unfavorable weather influences—in those whose general health is below par than in those otherwise healthy.

89. **Dilatation of Heart, Complicating Nasal Obstruction.**—Thompson has found no suggestion, by any medical writer, of the possibility of obstruction of the nasal passages producing dilatation or actual disease of the heart. Some cases which have come under his care have so strongly suggested this that he reports them. He thinks a knowledge of this possibility is of great importance to every practitioner, and the physician can save himself embarrassment and injury to his reputation by careful examination of the chest in such cases.

101.—See ¶ 152 below.

102. **Tight Lacing.**—Hughes considers tight lacing a prime factor in the etiology of many urinary and pelvic disorders. The corset especially is to blame, though the effects of tight lacing may be experienced without this. Among the diseases which [illegible] cancer of the cervix, caused by local irritation of the organ pressed against the floor of the vagina, miscarriages, endometritis, etc. The use of the corset is generally begun at [illegible] the time when the uterine development begins, and its action for evil is so much the greater.

110. **Surgery of the Aged.**—[illegible] reports 6 cases of surgery in people from 71 to 88 years of age in which the operation was severe. In 1 case amputation of the shoulder joint was performed, in another amputation of the foot, 2 others were for hernia, 1 was suprapubic cystotomy, and 1 for removal of fragments of a fractured skull. One important fact appears from these cases: mere lapse of years is not a safe gauge for the estimation of the endurance of severe surgical operations. Each case is a study by itself, but age is a relative term.

116.—See abstract in The Journal of Aug. 19, 1899, p. 481.

117.—Ibid.

118.—This paper appeared in The Journal of January 13.

129. **Removal of Tattoo Marks.**—The method advised by Ohmann-Dumesnil for this purpose is as follows: The tattooed skin is first carefully shaved, if necessary, then thoroughly washed with soap and water. After this a thorough cleansing with alcohol is given, and finally a solution of bichlorid, 1 in 1000, is applied. The skin is anesthetized with a spray of chlorid of ethyl. Then the surface which is tattooed is covered over with glycerole of papoid. Next in order is to take a bunch of needles, previously prepared and rendered aseptic, and containing six to ten very fine cambric needles; tightly wound with silk thread, and dip them in the glycerole. These are then driven with a sharp blow into the tattooed part. This is repeated several times over the entire skin. It goes without saying that this tattooing must be thorough or but an imperfect result will be obtained, on account of the depth at which the pigment is found. And yet the needles must not be driven in too far, but merely far enough to draw the least quantity of blood. After this curative tattooing the glycerole is poured over the area worked on and covered over with gauze. In two or three days this latter is removed and the tattoo mark will only present a very light hazy appearance. In a very short time crusts will appear at the points tattooed with glycerole. These crusts will, in turn, fall off, and the tattooing will be gone. If the least bit remains the same process must be repeated. He has found it necessary, as a general rule, to go over certain parts a second time in order to obtain the best results. A peculiarity in reference to this is that the process does not bring about the swelling or inflammatory reaction observed in tattooing with India ink or other pigments. He explains the action here by the digestive action of the papoid liberating the pigment, and carrying it off through the lymphatics and through the upper layers of the epidermis to the surface.

134. **Living Corpses.**—Schirman's article refers to leprosy in Russia.

136. **Malignant Dysentery.**—This disorder is described by Malsch, as it occurred in two epidemics under his observation. Sixty per cent. of the cases died; treatment was very unsatisfactory. He knew of no recovery after the occurrence of black vomit, and but two after the appearance of the "gunpowder" discharge. Those who recovered rarely progressed beyond the "scraped beef" discharge stage. The second epidemic was less general, he thinks, because of precautions against infection.

137. **Hemorrhagic Malarial Fever.**—This disorder, characterized by hematuria and hematemesis, is, according to Shropshire, confined to the Anglo-Saxon race in Texas, the negro and the Mexican being immune. He is inclined to believe that freed hemoglobin acts as a systemic poison in the disease. His treatment is with large doses of quinin, beginning with not exceeding 15 grains hypodermically, as early as possible during the subsidence of one paroxysm and the appearance of the next. As a rule he gives half of the quinin he expects to give before the next paroxysm, during the latter part of the fever then on, and divides the balance into equal doses and gives them about every four hours, being sure to keep the patient well cinchonized till the next paroxysm is [illegible] due, then lessening the dose gradually. The other treatment is attention to the excretions and supporting the vital powers. He claims the best results from this treatment. In twenty cases he has had three deaths and has never seen a patient die who was thoroughly cinchonized within twelve hours of the first hemorrhagic paroxysms; the deaths occurred three to seven days after the first paroxysm, from uremia in two, each having total suppression of urine after the third day, and dying on the sixth and seventh, the third dying apparently from the [illegible] of the poison on the nervous system the third day. He never saw a second hemorrhagic paroxysm in a patient who

was unchanged during the first. He once saw a recurrence where [illegible] through the stomach had failed.

144.—See abstract in The Journal of Nov. [illegible], 1899, p. 1352.

146. **Application of Roentgen Rays to Surgery.**—In this address delivered before the Roentgen Society, [illegible] notices first the deleterious effects following skiagraphy, which he finds are due not to the X-rays but to the other rays, which are quite different. He thinks, however, that we have not studied these waves but endeavored to avoid them, and they may yet be considered as important as the others. He suggests the possibility of meeting disease by their use and thinks the day may yet come when their existence will be considered of scarcely less importance than the discovery of the Roentgen rays themselves. The improvement in methods in the use of X-rays is noticed, and he shows how we are able to diagnose conditions which a short time ago were absolutely unknowable within the body, such as aneurysms, lung cavities, etc. He thinks that probably at some not very distant day, the examination of the patient's chest with the fluoroscope will be considered as much a matter of routine as that with the stethoscope is at the present day. The well-known diagnostic value of this agency in gunshot wounds and diseases of the bones is mentioned and illustrated and he believes that its future is even greater with promise than its past.

148.—This paper has appeared elsewhere as an original article: see The Journal of February 17, title 121, p. 415.

152.—This paper, here printed as an original, has previously appeared elsewhere. See The Journal of January 27, title 40, p. 221, also titles 42 and 101, this issue. An abstract appeared in The Journal of Dec. 23, 1899, p. 1615.

154.—This paper is also printed in another journal: see title 159, this issue.

159.—See 154.

FOREIGN.

British Medical Journal, February 3.

Dilatation of the Stomach Considered From the Surgical Aspect. William H. Bennett.—The causes and varieties of stomach dilatation are noticed in their surgical aspects by Bennett, who reports cases. He discredits the existence of idiopathic dilatation, excepting in certain cases of ptomain poisoning or digestive troubles. He thinks that such cases can be accounted for largely by a condition of the pylorus productive of obstruction that is not appreciable by manipulation of the exterior, and the other fact should be noted, that an induration may exist there, obvious by manipulation during life, but disappearing entirely after death, a sort of spasm of the pyloric sphincter. For practical purposes, he says there are two forms of gastric dilatation, the persistent and intermittent. The cause of the former will be found either in permanent pyloric obstruction or some condition existing outside interfering with the stomach's power of contraction. Sometimes, in this latter case, the cause is so remote as to be in danger of escaping attention altogether, and he narrates a case where the removal of a very minute umbilical hernia caused complete relief. Intermittent dilatation is more commonly due to an abnormal condition outside the viscus, but not implicating it. It may, however, be due to ulceration involving the stomach, and he narrates and illustrates a case where a warty pediculated growth near the pyloric orifice acted as a valve, thus causing the symptoms. The commonest cause, however, is probably movable kidney, but any floating abdominal tumor may be the causal factor. As regards diagnosis, he suggests examination for such conditions, but he has seen a suppurative ovarian dermoid and appendicitis also cause intermittent dilatation. There is a symptom which he warns against accepting as conclusive: that is the splash felt on succussion, which is also manifest in some cases of distension of the colon. He thinks it is well to remove the liquid contents of the stomach by siphonage when this appears, so as to eliminate the stomach sound. He thinks there is hardly anything leading to so many errors of diagnosis as the implicit faith placed by practitioners in this splash symptom, or the absence of liver dulness, as indicative of gastric ulcer and the tenderness over McBurney's point as indicating appendicitis. He illustrates the failure of these symptoms by cases which he reports. He alludes to the instruments and methods of Einhorn and Turck, but thinks they are still on trial and must be accepted with reserve. The treatment in cases where the symptoms amount to simply discomfort can be reasonably confined to rational medical measures in many cases, though a cure may not always be obtained. In painful cases, however, he would use surgery and not delay too long. Failing to find any abdominal condition like those mentioned above, movable kidney, etc., the cause may be assumed to be in the stomach itself and the only surgical measure is exploratory laparotomy. The conditions found generally have their obvious indications. The viscus should be opened on the cardiac side of the pylorus in order that the condition of the sphincter may be examined, and if the contraction is found, it should be forcibly stretched until it will allow two or three fingers to lie loosely in it. He believes this measure is curative in the true sense, but it should not be adopted as a last resource. It should be done before the stomach walls have undergone degenerative changes, rendering their restoration impossible.

Renal Papillectomy: Contribution to the Study of Painless Unilateral Renal Hematuria in the Young Adult. F. Hurry Fenwick. The cases of persistent painless hemorrhage from the kidney, unconnected with specific cause, sometimes met with, have been described as renal hemophilia, hematuria from a healthy kidney, etc., and the bleeding has been ranked as due to an angioneurosis. Fenwick has been studying these cases for a number of years, and now submits his belief that in some of them at least the bleeding emanates from one of the renal papillæ and its mucosa. There is an engorgement of the papillary part of the Malpighian pyramid and its papilla is covered with a plexiform mesh of dilated vessels. He thinks this is due to localized interstitial nephritis that impedes the circulation and prevents drainage of the plexus. The site of the disease is apparent on opening the renal pelvis, a vivid red papilla stands out in contrast to the paler ones around it. The removal of this vascular papilla with a sharp scoop is sufficient to arrest a renal bleeding which no drug can control. Two cases are reported in which this treatment was adopted with perfect success, and he thinks they point to the importance of examining the pelvis with a strong light in these cases. They also show the extremely small source of an uncontrollable hemorrhage and the ease with which it can be removed.

Suture of Fractured Patella by an Improved Method. G. Glasgow Patteson.—The author reports a case of fractured patella treated by a single suture of D-shaped, No. 16 gauge, soft silver wire, with perfect success. Among the important points of the operation he emphasizes the following: 1. The advisability of delaying operation for a few days after the injury, until the subsidence of the more acute symptoms in the joints. 2. The thorough cleansing out of the joint; all the recesses of the synovial membrane being completely freed from clots, and the broken surfaces of the bone thoroughly cleaned. This can only be secured by the open operation. 3. The use of an easily sterilizable suture, strong enough to secure apposition by a single drilling, and so shaped as to render splitting of the bone an impossibility, and to prevent it fastening in the formation of a large and irritating loop. 4. The elevation, and not the resection, of the fibrous curtain, and its subsequent accurate suturing over the imbedded wire, forming an additional barrier underneath the skin flap against infection or irritation. 5. The early commencement of passive movement, which is thus rendered feasible, and undoubtedly greatly shortens the period of disability following the fracture—a point of paramount importance to the class of persons most subject to the injury.

The Lancet, February 3.

Day-Terrors (Pavor Diurnus) in Children. George F. Still.—The diurnal analogue of the well-known night terorrs of children is described by Still, who reports several cases and discusses their cause and nature. In his three patients there was a family history of rheumatism, which he thinks is more than a mere accident. He is inclined to believe that they are identical with the night terrors, and, while not to be regarded as masked epilepsy, they are similar to it, being a paroxysmal neurosis, and fall into the same group of disturbances as migraine and petit mal. The immediate prognosis seems to be good, and the most important part of the treatment is removal of the exciting cause. Any intestinal catarrh or other irritation by parasites must be looked after, and it may be desirable to use sedatives. The good effect of bromids is almost immediate, and if combined with belladonna they produce a very rapid diminution in the number and intensity of the attacks. He says in conclusion: "If night terrors are, as Dr. Goodhart puts it, the 'slacken speed' to the engine driver, then *a fortiori* I think the day terrors must be regarded as an indication for the utmost caution in the matter both of school and of play. A child who has had day-terrors is not a child to be goaded up to the inspector's standard nor is it to be made the show-child of a kindergarten. In school and in play the child must be kept as far as possible from all excitement and mental strain. The cruelty and baneful effects of frightening such children, whether in punishment or in jest, hardly need to be mentioned here.

Some Reflections on Appendicitis. J. O'CONOR.—The author pleads for surgical interference in appendicitis. His experience with seventy-two consecutive cases has led him to attribute little value to ante-operative classifications, and he is skeptical as to the expectant cures. A condition that deserves mention is the influence of an abnormally short meso-appendix on the movement and shape of the appendix. He thinks it frequently binds down the parts so that when the cecum becomes distended a kind of tent-rope action is produced, causing awkward symptoms. It is especially dangerous when appendicitis occurs. He remarks on the difficulty of prognosis in some cases and he operates as soon as possible after recognizing the condition. In all cases he believes in removing the appendix. Search for it has sometimes revealed to him conditions that needed attention at once, and its being left has also led to serious consequences.

Medical Press and Circular (London), January 31.

Co-Relation of Sexual Function with Insanity and Crime. H. MACNAUGHTON-JONES.—This article, which has been continued through two numbers of this journal, ends with the following conclusions: 1. The co-relation of insanity and disordered sexual functions arising out of affections of the generative organs is a factor to be taken into serious consideration in the treatment of women mentally afflicted. 2. Where there is ground for the suspicion that some physical condition of the uterus or adnexa exists, which may produce or aggravate the mental affection, a careful examination, under an anesthetic if necessary, should be made. 3. In the investigation of criminal acts committed by women, either during the menopause or while the menstrual function is either active or suppressed, due weight should be given to the influence exerted by its irregularity or abeyance on her mind. In doing this, her previous history and temperament have to be considered. 4. The special dangers of the climacteric period and the symptoms indicative of threatening climacteric mania must be recollected. The principal of these are moroseness and depression of spirits, attacks of hysteria, occasional hallucinations of sight and hearing—especially of smell—suspicions with regard to relations, unjust dislikes, unfounded apprehensions of some great crime committed or injury inflicted on them, suicidal tendencies. Here again examination of the pelvic viscera is justifiable. 5. In operations on the female generative organs there is a greater predisposition to mental disturbance than after other operative procedures, but the post-operative insanity is generally of a temporary nature. 6. Women who have been previously insane are predisposed to a relapse by the development of the disease in their sexual organs, and especially to such temporary recurrence of insanity after operation on these organs. 7. In order to anticipate suicidal impulse, and the commission of crime, the disordered mental symptoms exhibited at the menstrual epochs and at the climacteric should be carefully noted, and if the discharge or the cessation of the sexual function be attended by the evidence of disease in the sexual organs, an examination of these should be made when, if gross lesions be detected, we should resort to operation.

Annales de Dermatologie (Paris), December, 1899.

Rapidly Successful Treatment of Ulcus Cruris with Products of the Bacillus Pyocyaneus. I. BUKOVSKY.—After numerous tests with the products of various bacilli in the therapeutics of local affections at the Prague clinic, it was found that the plasmin from the bacillus pyocyaneus had a remarkably beneficial effect on chronic ulcers of the leg, without regard to extent or complications or their flora, and the cure was complete in much less time than with other methods of treatment. The plasmin or protein derived from a forty to fifty-day-old culture of the pyocyaneus—Buchner's method—is diluted with the solution of potassium and hydrochloric acid. As it also contains the products of the bacillus, Bukovsky calls it simply "toxin." The patient in bed, the limb slightly raised, a compress impregnated with the "toxin" is applied and renewed two or three times a day. It causes no subjective symptoms; has no effect on the general health and does not affect the surrounding tissues, nor injure the cellular elements of the granulations. The secretions are usually dried up by the end of the first day. Its detergent action on the ulcer is very prompt except in cases of eczema, varices, cicatrices or elephantiasis, when it takes a little longer. It promotes epidermization and cures the ulcer by the formation of a solid cicatrix more rapidly formed than with any other method of treatment. All but 28 of the 100 cases treated—and all cured—were recurrences: 15 dated from over six months; 12 from one and two years and 10 over two years. The cure was complete in 68 cases, in less than a month: ten in 5; twenty days in 26 and thirty days in 37. The toxin checks the development of the bacillus pyocyaneus *in vitro*, and agglutinates the blood-corpuscles in the bodies of animals.

Bulletin de la Soc. de Pharmacie de Bordeaux, December, 1899.

Improved Method of Serodiagnosis. J. H. GUILLEMIN.—The blood is obtained with a prick from a large needle instead of the lancet. To the single drop thus secured nine drops of peptonized bouillon are added and 2, 3, 4, or 5 drops of the Eberth culture, obtaining thus a 1/20, 1/30 dilution, etc. Three drops of this mixture are then spread on a slide and set aside for two hours, to allow agglutination: Dry slowly on hot plate; treat with alcohol-ether, and dry again. Treat with 2 drops of 10 per cent. acetic acid for one or two seconds to destroy the corpuscles. Rinse lightly in distilled water. Stain with the Ziehl, rinse again and dry. Mount in balsam. The modification proposed does not take five minutes longer than the usual methods, but the stained bacilli are much more distinct and the absence of red corpuscles is also a great advantage. The agglutinating power can be gauged with precision, and the mounted preparation can be kept for comparison and reference.

Bulletin Medicale (Paris), January 10, 13 and 20.

Rare Form of Cocain Intoxication. VIBERT.—A tampon moistened with a solution of cocain was placed by a dentist in a right upper molar, in a young man of 20. In about twenty-nine hours the right hand became paralyzed, and aphasia developed, with a few hallucinations. The lower members were not affected. The aphasia subsided in three days and the hemiplegia in eight, but the hand was stiff for a month.

Therapeutic Feticide. PINARD.—"Sacrificing the child to save the mother is a legend that should disappear forever" since conservative Cesarian operation has become so successful. The latest statistics show a mortality of only 6.41 per cent. in the mothers and 5.59 in the children. Pinard reports 88 recoveries in 100 symphyseotomies. If the mother obstinately refuses an operation, "silence her with chloroform. No one has the right of life and death over a viable fetus, neither father, nor mother, nor physician, not even the superintendent of the hospital."

Journal des Sciences Medicales de Lilles, January 27.

Benefits of Puncture of Spleen. H. DESPLATS.—Two observations are described; in each the spleen was punctured by mistake, in an attempt to make an abdominal paracentesis to relieve extreme dyspnea and dropsy, one an enormously obese man, a hard drinker. The spleen in both cases was very much hypertrophied. The relief in each was immediate and both patients recovered and are in fair health to-day: 1200 c.c. of pure blood was thus taken from the man. Desplats concludes that the spleen can be punctured without inconvenience, and that it is a means of prompt relief in case of extreme venous stasis with intense dyspnea and dilatation of the right heart.

Unrecognized Lead Poisoning. H. DESPLATS.—Seven puzzling cases of lead poisoning have convinced Desplats that it is more frequent than usually accepted, and must often escape recognition. A lad of 12 years, with violent colic and constipation, no other symptoms, was under observation a long time, and was finally suspected of simulation or hysteria, until his father came under treatment for the same troubles, when it was ascertained that they had been burning as kindling wood taken from a white-lead factory in course of demolition. Another poisoning case, a young woman, was traced to the sheet lead wrapping of her snuff. The only clue that led to the discovery of the lead poison in this case was the bilateral paralysis of the extensors of the forearm. In another case the symptoms were typical, but it was impossible to discover the source of the intoxication.

Presse Medicale (Paris), January 13, 20 and 27.

Administration of Medicines, and Alimentation Through the Nose. SALOMON.—When other methods become difficult, insufficient or dangerous for any reason, Salomon states that the nasal route will be found easy and effective, and in an experience of twenty years he has never had an accident with it. The patient in the decubitus dorsal, the head thrown back and kept immovable by an assistant, if restless, or merely by the hand of the operator, one nostril is plugged with cotton and the fluid is held in a spoon near the other. At the commencement of an inspiration the spoon is tilted and the contents, gently aspirated, run down behind the glottis without entering it, the passage over the pharynx wall inducing a swallowing movement which sends it down into the stomach. In the apoplectic ictus of paralysis, in an attack of hysteria or eclampsia, for insane, rebellious patients, and for children, this method will be found of invaluable assistance. If necessary the pituitary mucosa can be painted beforehand with a 20 per 1000 solution of cocain. There is no suffocation, no cough; even broths can be administered without trouble. If food is to be given in this way, a concentrated form is preferable, as it is a slow process: a yolk of egg in milk or something of the kind.

Acute Pott's Paralysis Without Alteration of the Spinal Cord. VERGER.—A robust man of 56 years of age noticed erratic pains in the sciatic and lumbar-abdominal regions for eight months, with no deformity nor sensibility to pressure anywhere. Acute paraplegia then developed, with retention of urine and feces and complete anesthesia of the lower members. A sacral eschar formed rapidly, and death ensued in fifteen days after appearance of paraplegia. The spinal cord was intact, but the seventh, eighth and ninth dorsal vertebræ were found the seat of extensive tuberculous lesions, with sheet pachymeningitis. The absence of severe symptoms with such serious lesions was remarkable, and the integrity of the spinal cord shows that the paraplegia must have been due to compression of the roots of the nerves.

Revue de Chirurgie (Paris), January 10.

Endotheliomata of the Bones. P. BERGER.—The study of these tumors is scarcely outlined as yet, Berger observes, and it is impossible to classify them at present in a group distinct from other varieties of osteosarcoma. We know that they are among the most malignant; the evolution is usually very rapid; ablation even by amputation is frequently followed by recurrence and generalization, although not inevitably. Lücke has reported a case cured by amputation, and Koenig another in which secondary tumors in the knee spontaneously retrogressed after amputation of the foot. Each observation on record varies histologically from the rest, but the alveolar form and the tubular form seem to predominate, and the cellular elements seem to be connective tissue cells rather than epithelial. The tumor is soft, extremely vascular, and frequently contains hemorrhagic foci or clots, mixed with débris of pathologic tissue. Pulsation has been frequently noted in them, and is about the only sign that distinguishes them from other osteosarcoma. Spontaneous fracture of the bones usually occurs. An observation is related with details: a pulsatile sarcoma of the humerus with spontaneous fracture, treated by disarticulation of the shoulder. Rapid reappearance of multiple pulsatile tumors showing a generalized sarcomatosis of the skeleton. The therapeutic conclusion of this critical review of the few similar cases on record is that we must spare no pains in locating the other localizations of the neoplasm in case of a sarcomatous tumor, and especially a pulsatile tumor of the bones. We must be on our guard against the speedy or possibly original generalizations of the evil, the effect of the same causes, acting at various points at once, which nullify the results of amputation. If amputation is determined on, it must be as extensive as possible, and in case of the humerus, inter-scapulo-thoracic.

Restriction of General Anesthesia for Major Operations. Non-Sensibility of the Deeper Tissues. O. BLOCH. This important communication announces that except the skin and nerves, none of the tissues feel pain, with few exceptions. The peritoneum, for instance, can be cut, pinched, etc., without the subject's knowing that it is more than touched. Once past the skin and nerve terminals, the subject experiences no pain to speak of, no matter how much bones and tissues are incised and resected, if the nerves are avoided, which is easily accomplished and the tissues are not dragged on to pull the nerves in them. They are like the hair, which can be cut and pinched without pain, but hurts as soon as it is pulled. Acute inflammation enhances the sensibility of the tissues and chronic deadens it. This being the case, Bloch states that as major operations are largely in sound tissue, and as we can render the skin and nerve terminals absolutely insensible with the local application of ethyl chlorid, and avoid the nerves in the deeper tissues, major operations can be performed with the aid of ethyl chlorid alone, without causing the subject appreciable pain. But as the "psychic pain" is a most important factor, this should be prevented by the administration of a very small amount of chloroform preceding the operation. Even with chloroform alone, he adds, it is almost incredible what small amounts will suffice for the most serious operations. He tells his patients to go to sleep and not to mind being handled, but notify him if they experience pain. In 252 important operations with chloroform alone, 146 took less than 6 c.c.; including 77 with less than 3 c.c. The rest inhaled less than 15, and only one required over 30 c.c. In four cases of amputation of the hip or other member, less than 6 c.c. were required. In 393 operations he used the combination of ethyl chlorid and 8 to 9 c.c. of chloroform, and reports 503 operations performed with ethyl chlorid alone, chiefly herniotomies, tracheotomies and enterostomies. Full details of the operations—all serious—are tabulated.

Accidents of Epileptic Seizures Connected with Muscular Contractions. C. FÉRÉ.—Among the accidents that have been recorded from the excessive contraction of the muscles in epilepsy are rupture of the heart, liver and diaphragm, asphyxia from contraction of the muscles of the neck, and from the swelling of the tongue after it had been bitten, which has been observed in a case of eclampsia. Fractures of the bones are less frequent than might be anticipated, and also abdominal hernia. Most of these accidents are favored by some predisposing condition, but hernia of the muscles seems to occur without any predisposing cause except the general defective build of degenerates. In an observation related, hernia of the tibialis anticus occurred through a pre-existing button-hole in the aponeurosis, and a similar button-hole was noticed on the other leg. This muscular hernia on the leg was noted in 31 out of 204 insane patients examined, bilateral in some and with five of these protuberances, the size of a nut, on one leg, in one.

Revue de Medecine (Paris), Dec. 10, 1899.

Relations Between Malaria and Epilepsy. M. DE MONTYEL.—There has been a tradition that intercurrent malarial infection affected epilepsy favorably, but fourteen observations in de Montyel's experience demonstrate the direct opposite, that it arouses latent epilepsy, aggravates it if already established, and may even produce epilepsy in the predisposed.

Tolerance for Bromids in Elderly Epileptics. C. Féré.—The aim of this article is to urge a more general use of bromids in the epilepsy of elderly persons, whose tolerance for large doses is much greater than generally appreciated. To begin with, Féré states that bromic intoxication is not dangerous under the physician's eye in the absence of special organic lesions unless it escape surveillance. The balance between ingestion and elimination is generally established by the second to fourth week. In one observation an elderly epileptic took 37 grams of potassium bromid a day and eliminated 33.80 in the urine. Individual tolerance should be determined by progressively increasing the dose at monthly intervals, commencing with 3 to 4 grams. Intolerance is more to be feared in case of arteriosclerosis. No epileptic with renal insufficiency, young or old, will derive any benefit from bromid, as it is impossible to give an effectual dose in such cases. Ten observations are described. In one case suspension was followed by recurrence of the attacks, and the old dose no longer proved effective and had to be increased. Antisepsis of intestines and skin favors tolerance—also, Bovet has recently stated, association with nucleins. It is easier to control the bromid if no other drug is taken at the same time.

Revue Hebd. de Laryngologie (Bordeaux), January 27.

Adenoid Reflexes: Hiccough, Photophobia. THOMAS.—A boy of 6 years became subject to recurring attacks of hiccough and vomiting, attributed to every cause but the right one, which proved to be adenoid vegetations. As soon as the growths were removed the child returned to normal physical and intellectual development after three years of suffering. In another observation a lad of 15 was suddenly affected with photophobia resisting all local treatment. A spur was found on the nasal septum, and adenoid vegetations. The nervous phenomena disappeared completely after their ablation. Still another peculiar observation related is of a woman, 30 years of age, frequently affected with a tickling in the throat, slight cough and finally paroxysms of coughing and vomiting, brought on by the slightest causes, fatigue of any kind, diet, even washing the ear. All these troubles vanished after discovery and removal of a spur on the nasal septum and a hypertrophied tonsil.

Menstrual Hemorrhage from the Ear. P. BOURLON.—The writer has collected twenty-three observations. The hearing was never affected by the hemorrhage, which seems to proceed from a paralysis of the small vessels, of central origin, due to hysteria. The age of the subjects varied from 10 to 45 years; in some the hemorrhage was bilateral. It does not recur with any regularity, and is usually preceded by heaviness, pain in the head, vertigo and noises in the ear. The duration is from twenty-four hours to six days and over. The three indications to be followed are to abstain from even the slightest intervention on the ear, restore the normal menstrual flow if it has been checked and the general balance of the nervous system. In most cases the hemorrhage from the ear ceases as the vaginal flux is re-established, but it may persist with or replace it.

Berliner Klinische Wochenschrift, January 22.

Development of Ophthalmology in the Nineteenth Century. J. HIRSCHBERG.—Among the problems yet to be solved Hirschberg calls attention to the etiology of glaucoma, of trachoma and of sympathic ophthalmia; also the rôle of the schyzomycetes in inflammation of the conjunctiva and cornea. Much remains to be done, he adds, in introducing Credé treatment of neonatorum among the more ignorant classes which have a morbid preference for charlatan methods. He suggests that possibly an international trachoma congress might help solve some of these problems.

Toxic Action of Normal Urine. C. POSNER.—The toxicity claimed for normal urine, Posner establishes, is due to errors in research. If the urine is made isotonic with the blood, there is no toxicity. It is evidently due to the difference in molecular concentration between the two fluids. The research reported in this communication emphasizes the importance of osmotic relations in all injections and infusions.

Pneumatic Therapy: Compressed-Air Cabinet. J. LAZARUS.—The experience of twenty-five years enables Lazarus to define the indications for treatment with compressd-air as pleuritis, chronic infiltrations and shrivelling of the lungs; chronic bronchial catarrh, asthmal catarrh with consecutive disturbances in circulation without any special heart disease, chlorosis and anemia. It is counterindicated in all acute and febrile affections, in case of rigidity of the thorax from ossification of cartilage insertions, and great caution is necessary in applying it to persons with arteriosclerosis.

Centralblatt f. Chirurgie (Leipsic), January 27.

Strophanthus As Prophylaxis for Chloroform Narcosis. [illegible].—The author has frequently observed that small doses of strophanthus relieve the feeling of distress, palpitation of the heart and acceleration of the pulse which occur in otherwise healthy persons on occasions of great excitement, actors making their début, students at examinations, etc., frequently attended with a paralyzing weakness, vertigo, tendency to faint, etc. The subjects who had previously taken bromid at such times with no effect, declare that the strophanthus completely restores their physical composure and that they experience none of the symptoms mentioned. He has consequently been applying it with the most favorable results in preparing patients for important operations. The psychic disturbance at times is so great on the eve of an operation that the patients can neither eat nor sleep and even a tendency to suicide has been observed. This condition of excitement is a poor preparation for chloroform narcosis and deserves more attention than an old, compensated heart insufficiency. The physical manifestations can be obviated and tranquillity restored by 5 or 6 drops of tinctura strophanthi immediately after the last meal, the two evenings preceding the operation, and on the morning of the same day.

Muenchener Medicinische Wochenschrift, January 16 and 23.

Butter in Chronic Constipation of Children. H. DOERFLER.—Chronic constipation in otherwise healthy children is not a disease but an obstruction of the intestines from too much food, Doerfler asserts, in most cases. This condition can be simply and effectively terminated by giving the child fresh butter, a half to a teaspoonful during the first two or three months of life until normal defecation is restored and then this dose every second day. Between the third and fourth month give two or three teaspoonfuls a day, until relieved, and then every second or third day. From five months to a year one to three tablespoonfuls every two or three days; over this age, give as needed. The butter must be given unchanged; not warmed nor mixed with any substance, as this alters its composition. In an experience of six years every child has taken the butter with relish without exception. It increases the nourishing elements of the food in small compass, and is the nearest approach to milk; a part is readily assimilated and the rest is eliminated, stimulating peristalsis as it passes through the intestines. Pale, pasty children become red-cheeked and hearty, and the benefits of this butter treatment are evident up to the fifth and sixth year.

Local Disposition. Cold and Hardening. G. KISSKALT.—This communication, from the Institute of Hygiene at Würzburg, presents facts to support the theory that arterial hyperemia increases the disposition to disease. We now positively know that the opposite condition—Bier's venous stagnation—has the opposite effect. The action of cold, by causing constriction of the cutaneous vessels and hence inducing arterial hyperemia of the internal organs and especially of the mucous membrane of the respiratory passages, is one means of producing this increased disposition to infection. Hardening the body by daily application of cold water causes the vessels of the skin to react less promptly to every cold stimulus, so that the predisposition to disease on the basis of arterial hyperemia occurs less readily.

Suture of the Heart, a Classic Operation. E. ROTTER.—In order to bring this operation within the reach of all practitioners, Rotter has been studying and testing operations on the cadaver and on dogs, to find a simple, easy method of opening up the heart extensively and rapidly, adapted to all kinds of injuries of the heart and practicable without much assistance. He now announces that he has succeeded in combining all these desiderata in a square barn-door flap, the incisions running from 1.5 cm. from the left margin of the sternum along the edge of the third and fifth rib for 10 cm., the two incisions connected by a third, nearly vertical, just inside the nipple. The incisions are carried through the entire thoracic wall and open the pleural sac. The ribs are sawn along the vertical incision and the square flap thus formed is turned back on the sternum by dislocating the ribs in the insertions. The opening is about 12 cm. diagonally across. The ends of the fourth and fifth intercostal arteries are all that have to be ligated. The lung is pushed back out of the way, and the pericardium is incised along the diagonal from the upper inner to the lower outer corner. The heart is thus fully exposed and in the most satisfactory manner; it can even be lifted out for examination and suture, and the disadvantage that the pleura has to be opened is trifling compared to the many advantages of this flap and the fact that the injury to the heart scarcely ever fails to involve the pleura also.

Therapie der Gegenwart (Berlin), January.

Treatment of Cancerous Stricture of Esophagus with Permanent Sound. [illegible] sides go straight until at the very top, where they flare. It is held by a single string fastened to the ear. The growth of the tumors does not seem to be accelerated by the irritation of this foreign body, but rather checked. The sound is made of silver or hard rubber, and is inserted with an elastic sound passed through it, with a ball fitting into the flare.

Zeitschrift f. Klinische Medicin (Berlin), 1899, 4 to 6.

Urotropin. A. Nicolaier.—Eighteen observations are described at length and the literature reviewed, with the conclusions that urotropin is not only successful in affections of the urinary passages of the most various kinds and etiology, but is also effective in the treatment of the uric acid diathesis and occasionally in phosphaturia. It only fails in purely tuberculous affections of the urinary passages. The dose is 0.5 gm. twice to four times a day.

Tendon-Muscle Transplantation for Functional Cure of Old Peripheral Nerve Paralysis. W. Mueller.—A young man receiving 75 per cent. indemnity accident insurance for traumatic radialis paralysis, had the function of the forearm restored by transplantation of the tendon of the musc. flexor carpi ulnaris on the dorsum of the hand, 2½ years after the traumatism. All of the extensor tendons of the fingers were cut and sutured to the tendon of the flexor ulnaris, the hand in extension. No improvement was perceptible for three months, when conditions gradually improved until in ten months the hand, thumb and fingers could be voluntarily stretched, the hand raised, and easy work, such as gardening, could be done. The hand deviated toward the ulnar side at each extension and this was remedied later by freshening the tendon of the flexor carp. rad. longus., and fastening it to the tendon of the abductor poll. longus and the extensor carp. rad. longus, with the hand in radial extension. The results are now completely satisfactory: the patient can bring separate portions of the muscle to act separately on the thumb, index and hand as needed, and the hand subjectively "feels all right."

St. Petersburger Medicinische Wochenschrift, January 6.

Case of Blindness for All But Blue Objects. K. Noisewski.—A woman 42 years old, married, healthy, a well treated syphilis twenty years before, came to the clinic with vision 0 on both sides, from white atrophy of both optic nerves, but retention of reaction of pupils to light, accommodation and convergence. She could not tell night from day, nor perceive whether a lamp near by was burning or not, and yet she could distinguish, without trouble, even the smallest blue objects at a distance of 1½ meters, a blue flower, or small blue bottle, a ribbon, etc. This unique case can only be explained with the assumption that perception of the different colors occurs in the different layers of the retina, possibly violet and blue in the inner and red in the outer layers.

El Siglo Medico (Madrid), January 14.

Infant Mortality in Spain. Dr. Gimeno, a medical member of the Spanish legislature, stated in a recent address that 40 per cent. of all children born in Spain die under 5 years of age. In Saragossa 75 per cent. die under 15. In Madrid the mortality has been reduced to 29 per cent.

Annales de L'Institute Pasteur (Paris), Dec. 25, 1899.

Study of the Plague at Oporto. A. Calmette.—This official report recommends, among other measures for the extermination of rats and mice, which it urgently preaches, the use of the Danysz virus to inoculate the rodents with an infectious disease that does not affect other animals. This has proved very effective in some cases, especially against mice. Suspected cargoes of grain should be shovelled out by hand or put through a coarse sieve, under close supervision, to detect carcasses of rats.

Bacteriology of Ozena. F. Perez.—The writer has succeeded in isolating a hitherto undescribed cocco-bacillus from cases of fetid ozena, which is pathogenic for small animals, and inoculated in the ear of rabbits produces an intense nasal secretion, sometimes hemorrhagic, the principal and almost the only lesion being on the pituitary mucosa, and invariably resulting in atrophy of the turbinate bones as in genuine ozena. The "cocco-bacillus fetidus ozenæ," as he proposes to call it, is a facultative aërobic and anaërobic, non-motile one, takes stains readily, is not decolored by the Gram method, does not liquefy gelatin nor ferment lactose, but its most characteristic feature is the strong fetid odor, most prominent in peptonized bouillon and gelose cultures. He isolated it seven times in eleven cases of fetid ozena and once in eleven non-fetid cases. In this latter case the bacillus cultures were not fetid. His research included fifty-four cases of nasal affection and nine normal subjects.

Societies.

COMING MEETINGS.

American Medical Association, Atlantic City, N. J., June 5-8.

Medical Society of the Missouri Valley, Hamburg, Iowa, March 15.

Medical Association of the District of Columbia, Washington, April 5.

Western Ophthalmological, Otological, Laryngological, and Rhinological Association, St. Louis, April 7-9.

Tennessee State Medical Society, Knoxville, April 10.

Florida State Medical Society, Orlando, April 11.

Mississippi State Medical Association, Meridian, April 11-13.

Medical Society of California, San Francisco, April 14-16.

Medical Association of Alabama, Montgomery, April 17.

South Carolina Medical Association, Charleston, April 18.

Medical Association of Georgia, Atlanta, April 18.

Louisiana State Medical Association, New Orleans, April 19-21.

Medical and Chirurgical Faculty of Maryland, Baltimore, April 24.

Texas State Medical Association, Waco, April 24.

Paris Surgical Society.—This is an exclusive organization, its numbers limited and only surgeons connected with hospitals are eligible to membership. Its members have recently contributed funds to erect a special building for its meetings, which was completed and dedicated last month, 12, rue de Seine, a model of convenience for the purpose, and the envy of all the other societies.

Congress of History of Science.—Among the 122 congresses officially organized in Paris this year, we note, besides those already mentioned, an international congress of the history of the sciences, to be held July 23 to 28: Secretary, Dr. Sicard de Plauzoles, 10, boulevard Raspail. One of the subjects to be discussed is: "What medical discoveries explain the prodigies of antiquity?"

International Congress of Medical Electrology and Radiology.—At the request of the French Society of Electrotherapy and Radiology, the International Congress of Medical Electrology and Radiology is connected to the International Congress of 1900. A commission composed of: Professor Weiss, University of Paris, president; Apostoli and Oudin, vice-presidents; Professor Doumer, University of Lille, general secretary; Moutier, secretary; Boisseau du Rocher, treasurer, and of Professor Bergonié, University of Bordeaux; Professors Bouchacourt and Branly, Catholic Institute of Paris; Larat, Radiguet, Villemin, surgeons of the hospitals of Paris; has been asked to assure its organization. This congress will meet in Paris, July 27 to Aug. 1, 1900. For further information, address Prof. E. Doumer, general secretary, 57 Rue Nicolas-Leblanc, Lille.

Congress of Professional Medicine and Medical Ethics.—The aim of this congress, as already announced, is to establish on a broad, practical, international basis, matters affecting the profession in purse and dignity, and to approach a solution of the problems of club and lodge practice, hospital abuse, etc. The subscription is 15 francs, or $3, for participating members, and $2 for non-participating. This subscription entitles members to a copy of the proceedings, which will well repay even those who are unable to attend the Congress, besides the satisfaction of contributing moral and material support to the organizers of this novel attempt to promote the organization and solidarity of the profession on such broad lines. The addresses are to be by men who have had wide experience in successfully combating the commercial spirit of the day, and many are now connected with active and prosperous organizations engaged in solving economic problems affecting the profession individually and collectively. The date is July 23 to 28, immediately preceding the International Congress of Medicine. Members are entitled to a reduction of 50 per cent. on French railroads and of 30 per cent. on the regular rates of the "Compagnie Transatlantique," if the subscription is paid by June 20 at the latest. Treasurer M. P. Masson, Boulevard Saint-Germain, 120, Paris. For titles of addresses, etc., see The Journal, 1899, xxxiii. pp. 1098, 1172 and 1444. We have received from the president the circulars of four agencies which make a specialty of supplying lodgings for strangers. Advantageous terms have been secured from each and he adds that their work on the occasion of preceding congresses is a guarantee of satisfaction. The Agence des Voyages Modernes, rue de l'Echelle, 1, offers to supply a comfortable room for 6 francs, or $1.20, and upward a day; room and board, three meals a day, wine at lunch and dinner, for 15 francs a day; also furnished flats at prices varying according to location. Rooms must be taken for a week at least and flats for a month. The Agence Desroches, Rue du Faubourg Montmarte, 21, will charge 20 francs, or $4, for the first day, which includes transportation from the depot and care of luggage, and 10 francs, or $2, a day thereafter. This sum includes room, lights and breakfast. The Société Française des Voyages Duchemin, Rue de Grammont, 20, offers a room for 6 francs a day and upward, or room and board for 12 francs, about $2.50, with transportation of luggage. The Voyages Pratiques 9, Rue de Rome, offers the following rates if application is made a month in advance: to individual members of the Congress, 6 francs 50, about $1.30 a day; for a certain number, 2000 persons, lodgings for 5 francs 50, about $1.10, a day for each; for 1000 persons, 4 francs, or 80 cents, and for 500 persons, in dormitories, 3 francs 50 and 3 francs, about 70 and 60 cents, a day for each individual. Agents and interpreters of this company meet the ship and trains at Paris, with omnibus and baggage service. Small furnished flats of three rooms and more can also be supplied for $55 a month and upward, and private houses for persons wishing to keep house during a longer stay. This society rendered effective service at the Moscow international congress and others at Rome, Madrid, etc.. and supplies information free of charge on any subject in its line.

Chicago Academy of Medicine.

Feb. 9, 1900.

CARCINOMA IN CATTLE.

Dr. Leo Loeb read a paper with this title. Preparatory to certain investigations, he first investigated the occurrence of carcinoma in cattle. These investigations were made conjointly with Dr. Jobson, government meat inspector. The results are based on the statistics of cases of carcinoma in cattle at the Chicago stockyards, since July, 1898. The principal organs were examined post-mortem. In 16 cases from September, 1899, to February, 1900, more extensive post-mortem examinations were made, in a number of instances microscopic ones of such organs and lymphatic glands in different parts of the body as presented a suspicious appearance.

They found carcinoma in cattle in two places, namely, in the inner canthus of the eye and on the vulva. All the cases thus far observed, with the exception of one case of carcinoma of the vulva, were carcinomata of the inner canthus of the eye. As to how often the disease is found in cattle, from July, 1898, to January, 1899, but four cases were observed, and these were seen during October. There were no cases in November and December, 1898. From Jan. 1, 1899, to Jan. 1, 1900, they counted 48 cases of carcinoma. In the same year 2,514,446 head of cattle were received at the stockyards, so that there was one case in every 50,000. This only gives an approximate idea of the frequency of the disease, and only on the supposition that as many carcinomatous as non-carcinomatous cattle are delivered at the stockyards. Of 60 animals examined, 59 were cows, and 1 a steer about six years old. He was perfectly white. This apparently remarkable fact as to the distribution of sexes will be explained if we consider the circumstance that steers are usually killed when young, often before the sixth year, the cows becoming much older. All the cows coming to the stockyards, with carcinoma, were from six to fifteen years of age, therefore of greater age than steers usually attain.

How does the development of carcinoma affect the general state of health of the animal? All those affected with carcinoma were very much emaciated. Loss of weight was already present when the carcinoma was not very much ulcerated. A number of inquiries were made as to the rapidity of development of carcinoma, the external circumstances that might influence the disease, and the first changes that are visible. Through the kindness of Dr. Holcomb, their attention was directed to a cattle ranch near Cheyenne, Wyo., whence they received some information. Here is a ranch which keeps about a thousand cattle, about two thousand coming and going during the year. On this ranch were found every year one or two cases of carcinoma of the eye. This observation covers a period of ten years. The ranches in the adjoining district of equal size were practically free from carcinoma. Thus, it seems that carcinoma of the inner canthus of the eye is almost endemic on this one ranch.

The authors then alluded to the development of carcinoma of the eye, known among veterinarians under the name of "fungus hematodes." They saw two cases where the lesion was still in a comparatively early stage, and described one such case. If the carcinoma is far advanced, it penetrates into the bone and may break through in different directions. For instance, the tumor may penetrate the antrum of Highmore. In some cases it may be observed how the carcinoma begins to penetrate into the eye. Later on the eye becomes entirely destroyed. Of 32 cases examined, the eye was found destroyed in 6 cases, the bone affected in 15.

As to metastases, in 32 cases, where the lymphatic glands and the inner organs were carefully examined with this point in view, the retromaxillary gland was affected twenty times, and as a rule changed into a large metastatic tumor with remnants of lymphatic tissue, twelve times. In 12 of the least advanced cases the lymphatic glands were free from metastases. The macroscopic findings were confirmed in a number of instances by microscopic examination. Once they found the submaxillary gland, once the retropharyngeal, once the interior mediastinal gland similarly enlarged and changed.

They also examined, microscopically, a number of lymphatic glands in other parts of the body—cervical, submaxillary, bronchial, mediastinal, portal, and mesenteric glands with somewhat suspicious appearance—always, however, with negative result. Similarly they could find neither macroscopically nor microscopically any metastasis in the inner organs. In one case, in which they were induced to microscopically investigate the lungs with the bronchial glands, they found signs of tuberculosis in both.

In two cases of carcinoma there were present in the same animal two carcinomata, that of the vulva already mentioned, while in the second case the inner canthus of both eyes was affected, the disease being more advanced in one eye than in the other. In the case of carcinoma of the vulva, they found, by macroscopic and microscopic examination, distinct carcinomatous nodules beneath the mucous membrane. Whether this is to be regarded as an autoinoculation in the case of carcinoma of the vulva, possibly caused by the rubbing of the head at the vulva, or whether there were certain constitutional conditions necessary for the occurrence of carcinoma which made multiple occurrence easy, must at present be left undecided.

Histologic examination showed the carcinoma of the eye to be one of stratified epithelium with horny changes and epithelial pearls. They found stratified epithelium arranged around the hairs which penetrated into the deeper tissues, forming horny masses in the center of the alveoli. In many cases they were able to see the mucous membrane of the membrana nyctitans intact over the tumor. In other places a secondary union of the tumor and mucous membrane had taken place. The tumor itself, during its progressive penetration into the surrounding tissues, on the whole retained its character but sometimes they found loosely arranged, hyaline-appearing carcinomatous cells, instead of the horny changes inside of the alveoli. The character of the tumor also remained unchanged in the metastases of the lymph glands.

Carcinoma of the vulva shows, on the whole, the same character as carcinoma of the eye. But this alone does not warrant the conclusion that the one carcinoma has been transplanted from the other, because, already in the normal mucous mem-

[illegible] places.

The following deductions were drawn:

1. Though these investigations [illegible] statistics [illegible] frequency of cancer in man and in cattle. The annual death rate of the human race and cattle of all ages from 1897 to 1899 in England was 712, that is, 7 per 1000. In 1899 one case of carcinoma was found in 50,000 cattle. If the further collection of statistics should show a similar proportion in the following years, carcinoma in cattle would be about 1 50 to 1 70 less frequent than in man.

2. The place where carcinoma is found most frequently in cattle is where, through the running of the tears and the motion of the membrana nyctitans, foreign bodies entering the conjunctival sac are deposited and can easily be kept back by the hairs of the caruncula. This is favored by the fact that in cattle the caruncula lies somewhat deeper, just between the openings of the superior and interior lacrimal ducts, and the hair may also favor the retention of foreign bodies at this place. But whether the foreign bodies cause the development of carcinoma by continuous irritation, or whether the foreign bodies, which are the cause of carcinomata, be certain parasites, their findings do not allow them to decide. So far, they have been unable to ascertain whether any peculiar conditions existed on the Wyoming ranch in regard to the water-supply or the feeding of the animals. The question must be left undecided for the present as to whether these observations can be explained by infection from animal to animal, or by infection from an external agency. But certain observations previously reported, especially by Behla in the *Centralblatt f. Bacteriologie*, proving in human beings the endemic occurrence of carcinoma in the suburb Kalau, seem to be more easily explained by parasitic infection. Behla believes that certain organisms of myxamebic character, which infect certain vegetables, are the cause of this endemic occurrence of carcinoma, but he, as well as others before him, emphasizes the possibility that different carcinomata may be caused by different organisms. Fiessinger, Noel, Armaudet, Sorel, Vigues and Gueillot, had already, before Behla, reported cases of endemic carcinoma in France. Fiessingen and Noel believe that certain fungi are responsible, which are found especially on trees, and which cause certain tumor-like formations. The proprietors of the ranch with which they have been in communication denied knowledge of any peculiar conditions existing on the farm. Attention is especially called to these questions by observations of the almost endemic occurrence of carcinoma on this ranch, but only by further researches can it be decided whether a parasitic cause is present. So far they have not found in the carcinoma, any coccidia or yeast-like bodies, the appearance of which could not just as well be explained as products of the epithelial cells. Certainly the investigations of the last ten years have, at least, proved, by simple microscopic examination and staining, that the question as to whether we have to deal with parasites or with metamorphosed cells, or parts of cells, can not be decided. An interesting discussion of the facts concerning the parasitic origin of cancer is to be found in a recent paper of Dr. Roswell Park.

3. Besides the external, exciting causes, there were other factors of importance found in the development of carcinoma; for instance, the age and sex of the animal. In this connection, it is well to remember that the statistics of Finkelburg and Spencer Wells and others show that in the human race the female sex is more frequently affected with carcinoma than the male, although in the human race carcinoma of the face and extremities seems to be more frequent in males, probably because they are more exposed to injuries than females. But difference of exposure to injury does not apply to cattle. Here it is found more frequently in the female. In young animals all these external irritations, or parasites, if the latter be present, do not seem to be able to produce carcinoma.

4. Another observation of general interest is the constant absence of metastases in the deeper lymph glands or other organs, although the metastases in the retromaxillary lymph glands very often attain great size.

The question arises, does secondary destruction of carcinomatous epithelium in the deeper lymphatic glands take place? Frequently necrotic areas and hemorrhages are found in the lymphatic glands assume the presence of pathologic processes.

Dr. **Alexander Hugh Ferguson** asked whether any evidence of cancer had been found in the muscular tissue of cattle examined, and said that in carcinoma of the breast the exact extent of cancerous involvement could not be determined. On this account Halsted of Baltimore and other surgeons had taken away the pectoral muscles very extensively in operating on cancer of the breast. He had done this himself a number of times, but more recently he has retained more and more muscular tissue, simply removing the fascia and lymphatics.

Dr. **James G. Kiernan** said there was a commercial element of error in regard to statistics of cancer in cattle, which had a tendency to control the report of cases. Before any details as to the comparative frequency of disease in cattle are taken up, this commercial element of error should be eliminated. Even in tuberculosis this element had to be considered. The Illinois Dairymen's Association denies that tuberculin is a reliable test of tuberculosis in cattle, and claims that this disease is not nearly as frequent as the tuberculin test and autopsies indicate. These autopsies the dairymen were not able to control. Had they been, tuberculosis would seem infrequent in cattle, as does carcinoma. From a general standpoint of the ordinary histologic view of carcinoma, whether the disease occurs from bacterial or parasitic factors, it is a return to the atavistic condition in which the cells have undue tendency to reproduce themselves. Considering these factors, one would be safe in believing, unless there were strong evidences in the other direction, that carcinoma is frequent, compared with man and the anthropoid apes, among cattle. In the presence of the commercial element he claimed that the physician was hardly justified in assuming that cancer is as infrequent among cattle as the statistics cited would indicate.

Dr. **Loeb**, in closing, said that the masseter muscle was distinctly infiltrated with carcinomatous masses. In reference to the remarks of Dr. Kiernan, the proportion of cattle having carcinoma can not be definitely determined. There are some facts which make it probable that carcinoma in cattle is not much more frequent than the essayist found. Every animal is examined by two experts. The observations of the most experienced veterinarians with whom the essayist communicated on this subject pointed in the same direction. Observations of carcinoma in cattle have been rarely made, although in many cities a thorough meat inspection is carried out.

LATERAL URETERO-RECTAL ANASTOMOSIS.

Dr. **Reuben Peterson** made a preliminary communication to the Academy on this subject. He said: "At a former meeting of the Academy, during the discussion of Dr. Lydston's paper, I referred to some recent experiments I had been making in uniting the ureters with the rectum. The ureters were passed under the mucle for a short distance and then made to penetrate the mucosa, various methods of suturing being employed to secure union between ureter and bowel wall. Infection of the kidneys, as shown by bacteriologic and microscopic examinations, occurred in all the animals that recovered from the primary operation. It was found that the infection in nearly every instance was proportionate to the amount of stricture of ureters entailed by the operation. Thinking that ureteral stricture and subsequent hydronephrosis, by slowing of the stream of urine might offer increased facilities for the passing upward of the colon bacilli, I set to work to devise an operation whereby ureteral stricture could be avoided. To those who have endeavored to unite the ureter with the rectum by passing the former through the wall of the latter, it is evident that, owing to the compressibility of the ureteral wall and the excessive muscularity of the rectal wall, it is only a chance if stricture does not take place, either at the time of or subsequent to the operation. Hence the two organs must be united by a lateral anastomosis if stricture is to be absolutely avoided, because here the opening can be made as large as required.

"With the assistance of Dr. Connell I finally succeeded in making a lateral anastomosis between ureter and rectum, employing a modification of the right-angled suture. The first few animals died because I failed to cover the line of sutures with peritoneum. This is necessary because the ureter can not be safely punctured by the needle as can the gut wall, and must be protected by peritoneum for fear of subsequent leakage of urine into the peritoneal cavity. For this reason I do not believe the operation devised will ever be practicable for the human being, the danger of leakage even when the sutures are well protected being too great. The experiments were made for the purpose of determining if freedom from stricture had any influence in preventing an ascending infection of the kidney.

"The specimen which I present for your inspection effectually answers this question in the negative. The dog from which this kidney was removed was operated on Nov. 18, 1899. The left ureter was united to the rectum in the manner described. The peritoneum and loose connective tissue about the ureter were stitched along the line of suture. Nine days after the operation he was found dead. The left kidney was enlarged to double the size of the right. The pelvis of the kidney was dilated and contained pus, the bacteriologic examination of which showed the presence of colon bacilli. The ureter was not dilated, and the opening into the bowel was patent and allowed water injected into the pelvis of the kidney to pass freely into the rectum. The uretero-rectal anastomosis was perfect and there was no leakage of urine into the peritoneal cavity. The specimen shows the changes typical of pyelonephritis.

"The infection in this case took place even quicker than in the experiments where the ureters were buried in the muscles of the bowel and where a certain amount of ureteral stricture existed. So far as this case is concerned, a free flow of urine did not prevent any ascending infection.

"In addition to my experimental work on living animals, I am carefully studying microscopically the course of the ureters through the dog's bladder wall to see if the direction of the ureters, the muscles with which they are surrounded, or the formation of the ureteral orifice can explain comparative freedom from infection when the ureters are implanted together with the trigonum into the rectum. The results of these studies will be given later when my experimental work is reported in detail.

"We know that Maydl has transplanted the trigonum together with the ureteral orifices into the rectum in a number of cases with success and his patients have lived a number of years and are apparently well. None of these cases have been examined post-mortem, and it is not certain that infection of the kidneys has not taken place. The only experimental work upon dogs with this operation that I have been able to find in the literature resulted in the immediate death of the animal, hence an opportunity of studying the condition of the kidneys was not afforded.

"This specimen which I show you now is from a dog where the ureteral orifice and a portion of the trigonum have been implanted in the rectum on one side and on the other ureter cut away from the bladder and anastomosed with the rectum according to the old method I have spoken of. The differences in the two kidneys are apparent to the naked eye. The kidney where the ureteral orifice was implanted is normal in appearance, while the other shows the characteristic changes of pyelonephritis. Bacteriologic examination was negative in the first kidney, and showed large quantities of colon bacilli in the other kidney. The dog lived ten days and died from peritonitis due to a mural abscess.

"The reason for the large primary mortality in animals subjected to Maydl's operation is because of its complexity. I have read a description of the operation a number of times, and I find it far from clear. I have devised an operation for the anastomosis of the trigonum together with its ureteral orifices with the rectum, which is simplicity itself, and any surgeon who can successfully perform an intestinal anastomosis, can perform the operation with ease. The majority of the dogs I have operated upon by this method are living, and at some future time will be killed and the condition of their kidneys carefully studied."

DR. A. H. FERGUSON said that the method pursued by Dr. Peterson impressed him as being very favorable and much easier to perform, but he is of the opinion that any implantation of the severed ureter or ureters into the rectum will be followed sooner or later by ascending infection toward the kidney. Infection ascends in the human being when there is cystitis and when there are germs present in the bladder, consequently it will likewise ascend where there are germs constantly present in the rectum.

DR. R. C. TURCK agreed with Dr. Ferguson that any operation of transplanting the ureter into the rectum offers very little chance against subsequent infection.

DR. F. G. CONNELL said he had been conducting experiments on implantation of the ureters into the rectum by different methods with a view to determine which is the best method, and he has found that in all cases there was either stricture or infection resulting. One ureter can be transplanted into the rectum and the dog recover from the operation, but he has been unable to transplant both ureters at the same time and have the dog recover. If recovery did follow the operation and the dog lived a few days, stricture with pyonephrosis was invariably found. He could only say that from his experience the Maydl operation is *the* operation of transplanting the ureters into the rectum.

DR. WILLIAM L. BAUM agreed with the conclusions drawn by the essayist from the result of the essayist's investigations, which he had followed closely during the last two years. He is rather impressed with the result of vesicorectal anastomosis with the Frank button or coupler, as performed by Dr. Frank, whose work he thinks has demonstrated the fact that after the first few days the bladder mucosa partakes very much of the characteristics of the rectal mucosa, and it is probably due to this fact to a certain extent that the Maydl operation acquires a greater amount of resistance to any ascending infection. There is hardly any doubt that the Maydl operation, as modified by Dr. Peterson in his experimental work, is a decided advantage over the operation as originally devised by Maydl.

DR. PETERSON, in closing, said the results of his experimental work would soon be published in detail. After transplanting the trigonum into the rectum the anastomosis between it and the rectum seemed to be perfect, and yet the dogs only lived a few days. Then, he had one of the anastomoses subjected to microscopic examination and it showed evidences of necrosis. It occurred to him that possibly the blood-supply in the dog was different from what it was in the human being. He knew from his previous experiments that there was a branch from the renal artery running along the ureter and supplying it, which reached the trigonum, and he took it for granted that the trigonum was supplied by that ureteral artery. After removing a dog's bladder and blowing it up in the laboratory with air and studying the blood-supply he found that that of the trigonum came from two vesical arteries which are given off from the internal iliac. These arteries he had tied in order to control the hemorrhage which is encountered when the flap is cut off. So in his next experiment he refrained from tying these arteries and the problem of the blood-supply was solved, in that he had four dogs live out of six, and in the two dogs that died death occurred from causes that were not referable to the transplanted flap. Both in the dog and in the human the blood-supply of the trigonum, combined with the ureteral blood-supply, is sufficient to nourish the flap and prevent sloughing.

His object in conducting these experiments was to see whether it was a justifiable operation to implant a ureter, cut off from the bladder, into the rectum. He did so because he had a case in which he wanted to remove the bladder and before doing so was anxious to determine whether it was a justifiable operative procedure. His experiments have proved conclusively, to his mind, that it is an unjustifiable one. He has performed in all seventy experiments on the ureters in dogs.

He corroborated the point brought out by Dr. Connell, namely, that it is difficult to implant both ureters into the rectum and have the animal live. Out of some thirty dogs he only succeeded in saving five where this was done.

Philadelphia Academy of Surgery.

Feb. 5, 1900.

LIPOMA OF HAND.

DR. THOMAS G. MORTON reported a case of lobulated lipoma of the hand, with illustrations. The interesting feature was the locality and the manner of growth of the tumor, which occurred in a woman 46 years of age. Development first began on the dorsal surface, finally appearing on the palmar. Considerable pain was complained of over the region. The tumor, from its consistency, appeared to be cystic. An incision demonstrated a fatty tumor, lobulated in character, the two portions of which were connected by an isthmus of tissue. These tumors are frequently mistaken for cysts or hygromas. In the latter the growth extends over the annular ligament, while in lipoma this ligament generally limits its growth in this direction.

Dr. W. J. Taylor said he had never seen a lipoma in this locality, but had seen one on the foot, the size of a marble; it was removed, with permanent cure. In this instance pain was a constant symptom.

EXCISION OF ASTRAGALUS.

Dr. T. G. Morton also exhibited patients showing the results of excision of the astragalus. In the first instance the operation was done for a fracture of the bone. In one, in which the operation was done for talipes eqninovarus, ten years ago, the foot was straight and the joints were movable. In none of his cases, which numbered nearly a hundred, had he seen ankylosis following this operation.

Dr. DeForest Willard thought that ankylosis following this operation was an extremely rare condition.

PANCREATIC CYST.

Dr. John B. Deaver reported a case of this condition, of which he has seen only two. This patient was a woman who had borne four children; her family history was negative. Her present illness began twelve years ago, first manifested by an increase in weight. There was no epistaxis, but she suffered from hemorrhoids, prolapse of the vagina, and constipation. The heart and lungs were normal. The abdomen was considerably enlarged and measured fifty-two inches in circumference. Ascites was present, and dulness was found in the abdominal region, which was not movable. The condition was not positively diagnosed. An exploratory incision was made and a large collection of oily fluid evacuated. The condition was then found to be one of pancreatic cyst, which was incised and packed with gauze, and the patient made an uneventful recovery.

Dr. T. S. K. Morton spoke of a case of cyst of the pancreas which occurred in a woman who had suffered from indigestion, and later followed by the occurrence of a tumor in the epigastric region. The fluid evacuated converted starch to glucose. As in Dr. Deaver's case, he incised and drained and the patient recovered. He believes that surgeons as a rule adopt drainage rather than total enucleation.

CARCINOMA CASES.

Dr. J. B. Deaver also exhibited four specimens of carcinoma of the rectum, removed by the Kraske operation. In two he was able to unite the cut ends of the bowel, and the patients now have good sphincteric action. He does not approve of a preliminary colotomy in the Kraske operation. He also exhibited a carcinoma of the clitoris, one of the tongue, and one of the breast. In all operations for carcinoma he always made a clean sweep of the neighboring glands. In removing the tongue he did not approve of making counter-incisions in the cheek, but removed the organ through the mouth proper. In carcinoma of the breast he makes it a practice to go high up after the diseased glands, even up to the subclavian. The adjacent pectoral muscles should be cut away. If the disease is of the uterus, the neighboring lymphatic glands should be removed.

Dr. R. H. Harte has resorted to a more radical procedure in removing the breast for carcinoma; he makes it a practice to remove all the pectoral muscles.

Dr. W. M. L. Coplin being requested to speak on the subject, stated that the practice of removing the adjacent lymphatic glands, adopted by surgeons, is based on a good pathologic basis, since infection spreads through these tracts. Even removing part of the tumor for diagnosis is not good practice, since the site of the wound may cause inoculation of the surrounding healthy parts.

Dr. J. B. Deaver, in closing, said he was glad to hear the remarks of Dr. Coplin, especially in regard to the danger of removal of part of a tumor for microscopic diagnosis. In removing the breast he always removes a portion of the superficial tissue, rather than to try and have close primary apposition of the skin in closing the wound. A granulating wound with healthy tissue will not be so liable to lead to recurrence.

ECHINOCOCCUS CYST OF LIVER.

Dr. Hiram R. Loux contributed a paper on resection of the liver for removal of one of three cysts. The patient was a man, 31 years of age, a German, whose family history was negative. The onset was two years ago, with pain in the hypochondriac region, and later a mass was found in this locality, freely movable and not tender. There was no discomfort. An incision revealed an echinococcus cyst attached by a pedicle to the left lobe of the liver. The attachment was removed by means of the Paquelin cautery, and at the same time a small portion of this organ was removed by the cautery heated to a dull red color. There was but slight hemorrhage. The tumor was pear-shaped and weighed 197 grams. There was a slight discharge of bile through the wound for about two weeks, but otherwise recovery was uneventful. In removing these tumors great care should be exercised to prevent the contained fluid from entering the abdominal cavity, lest a recurrence follow.

Toronto Clinical Society.

Feb. 7, 1900.

RADICAL CURE OF INGUINAL HERNIA.

Dr. W. H. Pepler presented a patient, 75 years old, who first came to him in the summer of 1898. Suddenly, while walking on the street, the man felt something give way in the right groin, and then noticed a swelling there. A right inguinal hernia was found and a suitable truss ordered, which could not be worn without much discomfort. A second and a third was tried with similar results, the hernia continuing to fall down and the man being miserable all the time. As he was anxious that something permanent should be done, an operation was decided on. With the assistance of Dr. Bingham, the canal was opened and the sac tied off and let back into the abdomen, the ring and canal being then closed with mattress sutures. On the night after the operation, the patient got out of bed in the absence of the nurse, went to the water-closet, had good motion of the bowels and returned to bed. In the morning it was found that the stitches had broken away, the case really developing into the open operation. The wound was packed with gauze down to the external ring and healed by granulation. The patient at the present time is in good condition, has no discomfort, and has no need to wear any truss. The operation was performed in May, 1899.

Dr. E. E. King stated that no truss should be worn after these operations. In a large number of cases where there is a considerable quantity of fat in the abdomen, you get better results by the open method. He spoke of a patient 73 years of age on whom he had done the double operation without any complications.

FRACTURE OF ANATOMIC NECK OF HUMERUS.

Dr. E. E. King presented this patient, a man about 50 years of age. About 3½ weeks ago, the man was in the upper part of a house, somewhat the worse for alcohol. As he got up to open the door he stretched out his hand to take hold of the latch, touched something unawares, missed his footing and fell, striking his arm about three or four inches below the shoulder-joint. There were no other bruises on the body anywhere. He got up and went back into the room and stayed there all that evening and night. The next day—he had used the arm all that time—he consulted a surgeon, who treated the injury as a severe sprain and had applications applied. Three days ago he came into the service of Dr. King, at St. Michael's Hospital. There was loss of motion to a considerable extent, atrophy, and the nerves were injured in the axilla.

Dr. King presented a skiagraph of the shoulder and described the conditions present. There were two fractures, one a fracture of the bone below the head internally, extending outward and then down the shaft of the bone a short distance, probably two inches—something like a green-stick fracture—and the upper end of this lower fragment could be felt in the axilla. Then there was a fracture of the anatomic neck, with what seemed to be a rotation of the head of the bone.

TREATMENT OF INEBRIETY.

Dr. Dunsmore, resident physician, Lakehurst Sanitarium, Oakville, Ont., read a paper with this title. His first object was to make it clear that this institution was conducted on strictly ethical principles, and that no so-called specifics or nostrums, or "gold-cures," constituted any portion of the treatment of these cases at the Lakehurst Sanitarium. He briefly touched on the effects of alcohol on the human system, and then outlined their treatment. Oakville, situated as it is on the north shore of Lake Ontario, about twenty miles west of Toronto, gives a most delightful and healthful situation. Added to this tone of cheerfulness there is abundant amusement provided for the patients, both in winter and summer; and special emphasis is placed on the importance of moral tonics. The patient is put strictly on his honor as regards the taking of alcohol, and no restrictions whatever are placed on him. Withdrawal of the alcohol is the first essential, and the most trying part of the treatment is the first week or ten days of abstention. Then there is the absence of temptation in institution life, which is of special advantage. For sleeplessness, bromids or hyoscin are used; and quinin and strychnin sometimes, in tonic doses. In selected cases it has proved very beneficial to wash out the stomach. During the presence of collapse symptoms, the limbs are rubbed and hot applications made to the body; and tincture of capsicum in 5 minim doses given occasionally at this time has a good effect. The average case of chronic alcoholism can in this way be removed from his liquor in about a week. The institution claims about 75 per cent. of permanent cures.

PLACENTAL INSPECTION, ITS UNCERTAINTIES AND ITS DANGERS.

Dr. J. F. W. Ross read a paper with the above title. The object of the paper was to establish digital examination of the uterine cavity as routine practice in every case immediately after the delivery of the placenta, in order to have complete satisfaction that no pieces of placenta or membranes had been left therein. The fact that septicemia following delivery has not decreased even with the adoption of aseptic and antiseptic measures, that there are so many cases following the retention of fragments of placenta, even so late as the tenth or twelfth day; that the method is adopted and considered the proper procedure after a substantial rise of temperature; and that it is the proper recognized treatment following miscarriages, are good and sufficient reasons, he thinks, why digital examination of the uterine cavity following the delivery of every woman should be adopted as routine practice. In illustration, Dr. Ross cited many cases where, if this practice had been adopted, portions of placenta would not have been left in the uterus to form a breeding-ground or culture-medium for pyogenic organisms, and many lives would have been saved and much prestige retained by the practitioner. We should not wait until the appearance of fever and other symptoms before making this examination.

In the discussion which followed this paper, none of the practitioners present seemed disposed to go to this extent, although Dr. Ross stated that if he were in the active practice of obstetrics, he felt satisfied he would adopt this procedure.

Orleans Parish Medical Society.

New Orleans, La., Feb. 10, 1900.

PHLEBITIS COMPLICATING MASTOID DISEASE.

Dr. O. Joachim reported two cases of mastoid disease complicated with phlebitis of the lateral sinus. In both patients the same treatment was applied in a general way—laying open of the mastoid cells and removal of the infected tissue in this region, exposure and excision of the sinus followed by copious irrigation, and finally ligation of the jugular vein low down in the neck, with incision above and irrigation. One of the patients succumbed to pyemia, autopsy showing multiple metastatic abscesses in both lungs. In the other recovery ensued.

The patient, who was exhibited by Dr. Joachim, presented unilateral facial palsy and paresis of the sixth nerve on both sides. The former came on after operation notwithstanding the fact that nothing was observed during the operation which indicated traumatism of the facial nerve. The abducens trouble dated back to a short time before the operation.

Dr. M. Feingold, who had examined the eyes thoroughly and studied the case from the ophthalmologic standpoint, submitted a report in which he gave, as his conclusion with regard to the cause of the abducens paresis, pressure on that nerve by a thrombosed cavernous sinus in each side.

GONORRHEA IN THE MALE.

Dr. Chas. Chassaignac spoke on this subject. He dwelt particularly on the importance—from a medicolegal point of view—of differentiating between new infections—in men previously the subjects of this disease—and the recrudescence of an old infection following venereal or alcoholic excess, the more rapid appearance of the latter—often within twenty-four hours—being an important item in the differentiation. In regard to treatment, he referred to experiments made with methylene blue given internally, these without any degree of success. Liquor sodii chloratis, in the proportion of 1 to 48 and 1 to 24, was referred to as his favorite typical remedy.

DERMATITIS HERPETIFORMIS.

Dr. L. N. Roussel reported a case of dermatitis herpetiformis in a child, cured by circumcision. The disease appeared shortly after birth and disappeared in a few days, only to reappear at the end of the first year. It then remained until circumcision was performed at the age of 3 years; the eruption then left the skin after the lapse of ten days.

Pasadena Medical Association.

Pasadena, Cal., January and February Meetings.

RECOVERY FOLLOWING ESCAPE OF CEREBROSPINAL FLUID.

Dr. Geo. S. Hull reported this condition in a woman of middle age, who was thrown violently from a buggy, her forehead striking the curb. After the shock she vomited blackened blood quite frequently. There followed pain in the head, dizziness, some conjunctival ecchymosis and loss of the sense of smell. While on her back she was continuously swallowing some fluid which trickled down the post-nasal space. After sitting up, the fluid escaped from the left nostril and at the end of the third week averaged about a pint and a half a day; an analysis showed it to be the cerebrospinal fluid. The flow gradually diminished and ceased by the close of the fourth week. The patient made a perfect recovery, except that the sense of smell did not return.

Dr. J. H. McBride said that the case was interesting though not unusual. He called attention to cases of spontaneous loss of cerebrospinal fluid recently reported by Dr. St. Clair Thompson, of London. The latter's own patient was a young woman who began to have dripping of cerebrospinal fluid from the left nostril in 1892, the discharge recurring at intervals until 1895, when it was continuous for a year. Headaches, which she had suffered from since childhood, ceased when the flow came on, and returned when it stopped. The amount of flow was fifteen ounces in twenty-four hours. Tillaux published a case in 1877, of spontaneous loss of the fluid in a man who afterward died in convulsions, and Wallace Mackenzie published one of a boy of 7 years, who had loss of cerebrospinal fluid from the nose. Scheppegrell reported a somewhat similar one in the *Am. Jour. of the Med. Sci.*, for February, 1898. Thompson collected the histories of twenty-one cases in which there was certainly loss of this fluid from the nose, and twelve in which it is probable that the discharge was cerebrospinal fluid. Nine of these suffered from brain symptoms of some kind, either headache, giddiness, somnolence, paralysis, convulsions or coma. The flow commences gradually. The fluid comes away in drops and in most cases amounts to a pint in twenty-four hours. It usually escapes from one nostril, though it may come from both. It is clear, free from odor and taste and is sterile, faintly alkaline and has a sp. gr. of 1005 and 1010. It contains a substance which gives a sugar reaction, but which is not sugar. The proteid substance which it contains is not albumin but globulin.

Dr. McBride referred to a case published by Dr. Elliotson, in the *London Med. Gaz.* in 1875, and republished by Thompson. A woman had spontaneous loss of cerebrospinal fluid from the nose which continued for eighteen months, ceased, and then returned fourteen years later. It finally stopped under treatment.

An autopsy in one case showed an opening in the dura over the ethmoid, through which fluid probably escaped. In a case reported in Dr. Thompson's series, there was discharge from the ear, the discharge being irregular and preceded by a whistling sound. The loss of a large quantity of cerebrospinal fluid does not seem to affect the health unfavorably.

Dr. Charles Russell Bardeen, associate in anatomy in the Johns Hopkins Medical School, has been called to the chair of anatomy in the medical department of the University of California.

THE JOURNAL OF THE
AMERICAN MEDICAL ASSOCIATION.
61 MARKET STREET. - CHICAGO.

SATURDAY, FEBRUARY 24, 1900.

NEWER CONCEPTION OF THE CRANIAL NERVES.

Nothing illustrates the marvelous advances in neurology more than some recent studies on the nature and development of the cranial nerves. Heretofore anatomy and physiology have been content to assign to these nerves certain arbitrary numbers, and to give up all hope of ever accounting for their peculiar courses and complex constituents. So long as the nerve trunks alone were studied, our knowledge remained at a standstill. When they were examined from the standpoint of the embryologists and evolutionists, a flood of light began to pour in and to illuminate their intricate nature. It was then discovered that a true knowledge of the evolution of the cranial nerves was only to be found in a minute examination, embryologically and phylogenetically, of their peripheral and central terminations. Only from the closest observation of the changes wrought in their nuclei by the processes of adaptation and natural selection, and the comparing of these changes with the corresponding alterations in the muscular and sensory organs of the head, could anything like an adequate conception of how these nerves have been evolved from ancestral types be obtained. Studies along this line seem to have fairly established certain fundamental facts directly opposing the teachings of the older anatomists and physiologists.

It was formerly affirmed that the cranial nerves were merely modifications of spinal nerves, while it is now believed that they are older than the spinal, and that the latter are modifications of the cranial type. It was also formerly taught that the optic and olfactory nerves were nerves in the same sense that the vagus and trigeminus are, and hence they were classified along with all the cranial nerves. Now it is recognized that the so-called first and second nerves are really brain tracts and are to be more correctly classified with the intracerebral ganglia and tracts. The third cranial nerve is the first of the true nerves. Again, formerly it was said that cranial nerves were single nerves possessing motor or sensory fibers or both; but why they were so was not explained. It is now quite obvious that the components of these nerves are as easily accounted for as are those of the spinal. They have their segmental representations just as much as the nerves that spring from the cord. In some of the cranial nerves, as for instance the oculomotorius, there is a fusion of many nerves, shown by the multiple character of its nucleus. In other cranial nerves there has been a suppression, and in still others a survival of primitive, segmental motor and sensory components.

Many examples might be adduced to illustrate the radical yet logical changes that we have had to make in our conception of the cerebrospinal nervous system. Two essays, however, have recently attracted our attention, and we commend them for careful study to any one who desires to comprehend these changes. The first appeared in the autumn of 1899, by W. H. Gaskell[1], and is entitled "On the Meaning of the Cranial Nerves." The other is by C. Judson Herrick[2], on "The Cranial and First Spinal Nerves of Menidia; a Contribution upon the Nerve Components of the Bony Fishes."

Of all parts of the body the head has undergone the most radical alterations, as a result of evolutionary development. The nervous apparatus of the head has been pre-eminently the subject of adaptive changes. Contrary to the old view, which held that the skull is a modification of the vertebræ at the end of the spinal column, it is probable that the head is the more ancient of the two, and that the spinal column and trunk are outgrowths, as it were, of the head. This probability is strengthened by the study of the relationship existing between the brain and the spinal marrow.

The first mass of differentiated nervous matter appearing in the animal world is the esophageal ring or brain encircling the anterior part of the alimentary canal. As this primitive ring-brain increased in size to meet the exigencies of a higher development, the alimentary canal was necessarily encroached upon. In scorpions, Pedipalpi, and spiders this has gone on so far that these creatures have been reduced for alimentation to the sucking of blood and other fluids. In the higher vertebrates, the old alimentary canal has been completely severed, leaving the infundibulum with its hypophyseal—pituitary—attachment as a relic. Thus the startling discovery is made that the ventricles of the brain, together with their extension in the central canal of the spinal cord, constitute the remains of our original alimentary tract. Many facts of physiology as well as of pathology go to confirm this hypothesis. The mammalian nervous system, therefore, consists of two parts, an outer one of pure nervous matter and an inner of epithelial structure. If this is so, the distinction between these two parts of the cerebrospinal nervous apparatus ought to become more and more pronounced, the farther we extend our observations down the scale of life by way of the reptiles, amphibians, etc. As a matter of fact, they do gradually become more and more distinct.

The pineal gland is, in all probability, the remnant of one of the earliest extensions of nerve processes upward from the esophageal ring and formed the primitive single eye on the top of the head of certain low creatures. Behind this esophageal ring, a series of deposits of nervous matter or ganglia was found occupying the respective segments of the creature's segmented body. From these segmental deposits, nerve processes extended laterally to innervate the surface for sensa-

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[1] Brain, 1899.

[2] Archiv. of Neur. and Psychopath., ii, 1, 2.

tion, the musculature for motion and the branchial and visceral attachments and appendages for special purposes. In the spinal cord these branchial or visceral components have been more or less suppressed and are represented in the sympathetic, leaving only motor and sensory roots for the spinal nerves. The modifications and adaptations of these branchial components largely cause the complexity of the cranial nerves. Nevertheless, the segmental origin of these nerves and their components can be still clearly traced. "The evidence of ammocœtes is conclusive that the seventh nerve belongs to the branchial system, i. e., to the group of the vagus nerve and not to the trigeminal group." (Gaskell.) The motor part of the trigeminal nerve is not a single one, but the fusion of a series of nerves belonging to six or seven segments, a fact which explains its long descending root and nucleus. According to Küpffer, the trigeminal nerve in ammocœtes is formed by the amalgamation of at least five segmental nerves. The third nerve is clearly a compound one, as shown by the multiple segmental character of its nucleus, each subdivision of which, lying in rotation along the aqueduct of Sylvius, has had its localized function already determined.

In the words of Gaskell, "The cranial segmental nerves represent the original types of segmental nerves and are all derived from the corresponding segmental nerves of the arthropod. The spinal type is a more recent type and like the spinal cord is a vertebrate characteristic." The assignment of the motor, sensory and visceral components of the cranial nerves to their respective segments, the explanation of the disappearance of some of their primitive components and of the amalgamation of others, together with the separation of the highly intricate nervous apparatus of the head into its individual progenitors forms a most fascinating study in biology, and has already added to medical neurology. It is so large a subject that we can not do more than indicate it here.

PATHOLOGY OF THE CEREBRAL VESSELS ESPECIALLY IN RELATION TO MENTAL DISEASES

While the pathology of insanity in general is still in its infancy, yet the importance of vascular lesions of various kinds is fully recognized. These lesions may affect brain tissue in two ways: the supply of blood may be diminished or shut off and the return flow of lymph delayed. The retardation of the lymph current may result in mechanical injury to the nerve-cells, which are also exposed to the deleterious action of waste products in the lymph. Surely the bathing of nerve-cells in lymph laden with effete materials must be highly detrimental to normal function and structure. As pointed out by Berkeley in his recent article on the general pathology of mental diseases[1], one of the most frequent causes of the retardation of the return of lymph lies in the proliferative changes in the adventitia whereby the perivascular spaces become filled with cells. The milky-gelatinous thickenings so common in the pia mater of the insane are characteristic of disturbance of the vascular lymph system.

In addition to the acute degenerative and other vascular lesions that result from acute toxemias and bacteriemias, arteriosclerosis deserves prominent mention in connection with the pathology of mental diseases. It is interesting to note that arteriosclerosis develops at an early age in a large number of the insane and of persons with hereditary tendency to insanity. In such cases we are forced to fall back on the assumption that the quality of arterial tissue—"vital rubber"—which the individual inherited is bad. Berkeley has noted the presence of arteriosclerosis in imbeciles at the age of 12 years. Whatever the exact relation of arteriosclerosis of the cerebral vessels to insanity may be, it is plainly evident that, once established, its harmful effects on the tissue of the brain must be far-reaching and beyond the possibility of successful relief.

Inflammatory processes in the walls of the cerebral arteries, caused by syphilis, are looked on generally as of pre-eminent importance, especially in the pathogenesis of tabes and of general paresis. Berkeley points out that the ordinary symptoms of general paresis may be accounted for by a progressive alteration of the walls of the cerebral vessels whereby the supply of nutrient fluid is reduced at the same time as the channels for the return flow of lymph are narrowed. It is always interesting to follow discussions of the characteristics of luetic vascular lesions. Berkeley observes that microscopically at least three different processes are found in syphilis of the brain. In the first place there is the endarteritis obliterans that Heubner described as the characteristic form of vascular syphilis. It is now agreed that while the endarteritis obliterans of Heubner is often the result of syphilis, yet it is not as definitely peculiar to lues as the gummatous arteritis, described by Baumgartner, which usually begins in the adventitia and secondarily involves the middle and inner coats; foci of round cells develop, undergo central necrosis and become surrounded by newly formed fibrous tissue. Berkeley and Greco have found this form of arterial disease in a goodly number of cases of paretic dementia of syphilitic origin. From the adventitia the proliferation may extend into the surrounding tissue, occluding the perivascular lymph spaces and inducing cellular degenerations of various kinds. As indicated, this form is more characteristic of syphilis than any other, arising primarily in the smaller arteries, and not being secondary to disease in the tissue. Obliterating endarteritis, on the other hand, may be secondary also to degenerations of nervous tracts and to any inflammation of a chronic character. Another form of arterial disease in chronic syphilis is a fibrous and hyaline degeneration of the media without much involvement of either intima or adventitia; the resulting thickening may greatly reduce the lumen of the affected vessel, secondary throm-

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[1] American Journal of Insanity, 1899, lvi, [illegible]

[illegible] leading to complete closure. This lesion occurs not only in the larger meringeal vessels, but also in those in the medullary tissue.

In acute toxemias disintegration and degeneration of the capillary walls may result, with increased permeability of the vessels; some fibrous thickening of the capillaries also is noticeable in sclerosis of the larger vessels, and congestions render the capillaries dilated, tortuous, etc. The veins partake in a number of the changes observed in arteries; especially noticeable is a tendency to cell proliferation in the adventitia and the venous sheaths.

Accumulations in the perivascular spaces of cells, detritus, pigment granules, and hyaline material are of common occurrence in various insanities, especially of the degenerative type.

Many mental disorders often present symptoms as precise and as characteristic as those present in physical disease, and it might be expected that such definite clincal pictures would correspond with definite changes in the cerebral nerve-cells. So far this has not been found to be the case, and as yet the vascular and perivascular changes of mental diseases are much more definite and comprehensible.

REGULATION OF MARRIAGE.

An attempt is being made to have a law enacted in Colorado restricting marriages, such as has been proposed in one or two other communities. Like the other propositions, this one includes the appointment of boards of medical examiners who shall determine the applicants' freedom from hereditary and infectious disease, and their general moral and physical fitness for the marriage relation and its consequences. Marriage or cohabitation in violation of the act is to be an offense punishable by not less than four nor more than seven years in the penitentiary. The idea of human stirpiculture, to use a word coined by the lawbreakers af the Oneida Community, seems to be fascinating, but there are some objections. In the first place such a law to be enforced must be general, and that is not likely to be the case. Even less rigid enactments regulating marriage are practically dead letters, like the law forbidding the marriages of first cousins in some states, which is evaded by simply crossing a state line. When such a comprehensive one as that proposed in Colorado is attempted, wherever it may be, it is safe to say that serious difficulties will arise in its enforcement.

CARE IN SIGNING CERTIFICATES.

A little care now and then will save a doctor some embarrassing mistakes. Not very long ago the newspapers contained the story of a physician who, from carelessness in affixing his signature on birth certificates, nearly ruined his reputation by giving himself as parent of those he had assisted into the world. He simply wrote his name in the wrong place on a few forms, and obtained for himself a regular Mormon reputation. Another doctor carelessly certified the cause of death on a certificate as "old age," giving the age of the patient as the duration of the disease—81 years. The certificate therefore declared the man born old and suffering all his life from senility which finally carried him off. Such little errors are comparatively unimportant, and easily corrected as a rule, but they may make one who commits them temporarily uncomfortable. As in signing petitions, men too often put their names down without attention to the documents they sign. A newspaper advertisement of one's oversights and errors, harmless though they may be, is not considered desirable by most people, and a physician derives no special advantage from serving as a source of public amusement.

MEDICAL PRACTICE IN OHIO.

The medical practice act now before the Ohio legislature deserves the full support of every physician in the state. It has, we understand, been modified so as not to affect students already matriculated, so that opposition from that source has been withdrawn, but the osteopaths are clamoring for recognition and may imperil the passage of the bill in its integrity. It is the duty, therefore, of every respectable physician to use what influence he can exert for the passage of the act and prevent the statutes of Ohio being disgraced by recognition of arrant quackery and putting it on the same legal plane as legitimate medicine. The average lay legislator is open to suggestions and should be guided in medical law-making by the advice of his medical friends. Nearly every one must have his family physician, and it is not likely that many of them have installed an osteopath in this position. Nevertheless, it is possible that through the passiveness of those who ought to act, these quacks may carry the day, an event which will be an impossibility if the medical profession throughout the state does its duty. It is not a matter for congratulation that the students made their point, but the harm done is only temporary and we can, we trust, leave it to the standard and integrity of the medical faculties to see that no unworthy or unqualified person passes the college examinations during the four years of the Ohio medical students' exemption from the state examinations. In this connection, it may be said that The Journal was a little premature in announcing the somewhat similar success of the South Carolina medical students. Their bill passed the lower house but failed in the Senate, and the law yet stands unaltered. It is a pleasure, under the circumstances, to make the correction.

BONE CHANGES IN INFANTILE SCURVY (BARLOW'S DISEASE).

The real nature of the changes underlying the abnormal conditions of the osseous system in infantile scurvy has not been fully cleared up. In a comparatively rare disease like this considerable time must needs pass by before enough material of a suitable character can accumulate so that the pathologic anatomy can be studied in the various stages of its evolution. In a case of infantile scurvy recently studied post-mortem, by Jacobsthal,[1] the gross examination showed: suggillations of the skin; small hemorrhages in the pleura, pericardium, lungs, muscles, periosteum, joints and bone marrow, cranial, periosteal, endosteal, and perichondral osteophytes; epiphysiolysis in the femurs and the left tibia; atrophy of muscles and bones. The most striking feature is the marked hemorrhagic diathesis giving rise to the characteristic subperiosteal hemorrhages. As a result of the hemorrhagic tendency, the cause of which is as yet unknown, hemorrhages occur especially in those parts that during the period of growth are in a condition of physiologic congestion and proliferation, such as the internal layer of the peritoneum—the cambium—the epiphyseal regions, and in a less degree the bone marrow. As a further direct or indirect result of the hemorrhages, Jacobsthal finds that the old bone tissue undergoes atrophy; this may be due to the nutritive disturbances produced, or perchance to some kind of virus; in places, especially at the epiphyses, the bone may disappear wholly, on account of the increased resorption and the diminished growth. Simultaneously hemorrhages in the osteoplastic tissue of the periosteum lead to a productive inflammation, and a tissue, rich in spindle-shaped cells and containing but few and irregular bone trabeculæ, develops; similar changes, but less marked, may occur in the interior of the bones. There is marked disturbance of the endochondral ossification; the cartilage cells are stimulated to an increased and atypical proliferation, but new tissue does not penetrate into the cartilage and replace it with bone. In this way an abnormal fragility is produced at the osteochondral junctions, the cartilage and the new inflammatory tissue with irregular bone trabeculæ meeting more or less sharply. Hence the ease with which separation of the epiphyses occurs.

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[1] Ziegler's Beitrage, 1900, xxvii, 172.

TUBERCULOSIS STATISTICS.

The State of Rhode Island, like the State of Massachusetts, keeps up an accurate system of vital statistics. The latest issued report of its Board of Health—1897—contains among other valuable data, some interesting facts as to tuberculosis, the one disease that is just now the chief subject of attention to physicians and sanitarians. It shows that calculating by five-year periods from 1866 to 1895, inclusive, the death-rate from this disease has diminished from 17.66 of the total (1866-71) to 10.41 (1891-95). The five years not yet fully elapsed will, it is hoped, reduce the ratio still further, though the possible recrudesence of influenza may temporarily increase it. The showing is not quite equal to that of New Hampshire, recently noticed in THE JOURNAL, but is encouraging and the more so as regards this disease as the total death-rate in the state has not correspondingly decreased. It would thus appear that consumption is becoming less fatal of late years, and this can not be attributed altogether to the recent agitation of the subject, as the decrease here, as elsewhere, has been progressive for many years. The Board of Health has also made investigations bearing on the communicability or contagion of consumption. In a total of 6672 deaths occurring in the years 1890 to 1897, inclusive, there were 2 deaths in the same family in 155 instances, 3 in 20 instances, and in 1 family, 4 deaths. In 242 cases, more than 1 death occurred in the same house, 229 of these in Providence. There were 3 in 29 instances, 10 of them of the same families. In 2 instances there were 4 deaths, in 1 of these all of the same family. Where there were only 2 deaths in the same house the victims were of the same family in 96, in the others the names at least were different. State and other public institutions are not included. These figures are interesting and suggestive, but so far as they go they do not indicate any very excessive influence of family tendency or of house infection.

PSORIASIS AND GLYCOSURIA.

Furunculosis, pruritus, and prurigo are far from uncommon in the course of diabetes, and they must be considered as results of the metabolic and excretory disturbances that constitute an essential part of the fundamental disorder. So far as is known, these cutaneous affections do not in their turn have any influence in the causation of diabetes. It has, however, been maintained that diabetes occurs more frequently in those suffering from psoriasis than in others, although it is admitted that the cutaneous lesion is not particularly common among diabetics. To the small number of cases in which this association was present, Nagelschmidt[1] adds that of a woman, 32 years old, whose mother had had psoriasis, who herself presented psoriasis that had been present since early life, and in whom symptoms of diabetes had been recognized for five years, death taking place in coma. To determine whether a greater predisposition to glycosuria is present in cases of psoriasis than in others, Nagelschmidt administered, in the morning when the stomach was empty, to 25 patients suffering from this cutaneous disorder, 100 grams of anhydrous glucose, dissolved in a pint of water, the urine being examined immediately before, and three or four times at intervals of an hour afterward, all other food and liquid being for the time withheld. Trommer's, Nylander's, the fermentation-test and the polarization-test were employed, and sugar was considered present only when all yielded a positive reaction. Among these 25 patients it was found that alimentary glycosuria developed in 8. In 1, however, chronic lead-poisoning was present, in another obesity, and in a third spastic spinal paralysis, and although these conditions are not likely to have been in any way responsible for the appearance of sugar in the urine, their elimination will still leave 5 among 25 of psoriasis in whom alimentary glycosuria was present —20 per cent. Such a relation was not, on investigation, found to exist between alimentary glycosuria and other diseases of the skin, such as furunculosis, pruritus, eczema, prurigo, dermatitis herpetiformis. It would thus seem to be demonstrated that an unusually marked predisposition to alimentary glycosuria exists in persons suffering from psoriasis, and while this must for the present be looked upon as suggestive rather than conclusive, the precautions that it indicates should not be ignored.

PROTECTIVE INOCULATIONS FOR TYPHOID FEVER.

Numerous efforts have been made to obtain a serum capable of conferring immunity to typhoid fever and of exerting a curative influence on the developed disease, but hitherto without satisfactory evidence of success. Inasmuch as the disease is one of which an attack confers relative protection from subsequent attacks, it does [illegible] eventually [illegible] Although the lower animals are not susceptible to typhoid fever as commonly observed in human beings, there develops in them a form of septicemia [illegible], however, immunity can be induced by the use of heated cultures of typhoid bacilli or of the filtrate from unheated virulent cultures, or of [illegible]. Some attempts made by A. E. Wright, professor of pathology in the Army Medical School at Netley, England, in conjunction with successive associates, to produce these results in human beings, would seem to have attained a measurable degree of success, and they are particularly interesting at this time from their bearing on the vaccination by the same method of recruits for the British Army in South Africa. In the latest communication on this subject, Wright and Leishman[1] describe the method for obtaining the vaccin and the results of its employment, in so far as these can at present be estimated. The inoculations were made on troops in India, the vaccin being largely prepared as required. This consisted in part of a four-weeks-old culture of virulent typhoid bacilli, with 1 per cent. of lysol, sterilized by exposure to a temperature of 60 C., or of a twenty-four-hour-old culture, the dose of the former employed for each inoculation being from .5 to .75, and of the latter from .3 to .5 c.c.—the minimal fatal dose for 100 grams of guinea-pig; 2835 men were inoculated. Among these there occurred 27 cases of typhoid fever (.95 per cent.) with five deaths (.2 per cent.), as compared with 213 cases (2.5 per cent.) and 23 deaths (.34 per cent.) among 8460 uninoculated persons. These results become the more conspicuous from the fact that the inoculated included principally young and unseasoned men, while the uninoculated included older and more seasoned ones. While perhaps these observations can not be looked on as conconclusive, they indicate at least the harmlessness of the procedure employed, and they justify the hope that we shall soon have a means of diminishing the prevalence of, as well as reducing the mortality from, typhoid fever, just as these things have been done for smallpox, for hydrophobia and for diphtheria.

TREATMENT OF SYPHILIS BY INHALATIONS OF MERCURIAL VAPOR.

In the treatment of syphilis it is sometimes desirable to bring the system speedily under the influence of mercury. This might be accomplished by means of subcutaneous injections, but for a number of reasons this method has not come into general employ. As large doses of mercury administered by the mouth are generally not well borne; and as absorption from the gastrointestinal tract is relatively slow, this route will not be employed when speedy physiologic results are acquired. The introduction of mercury through the skin by sublimation has never been popular, and is at present but little if at all employed. Inunction, however, appears to be one of the most efficacious and trustworthy, as well as simple and practicable modes of administering mercury. Kutner[2] expresses the opinion that when this is applied to the skin it is not absorbed, as it has been shown that it is not present in the deeper layers, even after thorough rubbing, and he suggests that the effects produced are due to inhalation of the vapor of the metal. In support of this view he points out that the therapeutic results are obtained also when mercurial ointment is simply applied to the body, and not rubbed in, or when preparations of mercury are kept near or upon the body. Governed by these considerations, Kutner has patients placed in a closed chamber, in which, by means of an apparatus that they can control themselves, mercury is rubbed on different parts thereof and the vapor evolved inhaled. Heat can, if necessary, be employed, additionally, to increase the vaporization. Kutner suggests, further, that generating the vapor by the application of heat directly to metallic mercury may be better, but the danger of intoxication would have to be carefully guarded against, and the amount of mercurial vapor that can be inhaled with safety determined. Experimental observations have shown that by this means sufficient mercury can be introduced into the body within a reasonably short time to effect therapeutic results. It was found that after a few inhalations of half an hour daily sufficient mercury was taken up to be appreciable in the urine. The actual therapeutic application of the method has proved satisfactory, the mouth being rinsed with a solution of potassium chlorate after each inhalation, in order to prevent the development of stomatitis.

NON-GONORRHEAL URETHRITIS.

There would seem to be no obvious reason why inflammation of the urethral mucous membrane should be exclusively dependent on the invasion and pernicious activity of gonococci. Lesions of other mucous membranes are not so restricted in etiology, and it may be reasonably believed that the urethra shares in this susceptibility to the action of a multiplicity of irritants. Existing evidence, however, as to the occurrence of a non-gonorrheal urethritis, while not deficient in amount, lacks somewhat in the precision necessary for scientific demonstration. The difficulties to be overcome consist in the exclusion of gonorrheal infection, recent or remote, of syphilis, of tuberculosis, of chancroid, of herpes and of other irritative conditions of the urethra. On the assumption that urethritis may arise independently of gonorrhea, the following classification has been suggested—1. Urethritis due to internal causes: *a*, constitutional disease; *b*, ingested substances. 2. That due to external causes: *a*, traumatism; *b*, venery. It is also held that such urethritis may be due to bacteria or be aseptic. Barlow has made a critical and analytical study of the subject, the results of which he details in the Festschrift number of the *Deutsches Archiv für klinische Medicin*, B. lxvi, p. 141, dedicated to Prof. H. v. Ziemssen in celebration of the seventieth anniversary of his birth. Only a small number of cases were found in the literature in which urethritis was attributed to constitutional influences, such as typhoid fever, rheumatism, lead-poisoning, parotiditis, and microscopic examination of the urethral discharge was made. Such a complication might be anticipated in cases of typhoid fever, for instance, in which it has been definitely determined that typhoid bacilli are often present in the urine and sometimes in large number. In the cases reported, however, the evidence was not conclusive that gonorrhea had not previously existed. The same criticism may be made with regard to the urethritis that is said to occur not rarely after the ingestion of beer and articles of food known to give rise to urticaria. Non-gonorrheal traumatic urethritis has been reported in the sequence of catheterization, urethral injections, the presence of foreign bodies in the urethra and bicycle riding. Two groups of cases of non-gonorrheal urethritis of venereal origin have been described, in one of which bacteria other than gonococci have been found, while in the other no bacteria whatever could be discovered. Of the former, but a single case is recorded in which the bacteria found were demonstrated, by inoculation experiment, to be the cause of the urethral inflammation. In the others absolute evidence was wanting that the condition was not the sequel of a previous gonorrhea. To the few cases of non-gonorrheal urethritis in which bacteria could not be found Barlow adds another, and on the basis of this observation and an analysis of the literature he concludes that the recognition of this variety of urethral inflammation is justified, although strangely, he expresses the opinion that the disease is contagious. With the first part of this conclusion there will be general agreement, but with our modern conceptions of the nature of disease, its etiologic factors, and its mode of transmission, it is difficult to understand how a contagious disease can be other than dependent on a living virus, although this may, for a time, elude discovery.

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[1] British Med. Jour., Jan. 20, 1900, p. 122; THE JOURNAL, February 17, p. 419; this issue, p. 450.

[2] Berliner Klin. Woch., 1900, No. 2, p. 34.

PLUMBIC PARALYSIS.

When the paralysis due to lead poisoning was first described systematically, it was thought that the small muscles of the hands escaped. The wasting of the thenar eminence observed in painters was attributed to the pressure exerted in the use of the brush, although subsequently this was correctly ascribed to the toxic effects of lead. In this process the adductor of the thumb and the first interosseous muscle are also involved. It has been held that this paralysis constitutes part of the so-called forearm type, including paralysis of the extensors of the hand and the fingers, with escape of the supinators. An upper-arm type has also been described, with involvement of the supinators, the biceps, and the brachialis internus; and finally a third variety, with paralysis of the small muscles of the hand, the thenar and hypothenar eminences and the interossei. The last, it has been thought, may be the earliest manifestation of lead palsy, the extensors of the forearm being affected later and more slowly; at other times, the paralysis of the small muscles of the hands may be superadded to that of the extensors. Paralysis of the small muscles of the hands has been observed with relative frequency in file-cutters, and the condition has been attributed in part to the toxic effects of lead, and in part to the over-use to which the affected muscles are exposed. That the latter factor is assuredly not the sole and perhaps not the more important etiologic influence would seem to be indicated by two cases reported by Bernhardt[1], occurring in painters in whom, in conjunction with other symptoms of lead poisoning, there was found in one paralysis of the adductor of the thumb and the first interosseous muscle of the right hand, and in the other paralysis of the interossei of the right hand.

THE ETIOLOGY OF NEURASTHENIA.

Although neurasthenia is known as a modern disorder, and is sometimes designated the "American disease," it is probable that it has existed throughout all time. Its most characteristic phenomenon is undue readiness of recuperation, and of this its protean symptomatology represents but innumerable variations. It is customary to speak of the disorder as a "functional" one, from a failure to discover definite anatomic or histologic changes capable of explaining its manifestations, but it is difficult to conceive of derangement of function without alteration in structure, although this may elude the action of stain and the scrutiny of microscope. One is therefore constrained to believe that certain insidious and elusive nutritive, chemic or toxic influences are operated in the etiology of neurasthenia. What is perhaps scarcely less important, however, is the susceptibility, the predisposition of the individual nervous system to the specific influences responsible for the development of the disorder. Here analogy may be made with the infectious diseases, by which, as is well known, all exposed are not attacked, in consequence of inherent peculiarities included in the term "insanity." So, too, with regard to neurasthenia, the system may or may not be receptive or susceptible to the particular stimuli capable of bringing about its development. Some clinicians have attempted to make a distinction between primary and secondary neurasthenia, but this can not well be sustained. The etiologic factors may be single or simple, or multiple and complex, and the contributing influences may be numerous and varied. The ultimate exciting factor may be only the last of a long train of causative agencies. Some of these are discussed in an interesting communication by Höflmayr.[1] The importance of hereditary predisposition must be acknowledged. Emotional disturbances and excessive mental and physical activity, as well as traumatism and digestive disturbances, are of subordinate significance, else neurasthenia would be even far more common than it is, and it would at times appear in epidemic distribution when large bodies of men are exposed to some one or more of these conditions; as, for instance, in times of war, in competitive examinations, other contests, and the like. Besides, these influences are only temporary and their effects should disappear with their removal. Höflmayr concludes, therefore, that neurasthenia is induced and maintained by injurious agencies of varied kinds arising within the body and capable of renewing their activity constantly. These agencies he considers as chemic or toxic and the process as one of autointoxication. The extraneous influences give rise to disturbances in metabolic balance, resulting in impaired nutrition and in deficient muscular activity and gaseous interchange. To these may be added deprivation of sunlight and inadequate attention to the skin. According as these conditions are but temporary or are maintained, the symptoms of neurasthenia will disappear or persist.

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[1] Berliner Klin. Woch., No. 2, 1900, p. 26.

[1] Deutsches Archiv f. Klin. Med., vol. lxvii, p. 192.

Medical News.

The post hospital at Fort Keogh, Mont., was almost totally destroyed by fire February 15. It was built in 1878.

A new feature is to be introduced into the French department of public instruction, a permanent bureau of information of all kinds in regard to universities, colleges and schools in other countries, with a collection of all the important foreign official or private publications on educational subjects.

The court of appeals (Manger vs. State Ex. Board of Md.) has decided that a physician is not debarred by the mere want of a diploma from the right to be registered in Maryland, as a practitioner of medicine, and that the Board is compelled to issue a permit authorizing registration under such circumstances.

From the *Gazette Méd. de Paris* we learn that the Belgian ambulance sent to the assistance of the English wounded has been captured, also the Russian, German, Spanish and Hollandish ones. Dr. Caldwell has been condemned by General Erasmus to four years with hard labor for his attempt to desert and join the enemy.

In Arkansas, the Garland County Medical Examining Board has inaugurated a crusade against all illegal practitioners and "sharks," who have infested Hot Springs for many years. The movement is supported by a large majority of licensed practitioners. Counsel has been employed, and contested cases will be carried to the supreme court if necessary.

A child 4 months old, died in Plymouth, Ind., February 9, from some unknown ailment. After three days had elapsed the Board of Health called to investigate and the parents, who were believers in faith cure, protested against interference and made answer that the child was sleeping. The Board then took forcible possession of the body and buried it.

If the initial number of the *Doctors' Magazine,* a new venture in medical journalism, edited by Dr. Geo. F. Butler, Chicago—which made its appearance February 15—is a fair sample of what is to follow, success is assured in the undertaking. While it is not supposed to be a strictly scientific medical journal, for the reason that it contains much outside matter, still, all of it is of interest to doctors only. The writers for the first number are all well-known local men, while the foreign correspondence and the miscellaneous matter, of world-wide interest, make the magazine one that ought to be a welcome visitor to the home of every physician.

Pure Food and Drugs.—Senator Stokes of New Jersey will present a pure food and drug bill before the legislature of that state, which it is hoped will have a deterring effect on the practice of adulterating these products. The bill in part annuls the power of the present state dairy commissioner, and places greater responsibility in the hands of the State Board of Health. The object of the bill is to prohibit the sale of any drug which does not come up to the requirements as recognized by the United States Pharmacopeia. Milk must not contain more than 88 per cent.—normal—of water, while other food products must not be colored with substances of an inferior quality.

Proposed Maryland Legislation.—The medical practitioner's bill, now before the House of Delegates, of Maryland, and backed by the profession there, has the following clause: "Any person shall be regarded as practicing medicine, within the meaning of this act, who shall attempt to heal, operate on or prescribe for any ailment of another." The "Christian Scientists" of Baltimore, who claim two churches in that city, with 500 members, are vigorously fighting this and propose an amendment as follows: "Provided, however, that nothing contained in this act shall apply to any person or persons who minister to or treat the sick or afflicted by mental or spiritual means, and without the use of any drugs or manipulation."

Suit for Prenatal Injuries.—Some months ago The Journal mentioned a suit for prenatal injuries brought against St. Luke's Hospital, Chicago. Shortly before the child's birth the mother had her left leg crushed in an elevator accident, while being transferred from one floor of the hospital to another. When her child was born his left foot, left side, and left leg were paralyzed and deformed. The mother settled with the hospital authorities on her own account, and then brought suit for the child. The supreme court holds that at the time of the accident the child could not be considered as a separate being capable of sustaining an action independent of the mother. "If an action can be maintained," it says, "it necessarily follows that an infant may maintain an action against its own mother for prenatal injuries." Justice Boggs files a dissenting opinion and holds that the child was a separate being. The best evidence of this fact, he says, is that the child was born alive after the injury to the mother.

New Tuberculosis Journal.—A new journal devoted to the discussion of tuberculosis and its treatment is announced in Germany. It will be called the *Zeitschrift für Tuberculose und Heilstättenwesen* (Journal of Tuberculosis and Sanatoria), and will be under the editorial control of Dr. C. Gerhardt, B. Fraenkel, and E. von Leyden, with the co-operation of a number of prominent European and American physicians, including Drs. Bacelli of Rome, Broadbent of London, Bouchard of Paris, Knopf of New York City, and others. Original articles will be accepted and published in German, French and English, and it is intended to give a complete survey on the works on tuberculosis throughout the world. For the present the *Zeitschrift* will appear irregularly, in numbers containing 80-90 pages. The price of one volume of six numbers will be 20 marks. The publisher is to be Johann Ambrosius Barth, Leipzig. Communications in regard to contributions, etc., should be sent to Dr. Alfred Moeller, Belzig, near Berlin.

Proposed Hospital for Consumptives in Ohio.—A bill has been introduced in the Ohio legislature, to establish a state hospital for consumptives. It is to be organized and conducted on the general plan of the other benevolent institutions of the state, so far as applicable. The controlling body is to be a board of five trustees appointed by the governor, who shall select the superintendent and other officers. The superintendent must be a well-educated physician, a graduate of a reputable medical college, and of not less than six years' experience in the actual practice of his profession. Besides the resident medical staff, the trustees are empowered to appoint examining physicians not to exceed fifteen in number, each to be a graduate of a reputable medical college and of not less than five years' of practical experience, and skilled in the diagnosis and treatment of pulmonary and tubercular disease. They shall be citizens of Ohio and located at such points in the state, not more than one in any community, as will best serve the purpose of their offices. Their fees or compensation are to be regulated by the trustees. Admission to the hospital will be through the officers in charge of the poor and by the certificate of the medical examiners. If able to pay, the rates will be fixed by the trustees, but no extra privileges are allowed, and preference is to be given to the poor. An appropriation of $200,000 is included in the bill.

LABORATORY FOR STUDY OF THE PLAGUE.—According to the *Medical Press and Circular,* the St. Petersburg Institute of Experimental Medicine has just completed the construction of a laboratory for the study of plague and preparation of antiplague serum, which, in the way of precautions against the escape of infectious organisms, is in advance of anything else yet devised. It is situated on an island, in the fortified town of Cronstadt, and access is possible only by a small steam launch. It contains quarters for horses and other animals for serum cultures and experiments by the laboratory staff, and even a small hospital ward for isolation and treatment in case any of the staff or employees fall victims to their scientific zeal. The unfortunate experience at Vienna undoubtedly suggested these precautions, which so far have not been elsewhere considered quite necessary, or at least have not been so thoroughly carried out. They probably include a disinfecting chamber through which everything that goes out must pass, and it would be difficult to suggest much more, except, as the *Press* says, condemning the staff to perpetual banishment on this island. Speaking seriously, however, there is much to commend in this care for the public health that these measures imply, and it is possible that they are more necessary in Russia than they might be in some other regions.

NEW YORK.

THE BILL to prohibit the sale of drugs in department stores met with some acrimonious discussion in the Assembly, but was finally advanced to a third reading by a vote of 65 to 40.

THERE has been born in Brooklyn a girl baby weighing only 2½ pounds, whose wrist measures only 1⅞ inches in circumference, and foot 1⅝ inches in length.

STATE CARE OF DRUG HABITUES.

A bill, fathered by the Church Temperance Society of the Protestant Episcopal Church, is to be offered in the Assembly at Albany, with a view to securing the establishment of a state institution for the treatment of persons of both sexes who are addicted to the use of spirits or drugs. It provides for the appointment of a board of managers by the governor, and the erection of an institution having accommodations for 300 inmates. Commitments will be secured for five years, and a parole system similar to the one in use in the Elmira Reformatory is a part of the scheme. Incurable cases will not be received. The cost of maintenance is to be charged against the counties from which the commitments come.

New York City.

ERYSIPELAS FOLLOWING HYPODERMIC.

A woman who was recovering from her confinement recently received a hypodermic injection for some reason. The next day the arm, about the site of the injection, began to swell rapidly, and soon it was evident that erysipelas had attacked the part. The disease spread rapidly, and before many days had elapsed it became necessary to amputate the arm. Owing to her poor general condition at the time, her life is in danger.

CANCER STATISTICS.

At a meeting of the New York Academy of Medicine held February 15, Drs. Roswell Park and Gaylor presented a report, illustrated by lantern slides, of the researches in regard to the etiology of cancer, made during the past year at the state laboratory at Buffalo. The results, as detailed, pointed, it is claimed, toward the parasitic nature of the disease.

SOUTH AFRICAN HOSPITAL CORPS.

This corps, recently organized in Chicago, as noted in last week's JOURNAL, and which is to operate under the auspices of the American Red Cross Society, sailed for Havre en route to Pretoria, on the steamer *Gascoigne,* February 15. It will be stationed within the Boer lines, but expected to afford aid, as opportunity is given, to both sides alike. Before sailing the corps was presented with a Red Cross banner by Miss Clara Barton, and an American flag by the town of Holyoke, Mass. The corps consists of six surgeons and fifty-one assistants and hospital attendants.

PENNSYLVANIA.

MEMBERS of the State Medical Council met in Harrisburg, February 13, to consider the report of the chairman in regard to the question of fraud practiced recently before the State Board of Medical Examiners. The meeting was held behind closed doors.

THE CITY council, Chester, has instructed the mayor to enter suit against the Chester Water Company for supplying impure water to the inhabitants of that place. By this means it is hoped to compel the water company to introduce a system of filtration.

THE POLICE of Germantown recently found smallpox prevalent in five members of one household. The family emigrated from an infected locality about four months ago. The patients have been removed to the hospital and disinfection of the premises instituted.

Philadelphia.

DR. E. E. MONTGOMERY has been spending a few days in Chicago during the past week.

DR. J. MADISON TAYLOR delivered the address before the graduating class of the Pottsville Hospital Nurses' Training School, recently.

THE PHILADELPHIA Alumni Society of the medical department of the University of Pensylvania gave an informal "smoker" the 17th.

AT THE last annual meeting of the contributors of the Methodist Episcopal Hospital, an address was delivered by Dr. James Hendrie Lloyd.

THE FRESHMAN class of the Medico-Chirurgical College recently gave a "smoker" in honor of the sophomores of that institution.

AN EXCELLENT portrait of the late Dr. William Pepper, by G. W. Pettit, is now on exhibition at the City Hall. A committee has been appointed, and it will probably be purchased and hung in this building.

UNIVERSITY OF PENNSYLVANIA MEDICAL CLASS OF '75.

The executive committee of the Society of Alumni has appointed Dr. Chas. Dulles, 4101 Walnut Street, to endeavor to secure a reunion of the class of '75 at the June commencement. Members of the class are requested to send him their present addresses and some brief account of their doings since graduation. There will be a social gathering to celebrate the twenty-fifth anniversary.

DANGERS OF TUBERCULOSIS.

Dr. William H. Crane, a member of Common Council, has addressed a letter to members of Select Council, calling their attention to the dangers of tuberculosis, and the importance of exercising preventive measures in its spread, by prohibiting expectoration in public places, and also the importance of providing receptacles on the streets containing antiseptic fluids.

TYPHOID FEVER STATISTICS.

The recent heavy rains are manifest in the color of the Schuylkill River, which is filled with mud and fine particles of coal from the coal regions above the city, and the mortality from typhoid has already begun to increase. On January 20 there were 35 cases of this disease and 8 deaths; January 27, 44 and 8 deaths; February 3, 39 and 6 deaths; February 10, 56 and 6 deaths; February 17, 76 and 14 deaths.

PHILADELPHIA ALMSHOUSE.

During the year the expenditures of this institution were $497,996.17; there remains on hand $2609. The number of children now under charge is 10,973; 7005 left the hospital during the year. The number of admissions was 8043, with a mortality of 13 per cent.; 607 were admitted to the department for the insane.

MORTALITY STATISTICS.

The number of deaths occurring in the city for the past week was 503, a decrease of 27 over the previous week and of 34 over the corresponding period of last year. The principal causes were: [illegible] diphtheria, [illegible]; cancer, 14; tuberculosis, [illegible]; heart disease, 4[illegible]; pneumonia, 3[illegible]; peritonitis, [illegible]

FUMIGATION OF BAGGAGE.

The efficacy of one of the provisions of the United States health laws was demonstrated here a few days ago when the Red Star Line steamship *Southwark* arrived from Antwerp with [illegible] steerage passengers, not one of whom had more than one suit of clothing, and who had not complied with the laws in regard to the fumigation of baggage at the port from which they sailed. The consular certificate as to the fumigation of the baggage in Antwerp could not be produced, and so every trunk, package, etc., was ordered removed to the quarantine station to be thoroughly fumigated. All the passengers will be detained at the Reedy Island Quarantine Station until all danger of infection has passed.

OHIO.

SANITARY LEGISLATION IN OHIO.

Several measures are pending in the Ohio legislature, intended to improve sanitary conditions.

1. *The Municipal Code Bill.*—This is expected to take municipal matters out of the hands of politicians—incidentally it will remove the health officer from politics. Boards of Health are to be abolished. In cities—all municipalities of 3000 inhabitants or more are to be cities—the health officer is to be appointed on the merit system, after an examination by a state commission, or an examining body appointed by such commission. He can be removed from office for cause only, publicly shown. His successor would have to be appointed in the same manner. His salary is fixed by council. The health officer is empowered to make and enforce sanitary regulations. All other employees of the health department are to be appointed in the same manner. Provision is made for a fund to pension sanitary policemen after fifteen, or in some cases twenty-five, years of service. In villages—all municipalities under 3000 inhabitants—the health officer replaces the board of health, but he is appointed by the mayor, without competitive examination. His powers equal those of the city health officer. The State Board of Health has been strengthened as regards the required approval of all plans for water-works and sewerage systems. The people seem to be in favor of the bill. Many politicians and office-holders are not. It is to be doubted that it will be enacted into a law.

2. *Medical Practice Act.*—Another bill is one to amend the medical practice act, introduced by Dr. Love. In brief, it requires that all persons unauthorized to practice in Ohio under the provisions of the present act, and desiring to practice medicine in the state of Ohio, after July 1, 1900, shall possess certain defined literary qualifications, shall be graduates of reputable medical colleges, as determined by the Examining Board and shall in addition pass a satisfactory examination in the fundamental branches of medicine. A new definition is given of what shall constitute "the practice of medicine," which is a "shot" at the osteopaths and others of their ilk. The bill has aroused a storm of opposition. The osteopaths are well organized, and they and their friends are flooding members of the legislature with protests against the bill. The medical students of Ohio, 2500 or more, have also combined against it. They demand that present matriculates shall be excepted from the provisions of the bill. There is a probability that this amendment may have to be foregone. The profession does not seem to be well organized in support of the bill. Its fate is at least doubtful.

3. *Impure Ice.*—A bill introduced at the instigation of the State Board of Health seeks to diminish the dangers of using impure ice. The Board conducted an examination last year which revealed that much of our ice is taken from impure sources. This bill provides that no ice shall be cut for sale or use within the limits of any city or village without first obtaining a permit from the local Board of Health. The permit may be revoked for cause. The Board may also stop the sale or use of any ice, no matter where cut, if, in its opinion, the same would be detrimental to the public health. The bill is [illegible] the State Board [illegible] the [illegible] more satisfactory to the ice men, to prevent the cutting of ice from improper sources than to confiscate and stop the sale of such ice after it is cut. No opposition to the bill has been heard of so far.

4. *Sanitary Barber Shops.*—Another bill, which it seems likely will be difficult to enforce, is one to guard against contagion from barber shops. It authorizes local boards of health to regulate their sanitary condition, and to provide for the disinfection of brushes, razors, etc., *each time they are used.*

Cincinnati.

An ordinance to appropriate $3000 for the maintenance of the Cincinnati Branch Hospital during the smallpox epidemic was introduced February 10.

BEQUESTS.

By the will of August Osterfeld the following hospitals will receive $100 each: Good Samaritan, St. Francis, St. Mary's, and St. Joseph's Maternity. St. Mary's Hospital receives an additional $100 by the will of Martha A. Burman.

Cleveland.

DEPARTMENT CHANGES.

As a result of alleged differences between the gas and food inspectors' departments, a reorganization of this branch of the municipal government is contemplated, which will create the office of city chemist and place that official in charge of all the laboratory work done by the city. The law department is investigating the matter, and an ordinance bearing on the subject will be submitted to the council.

MARYLAND.

Baltimore.

At the recent meeting of the Medical Society of the Woman's Medical College, a young white man in good health, with complete congenital transposition of the heart and other viscera, was exhibited.

Dr. John Ruhrah, quarantine physician, on the appointment of his successor next month, will sail for Europe to spend two years there in medical study. Dr. M. S. Rosenthal, assistant quarantine physician, will also go to Europe at the same time.

MEDICAL LEGISLATION.

The state senate has passed the following bills: To amend the charter of Baltimore so as to increase the number of vaccin physicians from twelve to twenty-four, and to increase the salaries from $300 to $900; to change the name of the second Hospital for the Insane of Maryland, at Sykesville, to "The Springfield State Hospital." (See also our News Columns.) A bill has also been introduced to carry out the recommendation made by the secretary of the Lunacy Commission, requiring not only that two physicians should certify the existence of insanity, but also make affidavit to this, and that their certificates should be further submitted to the approval of the court. Another relating to infectious diseases, is also before the legislature, forbidding teachers in any of the public schools in the state to admit any person who can not present a certificate, from a regular practicing physician, of successful vaccination, under penalty of $10 for each offense. Teachers are empowered to give orders for the vaccination of any unvaccinated child, and any physician so vaccinating shall receive 50 cents per capita.

CITY CHARITIES.

Dr. Mactier Warfield has been appointed one of the nine supervisors of city charities. This body, under the new city charter, has the spending of all the money appropriated by the city for public charities, amounting this year to $397,350. The system heretofore in vogue in this and other cities, to appropriate money directly to the hospitals and charitable institutions, is prohibited by the new charter. Hereafter the Board will make contracts with hospitals and charitable institutions, so much per capita.

BEQUEST.

The late Miss Eloise Baker left $1600 to the library of the Maryland Medical and Chirurgical Faculty. It is probable that this amount may be laid aside as the nucleus of an endowment fund. She was the daughter of Prof. Samuel Baker, of the University of Maryland, on whose motion a resolution was adopted at the annual meeting in 1830, "that $500 be appropriated for the purchase of books to be kept in a suitable place, under the direction of a committee, for the use of the members." Some time ago she gave to the Faculty an oil portrait of her father, and fitted up a "Baker memorial room."

CHARLES FREDERICK WIESENTHAL.

This physician, the father of the medical profession of Baltimore, Md., born in Prussia in 1726, physician there to Frederick the Great, settled in Baltimore in 1755. He was a member of the committee of observation and superintendent of the manufacture of saltpeter for the troops in 1775, and surgeon-major of Smallwood's battalion in 1776. He was surgeon-general of Maryland in 1777, and died June 1, 1789. An old portrait of him was shown, together with his crest and a photograph of his medical school, which is still standing, at a recent meeting of the Johns Hopkins Historical Club, by Dr. E. F. Cordell. Extracts were given from his letters to his son, while the latter was a medical student in Philadelphia in 1781 and in London 1787-89. He taught most of the medical students in Baltimore in his day, and was the first physician in "Baltimore Town" to drive a four-wheeled vehicle. He established there the first Lutheran church (1762), the first German society (1784) and the first medical society (1788).

ENDOWMENT OF JOHNS HOPKINS MEDICAL SCHOOL.

The statement recently made in a medical journal, with regard to the endowment fund of American medical colleges, was incorrect in the rating given the Johns Hopkins Medical School. We are informed that the true amount is $500,000. The hospital was opened in May, 1889, but the funds of the University were deemed insufficient to inaugurate the medical school to be established in connection with it in accordance with the provisions of the will of Mr. Johns Hopkins. During 1890 the collection of a fund of $100,000 was begun by the women throughout the country, in order to secure in the future school equal privileges to the sexes. By Oct. 28, 1890, $111,300 was raised, and the Board of Trustees resolved to open the school when the fund for its establishment and maintenance should amount to not less than $500,000. Besides the $111,300 the trustees had at this time $67,480 available, the greater part being the principal and interest of the Boxley bequest. On Dec. 22, 1892, it was announced that Miss Mary E. Garrett, of Baltimore, had made additions completing the $500,000 endowment. The school was accordingly opened Oct. 2, 1893, with fifteen teachers, thirteen men and three women students. April 16, 1894, ground was broken for the first group of buildings of the medical school, which was called "The Woman's Fund Memorial Buildings," the first structure in America exclusively for anatomic purposes. A second building—physiologic and pharmacologic laboratory—was opened in 1898. Other buildings will follow. The terms of endowment gifts were that not more than $50,000 of the amount should be used in buildings. The faculty are partly paid out of this fund and partly out of the separate hospital endowment fund.

CANADA.

DR. R. W. BELL, Peterboro, has been appointed assistant physician at the Toronto Asylum for Insane, his appointment to take effect in March.

THE MAYOR of Montreal, in his inaugural address, promised the citizens that efforts would be immediately made to give that city a purer milk supply.

AT ITS recent meeting the Provincial Board of Health approved of the Ontario Government voting, at its present session, a grant to the vaccin farm at Palmerston, Ont.

WINNIPEG has recently erected a new maternity hospital. It is in charge of the Sisters of Mercy. A notable feature of the building is the large sun-galleries on each flat.

DR. C. B. KEENAN, of the Royal Victoria Hospital, Montreal, has been appointed one of the surgeons to the "Strathcona Horse," which the present Canadian High Commissioner in England is sending to South Africa at his own expense.

OWING to the unsanitary condition of many of the factories and workshops in Ontario, the Provincial Board of Health will advise the government for better inspection in regard to ventilation, etc.

DEATHS from diphtheria are on the decrease in Ontario. During 1899 there were only [illegible] deaths from the disease against 632 in 1898, and 930 in 1897. Dr. Bryce thinks that the better sanitation of the province and the general use of antitoxin have resulted in the decrease.

RED CROSS work is being briskly prosecuted in Montreal. Large quantities of hospital supplies and comforts for the wounded are continually going out to South Africa. During last week something like seventeen hundred hospital pads and cushions alone were made in the Victoria Rifles' Armory, by the women of that city.

CONSIDERABLE dissatisfaction is expressed in military medical quarters that the Dominion Government refused the services of a leading surgeon of Toronto, who volunteered for South Africa. There seems to be an undercurrent of opinion that the selections in this respect have not been of the happiest character.

ONTARIO'S HEALTH FOR JANUARY.

Up to the present date 90 per cent. of the population has reported. There has been a decrease in all deaths from contagious diseases, compared with a year ago, except for diphtheria. The total deaths in January were 1743, against 2154 in January, 1899. Scarlatina registered 12; diphtheria, 51; measles, 3; whooping-cough, 4; typhoid, 16; and tuberculosis, 179.

LIQUOR BY PRESCRIPTION.

The druggists of the Province of Quebec are seeking legislation removing certain restrictions on the sale of liquors on physicians' prescriptions. It is held that it is an especial hardship on poor people to be refused liquor at the drug shops unless they present a doctor's certificate that it is for medicinal purposes. They can not afford to pay for the prescription and the liquor as well.

CONVALESCENTS' HOSPITAL.

Situated on the banks of the St. Lawrence, at Verdun, Que., is the Robert Jones Convalescent Hospital, which is doing especially good work by caring for sick children during convalescence either after sickness in their own homes or in the city hospitals of Quebec Province. The institution also opens its doors to delicate children requiring change of air and diet during the summer months.

SMALLPOX OUTBREAK.

The smallpox outbreak at West Toronto Junction, noted in these columns last week, is now well under control, thirteen cases being the total reported to date. The disease has spread to Toronto, but so far only two cases have been reported. The City Board of Health has asked the health officer to choose a site for a new smallpox hospital. Regarding general vaccination, which is proceeding in the schools of the city, the homeopaths are seeking to have their system of internal vaccination adopted.

AMENDING THE MEDICAL ACT IN QUEBEC.

A bill has been introduced into the Quebec legislature, which if passed will certainly be of marked advantage to many students of medicine in that province, although it may not be considered a just or proper measure. From the leader of the opposition in the House it is meeting with decided opposition. Ordinarily, the law in Quebec, as in the Province of Ontario, requires a student, before entering on his professional duties, to pass the matriculation examination required by the College of Physicians and Surgeons, and so become registered before entering on those studies. It has been pointed out by Dr. Cotton, in his speech before the Assembly, that there was much misunderstanding in regard to the proper time to register, many students having proceeded with their professional studies in perfect faith without having passed a matriculation examination. Apparently the bill is to do away with the necessity of passing this examination at all, but provides that before being admitted to practice in the province they shall pass the prescribed examination—the final one alone—of the College of Physicians and Surgeons. The College of Physicians has not voiced its opinion one way or another on the merits of the bill.

HEALTH OF DAWSON CITY.

Public and private sanitation in the spring of 1899 has effected a marked improvement in the health of Dawson City. Prior to that there had been much dysentery and typhoid with some malaria, but now conditions are changed for the better. A fever somewhat resembling mountain fever has been seen in the district, but so far as known there have been no fatalities noted from this. True malaria occurs at intervals during the summer time, and its presence seems to aggravate an attack of typhoid fever. Typhoid mortality seems to have been about 5 per cent. of all the cases. Pneumonia is rarely met with. [illegible] diphtheria, measles, smallpox and scarlet fever are reported to not as yet have visited the district. It is stated that [illegible]

[illegible] in any other portion of Canada. Another authority states that there is less sickness in Dawson City at the present time in proportion to the population than in any other part of Canada. So far the country is very free from syphilis, a [illegible] examination of the prostitutes is insisted on by the authorities there.

THE LAURENTIAN SANATORIUM.

A sanatorium for the treatment of cases of tuberculosis has just been inaugurated in the Province of Quebec. It is situated about one mile from Ste. Agathe des Monts and about an equal distance from a station on a branch line of the Canadian Pacific Railway. Ste. Agathe is sixty-four miles from Montreal and is largely built up with the summer residences of wealthy Montreal citizens. The institution is about midway on the declivity of a hill, at an elevation of 1550 feet above sea-level. The soil is very porous; the drainage thorough. The sanatorium is supplied with pure, wholesome spring water, which is carried to every floor and supplies bath and toilet rooms—both hot and cold. Electricity lights the building throughout; moist air heats it. Of the surrounding hills, it has a commanding view; there balsams grow profusely. The indoor staff consists of a house physician, Dr. Eust. Meli, a European graduate, who has had a most thorough training in the treatment of tuberculosis; a matron, herself a trained nurse, and two other trained nurses. Many of the prominent physicians of Montreal are on the medical board. As president of the British Medical Association, in 1897, Dr. T. G. Roddick, M.P., took occasion to say a few words about the advantages of the Laurentians as a location for such a sanatorium. They have been called the Adirondacks of Canada, having many of the features, physical and climatic, of that celebrated plateau, their average elevation being about 1500 and 1800 feet respectively. The immense pine forests, together with the moderate temperature, constitute the chief characteristics of the Canadian district from a medical point of view.

VERDUN INSANE HOSPITAL, QUEBEC.

The governors of this institution held their annual meeting this week. There have been more admissions during the past year than during any previous one. In 1899, there were 147 patients admitted, as compared with 110 during 1898. On the other hand, the receipts have fallen short of the expenditure, there being something like a deficit of $3000. Then a debt of $18,000 was incurred during the past year for necessary improvements. This institution was inaugurated ten years ago with 115 patients, and at the present time 362 are under treatment. The discharge rate during those ten years amounted to 53 per cent., most of them being cures. Dr. Burgess, the newly-appointed medical superintendent, thinks the government should supply more medical assistance. He also insisted on the importance of early hospital treatment in cases of brain trouble, instancing that of the 49 patients discharged cured, 26 had been insane less than two months prior to reception, and 43 of the 49—over 87 per cent.—had been insane less than a year. During the past year, besides the admissions mentioned above, the report shows that the total number treated was 471, or an average daily population of 343.45; of this number 80 were discharged, 49 recovered, 26 improved, and 5 unimproved. The discharge is thus 52.42 per cent., and the recovery rate 33.38 per cent. on the admissions. There were 33 deaths, or 7 per cent. of the total number under treatment, during the year; of these 14 were over 60, one 88 years old. The per capita cost of maintenance for the year was [illegible]

ILLINOIS.

Chicago.

During the past week 8493 pupils were examined by the school inspectors, and 371 were excluded.

Dr. Arthur R. Edwards, of this city, and Miss Susannah T. Harrison, of Muncie, Ind., were married in Rome, Italy, February 15.

The total mortality during the past week was 504, a decrease of 27 over the preceding week and 100 less than the corresponding week of 1899. Pneumonia was the leading cause of death.

The first food bulletin, containing the laws relating to the adulteration of food, has been issued by the State Food Commission. It is not the intention of the commission to prohibit the manufacture or sale of any substitute or imitation goods not deleterious to health, but simply to demand that they be properly labeled and honestly sold. After July 1 all retailers will be held responsible for selling goods without such labels.

LOUISIANA.

New Orleans.

Dr. John B. Elliott, Jr., instructor in physical diagnosis, medical department, Tulane University of Louisiana, was married to Miss Noel Louise Forsyth, on February 8.

In the case of the French steamer *Carolina*, with coffee from Rio Janeiro, the State Board of Health will adopt the same stringent measures as with the *Willowdene*, from Santos, also infected with plague, as noted in these columns several weeks ago.

Smallpox is no longer as active as some weeks ago. Of the eleven students of the medical department of Tulane who were attacked, three died. The others have all been discharged—of the entire number but one had been recently vaccinated, escaping with an insignificant attack of varioloid.

MICHIGAN.

Detroit.

The new Policlinic, Detroit, was formally opened February 14.

The biennial convention of the Nu Sigma Nu, which has been in session at Ann Arbor, closed February 17 with a banquet, tendered by the Detroit members of the fraternity.

Correspondence.

Medical Education.

New York, Feb. 13, 1900.

To the Editor: The letter of Dr. Bayard Holmes, Chicago, which appeared in The Journal of February 3, discusses a recent editorial on Medical Education in a broad and reasonable manner, which indicates that the attention of physicians has been attracted, as much perhaps as the attention of professors, to the subject in hand at the Christmas meeting of the American Society of Naturalists, viz., "The position that universities should take in regard to investigation."

Dr. Holmes says that "it is a mistake to assume that any medical school proposes to put its students to the serious work of actual research," and yet some medical schools win their prestige from the facilities they offer to students for just such work. Concerning "research methods" of work the editor utters a word of warning. What holds true for naturalists does not necessarily hold true for the medical student. Upon this some of the eminent professors who met at New Haven were agreed. Professor Dwight, of Harvard, emphasized his opinion in these words: "It is for the beginner to learn all that is worth learning in his particular field first of all. It is not easy in these days to learn all that is worth learning even in a very restricted department. To start an jnvestigation with this only half-learned is a direct injury to the student, whom it turns to premature specialization. It is both foolish and cruel to exact investigation as a part of the regular training of every student."

Some medical colleges hold that if a student learns a fact through a long process of deduction, he learns it better than from a simple statement. This Dr. Holmes seems to advocate; but the "research method" of practical instruction is apt to waste valuable time. True, the skilful professor illustrates his facts and theories by a series of experiments performed by himself to his pupils, with the idea of emphasizing the important points. But he is in danger just as soon as he lets the importance of the fact be lost in the interest or technique of the experiment itself. It is because the research method of work is so pleasing to students, and so much easier than getting up forcible, up-to-date lectures, that students and professors alike are tempted to indulge in it, under the flattering assumption of being advanced. With it there is the tendency to lose sight of what the editor calls the underlying principles of medicine: —and just here, it might be added that Dr. Holmes expatiates on this term "underlying principles," as though he meant "cast-iron formulæ," and assumes that he pre-supposes a few dogmas along with homeopaths and osteopaths; but this may pass.

The point is that medicine is not an abstract science, but the application of all sciences to the laws of the body and mind. The successful physician does his investigating in the hospital wards. He takes side courses in sociologic problems, in heredity, in temperament, and in the art of adaptation. He is, in the finished product, a detective, a judge, a confessor, a teacher, a comforter as well as a healer of sick bodies. So the professors of anatomy and physiology, and materia medica, must remember that their students are not going to be anatomists, or physiologists, or pharmacologists, but physicians; and that these studies are but the tools with which they are to work. They want to get them, and keep them sharp; that is all.

S. E. JELLIFFE, M.D.

Kirke's Handbook of Physiology.

50 ALBEMARLF ST., LONDON, W., Feb. 8, 1900.

To the Editor: In 1896 I had to call attention to the fact that Messrs. Wm. Wood & Co. of New York were publishing an unauthorized edition of Kirke's well-known Manual of Physiology. I have recently obtained a copy of the 15th edition of their work, bearing date 1899, and having on the title page the names of Mr. Morrant Baker and Dr. Vincent Harris as editors.

The facts are as follows: Mr. Morrant Baker—who is now dead—and Dr. Vincent Harris gave up the editorship of the genuine work four years ago, and even before that time Messrs. Wood & Co. never had their permission to use their work or their names. Since 1895-6 Professor W. D. Halliburton has been sole editor of the Handbook: he has almost re-written the work from beginning to end, although Kirke's name has been retained.

One of the special features of our book is a series of colored illustrations of blood-corpuscles, blood-crystals, etc. These, together with many alterations and improvements, both in cuts and text, which have been introduced by Professor Halliburton, have been adopted by Messrs. Wood & Co. without any acknowledgement of the source whence they were derived, and in the teeth of a protest by Professor Halliburton and myself—who am the proprietor of the book.

Not only have Messrs. Wood & Co. "conveyed" a large amount of Professor Halliburton's original work, but they have also issued their book under the names of Mr. Morrant Baker and Dr. Vincent Harris, who have nothing to do with it.

I think it is but right that I should again call the attention of the American medical profession to this glaring and persistent case of literary piracy, for the present United States law gives me no other redress.

The only authorized and complete edition of Kirkes' Physiology sold in America is that published by Messrs. P. Blakiston's Son & Co., of Philadelphia, in conjunction with my firm.

I am, Sir, Yours faithfully,

JOHN MURRAY.

Typhoid Peculiarities Following Sunstroke.

POINT ARENA, CAL., Feb. 9, 1900.

To the Editor:—During a general country practice of over twenty-three years, I have treated about two hundred and fifty patients with typhoid fever, and in three, all men in the prime of life, a decided peculiarity has been shown in the duration and character of the delirium. The usual symptoms and general characteristics in all, except the three to which I allude, were present, and there was no marked deviation from the symptoms we would expect to see in that disease. But in the three the delirium was extraordinarily prolonged, neither of them being free from that condition for a period less than three weeks, and two of them for about four weeks. A peculiar type of [illegible] long as they were being talked to, but would relapse into hallucinations [illegible] when left alone. They would recognize faces of friends and old-time acquaintances, and voices and other sounds, as well apparently as if they were not sick. I met the first of the three in 1885, during an epidemic of fever. The oddity of the case attracted my attention, especially, and I made careful inquiry into the past life of my patient. The only thing I could learn was that he had suffered a severe attack of sunstroke some years before, from which he did not fully recover for two months. On meeting the other two, one in 1891, and the other last November, I noticed the same peculiar symptoms, and on inquiry found that they too had suffered severely from sunstroke.

I desire to know whether insolation leaves any lesion of the brain that renders it susceptible to the typhoid toxin causing that peculiar type of delirium. It seems to me the subject is of sufficient interest to engage the thoughts of our neurologists, and justify investigation.

GEO. J. BROWN, M.D.

Students and Medical Practice.

CAMDEN, S. C., Feb. 14, 1900.

To the Editor.—In THE JOURNAL of February 10, you editorially mention that "The medical students of South Carolina have succeeded in obtaining legislation exempting them from the state examinations, . . ." The bill to exempt all graduates from the only medical college in the state did pass the house, but the senate was wiser and more conservative, and killed it. I think that the young gentlemen who pushed this matter were lacking in forethought and discretion. The object of the State Board's examination is to keep down quackery, and if one bar is taken down, there will be danger to the entire fence. One of the arguments against standing the examination was the necesary expense of the trip to the capitol city, where the Board meets, a matter of say $25. The time will come when these young gentlemen will be pleased that they went to this expense and trouble. They will some day appreciate the value of a board which must pass upon *all* applicants to practice medicine in the state.

There is no doubt that they who get their diplomas from the Medical College of the State of South Carolina will successfully pass this examination, but strangers to them might think that their zeal in the matter of legislation against the examinations means a lack of confidence in themselves or in the college. I understand that the faculty is as a body opposed this bill; so it seems that they have plenty of confidence, and justly so, in the high standard of the Medical College of the State of South Carolina.

JNO. W. CORBETT, M.D.

Books Received.

Acknowledgement of all books received will be made in this column, and this will be deemed by us a full equivalent to those sending them. A selection from these volumes will be made for review as dictated by their merits, or in the interests of our readers.

THE APISTOPHILON. A Nemesis of Faith. By Frank D. Bullard, A.M., M.D., 12mo. Cloth. Pp. 110. Price $1.50. Chicago. R. R. Donnelley & Sons Co. 1899.

THE RETROSPECT OF MEDICINE. A Half-yearly Journal, Containing a Retrospective View of Every Discovery and Practical Improvement in the Medical Sciences. Edited by James Braithwaite, M.D., and others. Vol. 120. July-December, 1899. 8vo. Cloth. Pp. 442. Price 6/6. London: Simpkins, Marshall, Hamilton, Kent & Co., Ltd. 1900.

A TEXT-BOOK OF MATERIA MEDICA, THERAPEUTICS AND PHARMACOLOGY. By George Frank Butler, Ph.G., M.D., Professor of Materia Medica and Clinical Medicine in the College of Physicians and Surgeons. Third Edition. Thoroughly Revised. 8vo. Cloth. Pp. 874. Price $4.00. Philadelphia: W. B. Saunders. 1899. W. T. Keener & Co., Chicago Agents.

A TREATISE ON THE PRINCIPLES AND PRACTICE OF GYNECOLOGY. By E. C. Dudley, A.M., M.D., Professor of Gynecology in the Northwestern University Medical School, Chicago. New (2d) Edition. In one octavo volume. Pp. 717. With 453 engravings, of which 47 are in colors and 8 colored plates. Cloth, $5.00, net. Leather, $6.00, net. Philadelphia: Lea Brothers & Co. 1899.

A MANUAL OF MODERN GASTRIC METHODS, CHEMICAL, PHYSICAL AND THERAPEUTIC. By A. Lockhart Gillespie, M.D., F.R.C.P.E., F.R.S.E. With a Chapter on the Mechanical Methods Used in Young Children. By John Thompson, M.D., F.R.C.P.E. 8vo. Cloth. Pp. 176. New York: William Wood & Co. 1899.

DIET AND FOOD CONSIDERED IN RELATION TO Strength and Power of Endurance, Training and Athletics. By Alexander Haig, M.A., M.D. Oxon., F.R.C.P. Second Edition. Illustrated. Small 8vo. Cloth. Pp. 107. Price $1. Philadelphia: P. Blakiston's Son & Co. 1900.

A PRACTICAL TREATISE ON DISEASES OF THE SKIN. For the use of Students and Practitioners. By James Nevins Hyde, A.M., M.D., Professor of Dermatology and Venereal Diseases in Rush Medical College, Chicago. New (fifth) Edition. One octavo volume of 8[illegible] pages, with 111 engravings and 24 full-page plates, 8 of which are colored. Cloth, $4.50 net; leather, $5.50 net. Philadelphia: Lea Bros. & Co. 1900.

THE INTERNATIONAL MEDICAL ANNUAL SYNOPTICAL INDEX TO REMEDIES AND DISEASES. For the Twelve Years, 1887 to 1899. 8vo. Cloth. Pp. 412. Price $2.75. New York and Chicago: E. B. Treat & Co. 1899.

PRACTICAL TEXT-BOOK OF MIDWIFERY. For Nurses and Students. By Robert Jardine, M.D. Edin.; M.R.C.S., Eng.; F.F.P. & S., Glasg. Illustrated. 8vo. Cloth. Pp. 246. Price, $1.50. New York: The Macmillan Co. 1899.

MENTAL AFFECTIONS. An Introduction to the Study of Insanity. By John MacPherson, M.D., F.R.C.P.E. 8vo. Cloth. Pp. 380. Price, $4. London and New York: Macmillan & Co., Ltd. 1899.

CHRISTIAN SCIENCE. An Exposition of Mrs. Eddy's Wonderful Discovery, Including Its Legal Aspects; a Plea for Children and Other Helpless Sick. By William R. Purrington. 8vo. Cloth. Pp. 194. Price, $1. New York: E. B. Treat & Co. 1900.

THE PRINCIPLES AND PRACTICE OF MODERN SURGERY. For the use of Students and Practitioners of Medicine and Surgery. By John B. Roberts, M.D., Professor of Anatomy and Surgery in the Philadelphia Polyclinic; Mütter Lecturer on Surgical Pathology of the College of Physicians of Philadelphia. New (2d) and revised edition. In one octavo volume of 838 pages, with 474 engravings and 8 plates in colors and monochrome. Cloth, $4.25, net; leather, $5.25, net. Philadelphia: Lea Brothers & Co. 1899.

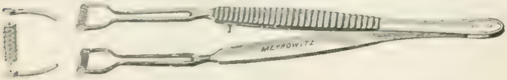
New Instruments.

A New Forceps for the Treatment of Trachoma and Granular Conjunctivitis.

BY A. A. CANNADAY, M.D.

ROANOKE, VA.

As the treatment of trachoma is mostly surgical, i. e., expression, grattage and brossage, I wish to describe a surgical method, which, in my hands, has been entirely satisfactory. For years I have used the method of expression, but not with satisfaction in all cases. It is hard to get all of the granules out by squeezing; and furthermore the damage done to the mucous membrane is considerable. I naturally sought after a better method. To pick them out one by one was too tedious and was not practicable; to use the copper stick consumed too much time and was not an up-to-date procedure. Finally I secured just what I had been looking for. I had Mr. E. B. Meyrowitz of New York make me a pair of roller forceps—exactly like Knapp's, with the exception that one of the fluted rollers is replaced by a sharp-toothed roller, the teeth being about 1 mm. long and moderately sharp. They are very easily operated. All that is necessary is to pass the sharp roller over the granules, thereby making little punctures in the mucous membrane, then reverse the rollers and press the trachomatous material out. The sharp roller will not cut the outside of the lids. The lids are first disinfected, then cocainized and, after the operation, a solution of bichlorid (1-750) is rubbed on the mucous membrane thoroughly. I very rarely use general anesthesia and have never had any severe reaction following the operation. In the treatment of granular lids I made use of the same method, with the exception that I do not do it so thoroughly and find it uniformly successful. It is very necessary that this sharp roller should roll, otherwise it will slit in place of puncture the mucous membrane, and if it does there will be considerable destruction to that delicate membrane.



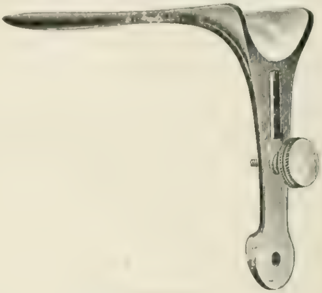
My associate, Dr. J. R. Garrett, has in course of preparation an article which will contain the report of quite a number of cases treated by this method, and will go into the matter more thoroughly. If this little article shall be the means of calling the attention of the profession to this instrument, I shall have accomplished my purpose.

Improved Graves' Speculum.

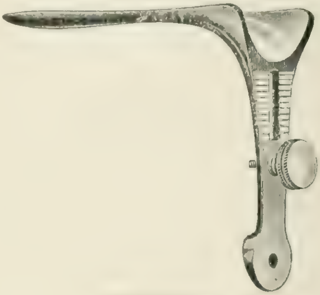
BY E. F. FISH, M.D.

MILWAUKEE, WIS.

I desire to call the attention of the profession to an improvement I have added to the Graves speculum, which is made of two blades held together by two handles and a set-screw. There is a slot in the upper and outer handle so as to allow it to be moved up or down on the set-screw, and thus adjust the size of the vulvar opening. The handles of these blades are smooth on the surfaces which come together, and the set-screw is supposed to be tightened so that they can not slip. There is a lever on the upper blade. When the speculum is placed in the vagina and the lever is pressed so as to separate the distal ends of the blades to expose the cervix, the handles will slide on each other unless the vulva is large and lax. This will happen when the least force is required, in spite of the set-screw.



OLD FORM.



IMPROVED FORM.

Recently I had a ratchet put on the outside of the under handle of a Graves speculum, and a cross tooth on the back side of the outer handle. This tooth fits in any of the grooves of the ratchet. The vulvar end can thus be fixed and adjusted with a couple of turns of the set-screw, which any child has the strength to turn tight enough. I think this is a great improvement in the instrument, and renders it of some value to those who use it. For reasons I can not explain this has always been a very popular speculum and with this addition it ought to be still more so.

IMPROVED SPECULUM. G. Zepler's improved slit speculum, is made of transparent glass and has several lengthwise slits which facilitate the introduction of sounds into the uterus, etc., according to *Cbl. f. Gyn.*, 39.

Deaths and Obituaries.

DR. A. S. OLIVER, Kingston, Ont., died on February 15. He was one of the oldest physicians of that city, and was for many years a professor of the Royal Military College. He was 60 years of age, a graduate of Queen's University Medical College, Kingston, being for over twenty years a member of the Faculty of the College. He saw service in the Civil War, under the United States Government, for which he received a pension.

GUSTAVE MOZART STOECKEL, M.D., a son of Gustave Stoeckel emeritus professor of music at Yale, died at his home in Norfolk, Conn., February 15, aged 51 years. After graduating from Yale he took his medical degree from the College of Physicians and Surgeons, N. Y., in 1874. Subsequently he also took degrees from the University of Vienna and the University of Paris.

WOOLSEY HARRIS, M.D., College of Physicians and Surgeons, N. Y., 1890, an assistant-surgeon of the Manhattan Eye and Ear Hospital, died in New York City from pneumonia, February 15. He was born in Alexandria, Va., thirty-two years ago, and at the time of his death, besides belonging to several medical societies, was a member of the St. Nicholas and New York Athletic clubs.

GEORGE W. COX, M.D., of the biologic department of Parke, Davis & Co.'s pharmaceutic laboratory, died in Detroit, Mich., February 11, suddenly, of neuralgia of the heart. He was 52 years of age and a graduate of the Medical College of Indiana, class of 1880. He was a member of the AMERICAN MEDICAL ASSOCIATION, a regular attendant at the annual sessions, and frequently contributed to THE JOURNAL.

A. J. BILLINGS, M.D., Freedom, Mo., died February 6, aged 74 years. He was a graduate of the Albany (N. Y.) Medical College, class of 1854, and one of the early members of the Maine Medical Association. During the Civil War he served as surgeon in the 19th Maine Infantry. In 1862 and 1868 he was representative from his district in the state legislature, and later served two terms as state senator.

JOHN C. ROTH, M.D., died in Baltimore, Md., on the 7th inst., aged 35. He was born and educated in Baltimore, graduated from the Maryland College of Pharmacy in 1884, and from the Baltimore University of Medicine in 1891.

THOMAS D. THRUSH, M.D., Kansas City, Mo., a graduate of the Kansas City Medical College, aged 38 years, died February 11. He was house surgeon to the City Hospital, and held the chair of surgery in the Medico-Chirurgical College.

HORACE R. ALLEN, M.D., formerly of Indianapolis, Ind., died in Chicago, February 13. He was born in Ohio in 1832. During the Civil War he served as surgeon in the 123d Illinois Regiment.

DR. G. H. CORBETT, the oldest physician of Orillia, Ont., died in the office of a brother practitioner on January 31. He was graduated from Queen's University, Kingston, in 1856.

We also note the following deaths:

David Crowell, M.D., Savannah, Ohio, February 7, aged 52 years.

D. C. Greene, M.D., Florence, Ala., February 13, aged 65 years.

R. A. Kennedy, M.D., Shamokin, Pa., February 6, aged [illegible] years.

G. J. McMurray, M.D., Philadelphia, February 10, aged 30 years.

J. S. O'Brien, M.D., St. Louis, Mo., a graduate of the Beaumont Medical College, class of 1897.

Jos. H. Pierce, M.D., Ivanhoe, Va., February 8, aged 58 years.

O. C. Heise, M.D., Nebraska City, Neb., February 9.

Charles Kennedy, M.D., Altoona, Pa., February 11.

DEATHS ABROAD

Dr. Kostanecki, of the Cracow Institute of Bacteriology, died recently under circumstances that suggested laboratory plague poisoning. Every precaution was taken to prevent the spread of infection and the family were taken to the hospital and isolated, but it was finally determined that his death was due to a streptococcus infection.

Dr. G. Tourdes, honorary dean of the faculty at Nancy, recently died, in his ninety-first year.

Miscellany.

Transmission of Infection by Infection.—Nuttall reports tests (*Cbl. f. Bakt.*, xxxiii. 15) which show that when bedbugs and fleas bite, by their sucking, they remove any micro-organisms that may be introduced by their bite. But infection may occur if the insects are crushed on the skin and the bitten spot scratched.

Evolution of Sexual Instinct.—Féré's new work, with this title, proclaims that the evolution of the sexual instinct leads to chastity; one questions whether it is the crown of evolution for woman. History, he adds, shows that it is harder for man than for woman, but the progress of evolution is hindered by denying the biologic and social advantages of chastity, and by attributing to it inconveniences which do not belong to it. "Sentiment runs no more risk than the organs in chastity."

Shall We Charge for Medical Advice by Telephone?—An editorial in the *Cleveland Medical Gazette* answers this question by saying that whoever takes the physician's time and attention should pay for them. It adds that whenever advice or a prescription by telephone obviates the necessity of a visit or office consultation, it should be charged for. Otherwise the doctor's time and his gray matter are drawn upon without compensation, and he is further drained by having to pay for the very apparatus that is used to extract them from him.

To Arrest Hemorrhage of the Liver.—Tricomi reports the results of experiments on dogs to determine the best method of arresting hemorrhage in operations on the liver. In large resections, plugging with gauze occasionally proved insufficient, but for all other wounds it arrested the hemorrhage completely (*Il Policlinico*, Sept. 15, 1899). Ligature of the vessel efficiently supplemented the gauze plugging, or digital compression of the hilus as a temporary expedient. He found the results better when the resection was done in two separate stages. The tissues heal with only a slight depression after removal of the plug, in case of mere wounds.

John Locke as Physician and Philosopher.—Dr. William Osler threw a new light on the career of the English philosopher, at a recent meeting of the Johns Hopkins Historical Club, Baltimore, Md. By researches made last summer, among the manuscript writings of Locke preserved in the British Museum, he showed that Locke had not only studied medicine—although he never received a degree—but had also practiced it, leaving a considerable mass of writings on his cases. His notes of cases were most accurate and full, indeed models. The case of the Earl of Shaftesbury, who suffered from a hydatid tumor of the liver, was one of the most remarkable. The tumor was opened with the actual cautery after twelve years, and a silver tube introduced and worn ever after. There was a continual discharge of hydatids—not then recognized as such—to the number of several hundred. Another remarkable case was one of a titled English lady whom Locke treated for tic-douloureux and cured in Paris. Locke also treated the son of Sydenham, for measles, and described a case of angina pectoris. The intimate relationship between Locke and Sydenham was one of the most interesting points brought out in the paper. Sydenham wrote badly in both English and Latin, and Locke was of inestimable service to him with his fine scholarship, not only editing but even himself writing parts of his published works. The anonymous "Anecdota Sydenhamia" is now known to have been written by Locke.

Egg Membrane in Symblepharon.—In the *Providence Med. Jour.* for January, the successful use of egg membrane for reuniting the raw surfaces resulting from operation for symblepharon, is reported. Under 4 per cent. cocain the adherent parts were separated with scissors and a catgut suture passed through the lower lid from without near the inner canthus and just above the conjunctival fold. This same suture was then passed from within out at the same level and near the outer canthus. Before it was drawn tight, a piece of egg membrane was placed under it. The suture was then drawn tight and tied outside. The eye was then bandaged and allowed to remain undisturbed for sixty hours as the patient had no pain or discomfort. On removing the bandage it was found that the suture had been absorbed but the piece of membrane was still in place. The following day it had worked out, but the wound had healed with only a slight redness of the conjunctiva. Two days later the tendency toward entropion had almost disappeared and no reunion of the parts was apparent. The advantages of egg membrane for use in such cases are evident. It is very thin yet quite tough; it is easily kept in place; it is worn with no discomfort to the patient; it is always easily obtained; and it is always absolutely sterile. A practical note in this connection is that the membrane is much easier to handle and cut if it is manipulated beneath a warmed normal salt solution.

Passage of Tuberculosis Toxin from Parents to Offspring.—Maffucci asserts that the toxin which exists in case of tuberculosis of the parents frequently passes to the offspring, either through the sperm, the ovum or the placenta. The offspring of tuberculous parents feel the maximum effect of this toxin as manifested in deficient development, abortion or premature delivery, mortality or early cachexia. If the offspring survive they are endowed with greater resistance to the action of the tubercle bacillus than children of healthy parents. Chickens developed from infected eggs have a greater resistance to the virus than others raised from sound ones. Maffucci adds that his experiments have shown that offspring born with this tuberculous intoxication may throw it off and grow up healthy if removed from family contagion and placed in good hygienic surroundings. The *Gazzetta degli Osp.*, Nov. 19, 1899, contains his report to the Italian Congress of Surgery, on the subject.

Medicine a Public Service.—In a recent discussion at the Paris city council, A. Lebeau stated that 60 per cent. of all the women who are confined in Paris demand admission to the maternities or the services of a physician connected with them, and 52 per cent. get what they ask. He continued: "The hospital abuse is constantly assuming larger proportions. It is almost useless to shut our eyes to the tendency. The day is approaching when medicine will become an actual public service, like the city water supply." An editorial in the *Progrès Méd.* admits the truth of these statements, and adds that the administration imposes many duties on the medical corps even now, for which remuneration should be allowed. Many practitioners, it concludes, would be rather glad than otherwise to witness the transformation of the practice of medicine into a public service, if a reasonable compensation for their services relieved them from their "misère en redingote" and opened a prospect for the future.

Straw Charcoal as a Dressing for Wounds.—THE JOURNAL has described the charcoal made from straw, which the Germans use for dressings (xxxiv, 1095 and 1195 and xxvii, 771). Its advantages are its perfect sterilization, its inexpensiveness, and its being so easily procured. Fevrier writes to the *Arch. de Méd. Milit.*, August, 1899, that he has been testing it extensively, and finds that the expense, including the gauze bags in which it is applied, is trifling. The filled bags are extremely absorbent, and clean wounds, especially after operations, heal faultlessly under them. The results with suppurating or septic wounds correspond to those of other antiseptic dressings. In this case the straw is moistened with sublimate and the black mess that forms on the wound, from the charred straw and the secretions, is not particularly agreeable, but the wet bags are very absorbent, taking up their own weight in fluids, and the patients accepted these dressings without question. Wheat straw is best, and the richer in silicic acid the better it retains the shape. The straws should all be about the same length and laid parallel, and charred in an air-tight, sheet-iron vessel, requiring about forty-five minutes. Fevrier recommends it, therefore, as a very reliable and suitable material for dressing wounds, on the whole.

The Profession at the Dawn of the Twentieth Century.—An editorial in the *Münch. Med. Woch.*, commenting on the recent Prussian medical court of honor law, mentioned in THE JOURNAL (xxxiii, p. 114), observes that the physicians of Germany are now amply provided with means to protect the honor of the profession against lapses by individual members. "The rapid increase in the number of medical graduates attracted to the profession by the accident insurance legislation, etc., has possibly increased proportionately the number of the unscrupulous within its ranks, but this does not justify the assumption that the medical profession is in decadence. On the contrary, we believe that notwithstanding its difficult financial conditions, the profession never stood higher in public esteem than at the close of the nineteenth century. The best demonstration of this fact is the increased influence of medical advice in every domain of public life: in the courts, in the administration, in military and municipal affairs, in the schools, everywhere the physician's advice is becoming indispensable where until recently it was never thought of. To promote and develop this state of affairs is the task of the coming century. We can look back on the past with satisfaction and to the future with hope, confidently anticipating that closer organization and combination of the members of the profession will also improve their financial condition."

Blindness from Methyl Alcohol.—Apropos of Gifford's case of blindness from this source (see THE JOURNAL of Oct. 14, 1899, ¶ 47, p. 969) others are reported by Raub, in the *Ophthalmic Record* (December, 1899, p. 619), as follows: During the night of Oct. 4, 1898, a man drank from two to five teaspoonfuls of methyl alcohol. Vision was much impaired on the following morning and became gradually less until October 10, when he consulted an oculist. An examination showed no fundal changes. Vision, =0. Under treatment with strychnin and iodid of potassium, vision improved slightly up to October 26, and then gradually faded away as it had come. The present condition is complete optic nerve atrophy. He also refers to three men in the U. S. Navy, who, on July 4, 1898, drank a mixture of methyl alcohol and benzin, and were received on ambulance ship July 5, 1898. One was totally unconscious and died within a few hours; another was perfectly conscious and suffered from gastro-enteritis only; while the third was semiconscious; pupils widely dilated at first and remained so. On July 8 he regained consciousness, when it was discovered that he was totally blind. An examination by an oculist showed atrophy of both optic nerves. Under treatment with strychnin and iodid of potassium a slight improvement of vision was noted August 2. Subsequent reports do not record acuity of vision until Oct. 11, 1898, when total blindness was shown.

Thyroid Extract in Fractures.—In *Pediatrics* for January 15, an editorial writer points out that the fact that the administration of thyroid extract has some influence on the growth and development of bone in infantile myxedema, is well established. Among other beneficial results, a marked increase in stature is frequently observed. Some claim that in cases of retarded growth from other disorders, such as rickets, athrepsia and albuminuria, its administration will cause increase in the length of the long bones, provided ossification of the epiphyseal cartilages has not taken place. Hoffmeister showed, by means of the X-ray, that the changes in the bones of animals from which the thyroid gland has been removed are very similar to those which occur in the bones in infantile myxedema. They consist mainly in arrest of growth in the diaphyses and slow ossification of the epiphyses of the long bones. Considering these facts, some were led to watch the effect of removal of the thyroid gland in cases of fracture artificially produced in animals. They found that union was remarkably retarded in many instances. From such observations as those above cited, some hopeful therapeutists tried the effect of organo-therapy in delayed union of fractures, and have reported quite a number of cases apparently cured by this means alone after several of the usual methods had failed. Thus M. Potherat, at the meeting of La Société De Chirurgie, November, 1899, presented for a colleague a report of two cases treated successfully by this method. The first was a compound fracture of the leg which massage and immobilization in plaster failed to cure after twenty-four days. Under thyroid, consolidation took place in a few days. The second was a fracture of a rib which had not united after thirty-five days of the usual treatment. In ten days union was firm, but the patient died on the eleventh day, of cerebral hemorrhage. (See also, THE JOURNAL, xxxiii, p. 36.)

Success of Phototherapy.—The application of concentrated electric or sun light, excluding the heat rays, as practiced by Finsen on a large scale, is proving a success. O. Lassar, Berlin, has been investigating it on the spot, and returned enthusiastic. He intends to introduce it into his practice, and is urging the erection of a public, lupus phototherapeutic institute similar to the new tuberculosis polyclinic at Berlin. (*Derm. Ztft.*, December, 1899.) "All doubt in regard to the efficacy of the treatment vanishes at the first sight of the normal faces of the transformed lupus subjects." Finsen summoned a larger number of former patients to meet Lassar, and showed photographs and clinical notes before and during treatment. "Any one of the forty cases thus examined would guarantee the success of phototherapy." All were exceptionally extensive cases, and all had been cured with no more deformity than the disappearance of the pathologic neoformation necessarily entailed. "Lupus can be cured by Finsen's method; this much is certain." It is tedious and requires patience and perseverance, but it is very popular in Denmark. The institute was erected by private subscriptions on land donated by the city, which also partly pays for its maintenance. The national legislature has recently appropriated a quarter of a million to further the work. Special boarding-houses have had to be established for the number of lupus patients who flock to Copenhagen. The institution can treat a hundred a day. Each patient reclines and has a separate attendant to keep the concentrated light on the affected spot for two hours. Sunlight is more effective than the electric light. (Since first mentioned in THE JOURNAL, xxxi, p. 303. Finsen has modified his methods as described in xxxiii, p. 1037.)

Malta Fever in Manila, P. I.—Surgeon-General Sternberg has received a communication, dated Jan. 2, 1900, from Acting Assistant-Surgeon J. J. Curry, U. S. Army, assistant pathologist at the First Reserve Hospital, Manila, P. I., in which the probable existence of many cases of Malta fever among the troops is brought to the notice of the Department. Dr. Curry states that:

1. Some time ago Dr. Strong, the pathologist, performed an autopsy on a man who had died after a continued fever of long duration. Post-mortem examination was negative as to typhoid and malarial fevers. From the cultures of this case was obtained an organism identical with the coccus melitensis —the causative agent of Malta fever. This organism was inoculated into monkeys and produced the typical symptoms of Malta fever. Autopsy on the animals inoculated showed typical lesions with the development of the same coccus, which in turn produced the same disease in other animals. Dr. Strong in some manner inoculated himself during these investigations and now has Malta fever.

2. At a post-mortem examination on a case received from the Second Reserve Hospital, Dec. 27, 1899, a similar condition was met with as in Dr. Strong's case, i. e., no typhoid, malaria or other recognized pathologic condition. Cultures from this case showed the coccus melitensis.

3. A case of continued fever in the officers' ward of this hospital, whose blood was negative repeatedly to malaria and typhoid, gave the reaction with the melitensis.

4. A patient on the hospital ship *Relief*, whose blood gave negative results as above, also reacted with the melitensis.

As the result of the investigations of Dr. Strong, showing the first case to be one of undoubted Malta fever, the second case being also one of undoubted Malta fever and the positive results of the blood serum reaction of the third and fourth cases, we have evidence that Malta fever prevails here to a considerable extent. It is probable that many of those cases of continued fever which fail to react to Widal's test for typhoid, and which are negative to malaria, are cases of Malta fever. There are a number of such in the hospital at the present time, and no doubt the same is true of other hospitals. I will start at once the blood examinations for Malta fever on all such cases in this hospital. This will mean considerably more work in the laboratory department, which at the present time, owing to Dr. Strong's illness, is behind in its work. I would therefore respectfully suggest that a medical officer with at least some experience in laboratory work be detailed to assist.

Improved Font for Holy Water. The danger from the use of a common communion cup has been dilated on not a little in the past, and in many churches individual cups have been substituted for the disease-breeding method still so commonly in use. Recently attention was called in THE JOURNAL to the danger lurking in the holy water contained in the fonts in the vestibules of the Catholic churches. The *Lancet* mentions the case of a little boy in Holland who went with his father to church and soon after complained that something had gotten into his eye from the holy water. The eye developed such a serious condition in a few days that the child was taken to Professor Snellen, of Utrecht, for treatment, under whose care he had to be kept for three months before recovery took place. The father of the boy, J. J. Bruns, at first doubted that the holy water had caused the trouble, but to be sure of it he had a large number of samples from different churches in Holland examined microscopically. The result was that in most cases an abundant bacterial growth was found, with occasional staphylococci and other pathogenic forms. Two guinea-pigs injected intraperitoneally with sediment from the holy water of a church in Amsterdam died in thirty hours from peritonitis, and two others injected subcutaneously with the same water suffered from local purulent inflammation at the point of injection. Mr. Bruns thereupon devised a container which promises, if it can be substituted for the old-fashioned font, to prevent future danger. This is a narrow-necked jar inverted in a shallow basin so that the outflow from the jar ceases as soon as the water in the basin covers the neck of the jar. One end of a bent tube filled with hair is immersed in the water in the basin and the other end, overhanging the edge, delivers a constant stream of small drops raised by the capillarity of the hair. All these parts are enclosed in an ornamental oaken case somewhat resembling that of a timepiece. This case projects from the wall, and the stream of drops falls through an opening in the bottom of the case into a receptacle which at once carries away the excess, and the congregation on entering the church have merely to hold their fingers in the stream for an instant. The apparatus was submitted to Monsigneur van de Wetering, Archbishop of Utrecht, who expressed his approval of it.

The Public Service.

A "DISTINGUISHED SERVICE" ORDER FROM THE WAR DEPARTMENT.

General Orders No 15 of Feb. 13, 1900, from the headquarters of the army announces the names of certain officers and enlisted men of the army and civilians engaged in military operations who distinguished themselves by specially meritorious acts or conduct in service on the dates and at the places specified. From the long list we have extracted the following relating to members of the medical department and hospital corps:

November, 1897.—Hospital Steward Ernst Grossjohann, Privates Harry Cook, James Q. Baber, hospital corps, U. S. Army, Jasper M. Lawrence and Garrett F. Hodnett, now out of service, then privates hospital corps, U. S. Army, and the following named patients in hospital: Privates John E. Simpson, Frederick Williams, Leslie S. Caldwell, Howard S. Potter, Battery H, 1st U. S. Art., Sergeant Robt. A. Pahren, Battery B, 6th U. S. Inf., and Private John J. McKenzie, U. S. hospital corps, then privates, Battery H, 1st U. S. Art., and Private John F. Tobin, Battery M, 3d U. S. Art., then private Battery L, 1st U. S. Art.: For meritorious conduct in voluntarily nursing yellow fever patients in hospital, Fort Barrancas, Fla., during the epidemic.

June 24 and July 1 to 3, 1898.—Dr. John Guiteras, now out of service, then acting assistant surgeon, U. S. Army: For gallant and meritorious conduct in attending the sick and wounded on the field of battle at Las Guasimas and Santiago, Cuba.

June 24, 1898.—Dr. Jose M. Delgado, acting assistant surgeon, U. S. Army: For distinguished service, being constantly on the firing line, exposing himself in the most conspicuous manner to the fire of the enemy, in the care of the wounded, in the battle of Las Guasimas, Cuba.

June 30, 1898.—Dr. Maximilian Lund, then acting assistant surgeon, U. S. Army: For especially meritorious conduct attending the sick and wounded under fire, during the reconnoissance at Tayabacoa, Cuba, and subsequently in making extraordinary efforts to secure their embarkation on the transports.

July 1, 1898.—Capt. Thomas R. Marshall, assistant surgeon 71st Inf. U. S. Vols., then acting assistant-surgeon, U. S. Army: For gallant and meritorious conduct during the battle of Santiago, Cuba, where under fire he cared for the sick and wounded.

July 1, 1898.—Private Andrew Haring, hospital corps, U. S. Army: For distinguished service in battle, Santiago, Cuba. (Certificate of merit.)

July 1, 1898.—Dr. Thomas Y. Aby, now out of service, then acting assistant-surgeon, U. S. Army: For gallant conduct in attending the wounded on the battlefield and the sick in the trenches, while himself ill from fever and heat; this at the battle of Santiago, Cuba.

July 1, 1898.—Dr. Harry W. Danforth, deceased, then acting assistant-surgeon, U. S. Army: For especially meritorious service rendered during battle of Santiago, Cuba, in caring for the sick and wounded. He was killed while at work at the dressing station at the "Bloody Ford," on the morning of July 2.

July 1, 1898.- Dr. Francisco E. Menocal, now out of service, then acting assistant-surgeon, U. S. Army: For gallant and meritorious conduct during the battle of Santiago, Cuba, where, under fire, he cared for the sick and wounded.

July, 1898.- Major Frederick J. Combe, brigade surgeon, U. S. Vols., then acting assistant-surgeon, U. S. Army: For especially meritorious service during the Santiago campaign, in establishing, with the aid of others, the division hospital at the extreme front, carrying a portion of the supplies for several miles on his back during drenching rains and in deep mud.

July, 1898.- Drs. Hamilton P. Jones and William W. Calhoun, then acting assistant-surgeons, U. S. Army: For especially meritorious [illegible] with the aid [illegible]

[illegible] the wounded at the battle of Manila, Philippine Islands.

[illegible] department in Cuba and during the Puerto Rican campaign, especi- [illegible]

[illegible]

ARMY CHANGES.

Movements of Army Medical Officers under orders from the Ad [illegible] Washington, D. C., Feb. 2 to 8, 1900 [illegible]

George W. Adair, major and surgeon, U. S. Army, member of a retiring board convened at Chicago, Ill.

[illegible] acting asst.-surgeon, from [illegible], Miss., [illegible] to accompany troops to the Philippine Islands.

[illegible] acting asst.-surgeon, previous orders amended so as to relieve him from duty on the transport *Wright*; he will proceed at once on the transport *McClellan* from Santiago, Cuba, to New York City, N. Y.

Joseph L. Bell, lieutenant and asst.-surgeon, 34th U. S. Infantry Volunteers, honorably discharged on tender of his resignation to [illegible] 1900.

Frederick J. Combe, major and surgeon, Vols., from duty as medical supply officer at Santiago, Cuba, to New York City, N. Y., reporting by telegraph to the Adjutant-General of the Army for further orders.

Edward T. Comegys, major and surgeon, U. S. Army, member of a retiring board convened at Sullivan's Island, S. C.

Carl R. Darnall, lieutenant and asst.-surgeon, U. S. Army, from the division of Cuba to New York City, N. Y., to accompany recruits on the transport *Sumner* to Manila, P. I., where he will report for [illegible] Department of the Pacific and 8th Army Corps.

William O. Davies, acting asst.-surgeon, from Fort DuChesne, Utah, to San Francisco, Cal., to accompany troops to the Philippine Islands.

Albert Hartsuff, lieutenant-colonel, deputy surgeon-general, U. S. Army, member of a retiring board at Chicago, Ill.

Meyer Herman, acting asst.-surgeon, from Hammond, La., to San Francisco, Cal., to accompany troops to the Philippine Islands.

Aubray F. Higgins, acting asst.-surgeon, from Jefferson Barracks, Mo., to San Francisco, Cal., for an assignment to duty at the general hospital, Presidio of San Francisco.

Francis A. Holliday, acting asst.-surgeon, member of a retiring [illegible] Sullivan's Island, S. C.

Evan P. Howell, acting asst.-surgeon, from San Francisco, Cal., to duty at Fort DuChesne, Utah.

James H. Hyssell, major and surgeon, Vols., from the Department of Mantanzos and Santa Clara to Santiago, Cuba, as medical supply officer.

John P. Kelly, acting asst.-surgeon, from New York City, N. Y., to San Francisco, Cal., for duty on a government transport.

Jesse W. Lazear, acting asst.-surgeon, from Baltimore, Md., to Tampa, Fla., reporting by telegraph for further orders; to Havana, Cuba, for assignment at Columbia Barracks.

John H. Macready, acting asst.-surgeon, from the general hospital, Presidio of San Francisco, Cal., to Fort Thomas, Ky., for [illegible]

George E. Means, acting asst.-surgeon, from the Department of Santiago and Puerto Principe to San Francisco, Cal., to duty with [illegible] the Philippine Islands.

Gordon B. Meldrum, acting asst.-surgeon, from Washington, D. C., to San Francisco, Cal., for duty with troops going to the Philippine Islands.

[illegible] major and surgeon, U. S. Army, retired from active service, Feb. 2, 1900.

Edwin C. Shattuck, acting asst.-surgeon, from Fort Pickens, Fla., to San Francisco, Cal., for duty with troops going to the Philippine Islands.

Bat Smith, acting asst.-surgeon, to duty in the Department of Santiago and Puerto Principe, Cuba.

Edward A. Southall, acting asst.-surgeon, from Geneseo, N. Y., [illegible] general hospital, Presidio of San Francisco.

NAVY CHANGES.

Changes in the Medical Corps of the U. S. Navy for the week [illegible] 10, 1900.

P. A. Surgeon M. S Elliott, commissioned passed assistant-surgeon [illegible]

Medical Director J. A. Hawke, commissioned medical director [illegible] 23, 1899.

Medical Director R. A. Marmion, commissioned medical director [illegible] 25, 1899.

Medical Director D. Dickinson, commissioned medical director from November 11, 1899.

Medical Director M. C. Drennan, commissioned medical director [illegible]

Medical Inspector T. H. Streets, commissioned medical inspector [illegible] 1899.

Medical Inspector G. H. E. Harmon, commissioned medical inspector [illegible] 11, 1899.

Medical Inspector J. W. [illegible] commissioned medical inspector [illegible] 8, 1900.

Surgeon [illegible] commissioned surgeon from April 16, 1899.

Surgeon [illegible] commissioned surgeon from April 16, 1899.

P. A. Surgeon [illegible] commissioned passed assistant surgeon [illegible] 1899.

P. A. Surgeon [illegible] commissioned passed assistant surgeon [illegible] May [illegible], 1899.

P. A. Surgeon [illegible] commissioned passed assistant surgeon from Oct. 14, 1899.

P. A. Surgeon G. W. [illegible] commissioned passed assistant surgeon from Feb. 8, 1900.

P. A. Surgeon G. H. Barber, detached from the Naval Academy, and ordered home and to be ready for orders to sea duty.

MARINE-HOSPITAL CHANGES.

[illegible] of the [illegible] stations and duties of commissioned [illegible] U. S. Marine-Hospital Service [illegible] days ended Feb. 8, 1900.

Surgeon [illegible] on expiration of leave of absence to [illegible] New York, N. Y., for orders.

Passed Asst.-Surgeon C. P. Wertenbaker, to proceed to Martins- [illegible] for special temporary duty.

Asst.-Surgeon J. W. Amesse, to proceed to Cleveland, Ohio, for temporary duty during the absence of Surgeon T. J. Pettus.

Hospital Steward R. H Gibson, relieved from duty at South Atlantic quarantine station, and directed to proceed to Gulf quarantine station, Mississippi, fur duty and assignment to quarters.

Hospital Steward T. V. O'Gorman, relieved from duty at Gulf quarantine station, and directed to proceed to Louisville, Ky., for duty and assignment to quarters.

Hospital Steward M. McKay, granted leave of absence for five days from January 29.

Hospital Steward N. C. Comfort, to report at Washington, D. C., for special temporary duty; to proceed to Manila, Philippine Islands and report to Passed Asst.-Surgeon J. C. Perry, Chief Quarantine Officer, for duty.

HEALTH REPORTS.

The following cases of smallpox, yellow fever, cholera and plague, have been reported to the Surgeon-General, U. S. Marine-Hospital Service, during the week ended Feb. 16, 1900:

SMALLPOX—UNITED STATES.

Alabama, Mobile, Feb. 2-10, 5 cases.

Florida, Jacksonville, Feb. 2-10, 1 case.

Georgia, Brunswick, Feb. 5, 46 cases.

Indiana, Evansville, Feb. 2-10, 8 cases.

Kentucky, Atchison, Jan. 27-Feb. 10, 9 cases; Mound Valley, Nov. 5-Feb. 8, 17 cases.

Louisiana, New Orleans, Feb. 3-10, 89 cases, 7 deaths; Shreveport, Feb. 3-10, 12 cases, 4 deaths.

Mississippi, St. Louis, Jan. 22-Feb. 3, 13 cases.

Ohio, Cincinnati, Feb. 2-9, 1 case; Cleveland, Feb. 3-10, 30 cases; Youngstown, Feb. 3-10, 1 case.

South Carolina, Greenville, Feb. 3-10, 2 cases.

Tennessee, Nashville, Feb. 3-10, 8 cases.

Utah, Salt Lake City, Feb. 3-10, 2 cases.

Virginia, Portsmouth, Feb. 3-10, 10 cases.

SMALLPOX—FOREIGN.

Austria, Prague, Jan. 13-20, 4 cases.

Belgium, Antwerp, Jan. 13-27, 11 cases, 7 deaths; Ghent, Jan 27-Feb. 3, 1 death.

China, Hongkong, Dec. 16-23, 1 case, 1 death.

Colombia, Barranquilla, Jan. 22-27, 1 case, 1 death.

England, Leeds, Jan. 27-Feb. 3, 1 case; Liverpool, Jan. 22-27, 1 case; London, Feb. 22-27, 24 cases; Southampton, Jan. 13-27, 2 cases.

France, Paris, Jan. 22-27, 1 death.

Germany, Konigsberg, Jan. 13-20, 1 death.

Greece, Athens, Jan. 22-27, 3 cases, 1 death.

India, Bombay, Jan. 2-16, 96 deaths; Bombay, Jan. 9-16, 143 deaths; Calcutta, Dec. 22-Jan. 6, 13 deaths.

Japan, Formosa, Tamsui, Oct. 1-31, 6 cases.

Mexico, Chihuahua, Jan. 27-Feb. 3, 6 deaths; Mexico, Dec. 24-Jan. 28, 69 cases, 41 deaths; Vera Cruz, Jan. 27-Feb. 3, 1 death.

Russia, Moscow, Jan. 13-20, 2 cases; Odessa, Jan. 13-27, 26 cases; St. Petersburg, Jan. 13-20, 21 cases, 5 deaths; Warsaw, Jan. 13-20, 4 deaths.

Spain, Corunna, Jan. 22-27, 1 case, 1 death; Madrid, Jan. 20-27, 13 deaths.

Turkey, Smyrna, Jan. 7-21, 3 deaths.

Straits Settlements, Singapore, Dec. 13-30, 2 deaths.

Switzerland, Geneva, Jan. 6-13, 1 case.

YELLOW FEVER—FOREIGN.

Cuba, Havana, Jan. 31-Feb. 6, 1 case, 2 deaths.

CHOLERA.

India, Bombay, Jan. 2-16, 7 deaths; Calcutta, Dec. 22-Jan. 6, 34 deaths.

PLAGUE—U. S. INSULAR POSSESSIONS.

Hawaii, Honolulu, Dec. 12, 1899-Jan. 23, 1900, 52 cases, 41 deaths.

PLAGUE—FOREIGN.

China, Hongkong, Dec. 8-23, 5 cases, 5 deaths.

India, Bombay, Jan. 2-16, 752 deaths; Calcutta, Dec. 22-Jan. 6, 97 deaths; Kurrachee, Jan. 1-14, 13 cases, 8 deaths.

Japan, Formosa, Oct. 1-Nov. 30, 48 cases, 27 deaths; Kobe, Nov. 11-31, 9 cases, 7 deaths; Kobe, Dec. 23, 12 cases, 9 deaths; Osaka, to Jan. 7, 41 cases, 38 deaths.

CHANGE OF ADDRESS.

L. C. Stitely, from Baltimore to Westminster, Md.

Kate Lindsey, from Clearmont, Cape Colony, South Africa, to Battle Creek Sanitarium, Battle Creek, Mich.

M. H. Verpoorten, from Laramie, Wyo., to 2707 S 13th St., Omaha, Neb.

M. McMurty, from Purcell, I. T., to Oklahoma City, O. T.

P. E. McDonald, from Washington, D. C., to Grand River Boarding School, Fort Yates, N. D.

A. P. Grear, from Murphysboro, to Sandusky, Ill.,

J. S. Mason, from Penfield to Rantoul, Ill.

The Journal of the
American Medical Association

Vol. XXXIV CHICAGO, ILLINOIS, MARCH 3, 1900. No. 9.

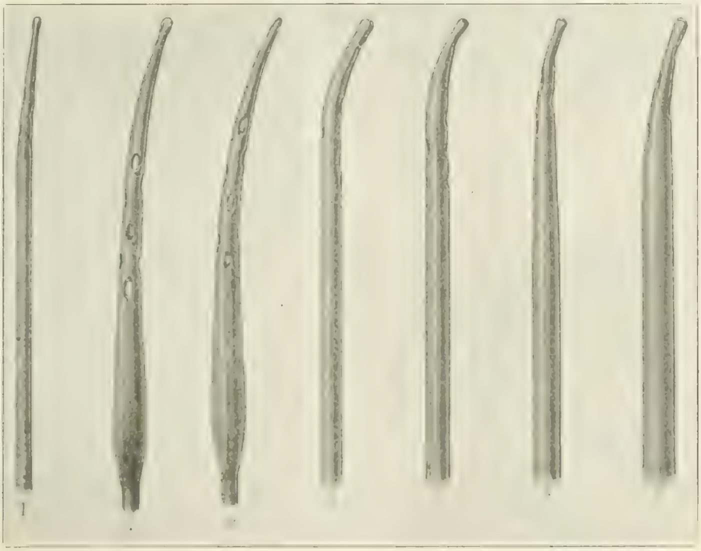
Original Articles.

URETERAL CALCULUS.

ITS DIAGNOSIS BY MEANS OF THE WAX-TIPPED BOUGIE. ESCAPE OF THE CALCULUS PER VIAS NATURALES AFTER FORCIBLE DILATATION OF THE URETERAL ORIFICE.

BY HOWARD A. KELLY, M.D.
BALTIMORE, MD.

On January 31, of this year, I was called by Dr. L. Hamburger to see a woman in extreme pain from renal colic. I found a well-nourished patient about 38 years old, suffering from a pain beginning in the left kidney and extending down the left ureter to its vesical orifice, where the distress seemed to be centered.



Set of ureteral dilators

The attack had begun a week before, after some unusual exertion in caring for an aged relative, and was marked by frequent urination and some hematuria at intervals. At no time did she pass any debris or crystalline elements suggestive of calculus.

The abdominal examination revealed no point of tenderness or enlargement other than the very fat walls. By the vaginal touch I found a normal right ureter, but on the left side the ureter was exquisitely tender and there was a distinct, firm enlargement about half way between the internal urethral orifice and the cervix uteri. At this point she located her greatest suffering, and was unable to bear more than the slightest pressure.

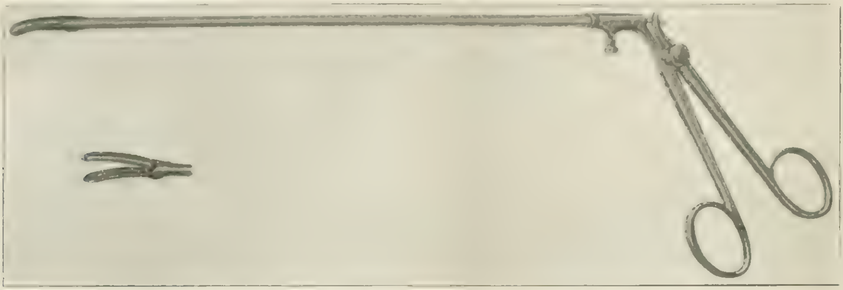
The history of the case pointed to a renal calculus which had in all probability descended into the pelvis and was lodged just behind the vesical orifice of the left ureter.

The next steps to be taken manifestly were to determine, with the certainty afforded by the new means at my command, first, that there was really a calculus present, and second, that it was lodged in the pelvic ureter, and then to proceed at once to use appropriate means for its removal. In order to attain these ends as far as possible at one sitting, I took with me, to the patient's house, the following instruments: several open vesical specula, a battery with an electric headlight, cocain—1 per cent. solution—and a cocain syringe with a long point, a renal catheter 2 mm. in diameter, a wax and olive-oil mixture, 2 to 1, to coat the end of the catheter in searching for the stone, a ureteral sound, a set of ureteral dilators, and ureteral alligator forceps.

The patient, having emptied her bladder, was placed in the dorsal posture and the ureter was cocainized by injecting about 6 c.c. of the 1 per cent. cocain solution directly into the ureter and into the surrounding tissues, by means of the long hypodermic needle thrust through the vaginal wall into the tender spot felt per vaginam. It was also my intention to inject eucain into the lumen of the ureter, by means of a long silver tube introduced through the ureteral orifice and attached to a syringe, but I could not find the tube in time.

She was then put in the knee-chest posture on a lounge, and air let into the vagina in order to drop the base of the bladder to the level of the plane of vision; a No. 10 speculum—10 mm. in diameter—was then introduced and the obturator withdrawn, when the bladder filled with air. On examining the bladder through the cystoscope, with the electric headlight, the vesical walls were found perfectly healthy; the right ureteral orifice was normal; the only abnormal appearance about the bladder was at the left ureteral orifice, which appeared broad and pouting, surrounded by a deeply reddened everted mucosa extending from 4 to 6 mm. out from the orifice on all sides. This angry appearance of the ureteral opening plainly indicated the affected side, but the orifice was not found to be distended as at first surmised from its appearance; but, on the contrary, contracted and strictured. The eversion of the ureteral mucosa was therefore analogous to the everted cervical mucosa in cases of endocervicitis in the unmarried.

A ureteral sound was now introduced into the ureter and gently pushed to and fro in the effort to detect the click of a stone, but without success. I then introduced a metal catheter, 2 mm. in diameter, about 5 cm. within the ureter; as soon as the catheter was well past the vesical extremity of the ureter, urine began to flow until 8 c.c. of clear, yellow, normal-smelling urine escaped. This showed conclusively that the vesical end of the ureter was strictured and that the urine was pent up above the stricture, forming a hydro-ureter.



Delicate ureteral alligator forceps for grasping stone in the ureter; adapted from a throat instrument

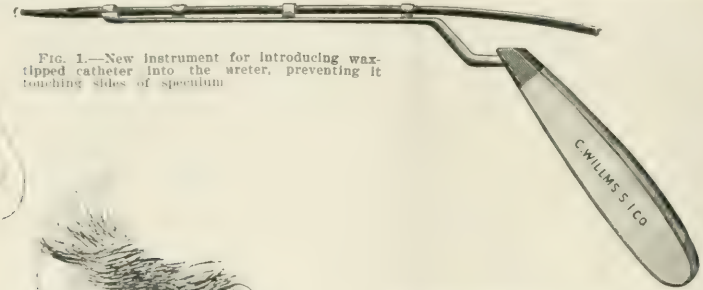


FIG. 1.—New instrument for introducing wax-tipped catheter into the ureter, preventing it touching sides of speculum

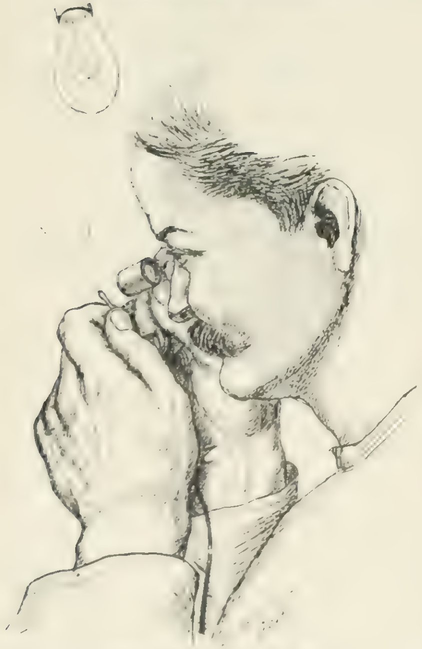


Fig. 2.—Examining wax tip.

I then introduced a ureteral dilator (see Fig. 1) 3 mm. in diameter, well up into the ureter, stretching the orifice and thoroughly opening up the stricture. Having so far secured no certain sign of the stone, a wax-tipped catheter was introduced. This catheter is one of my ordinary renal catheters, the point of which is dipped into melted dental wax and olive-oil—2 to 1. A little drop clings to the end of the catheter and cools with a glistening unbroken surface which, examined by a lens, is found perfectly smooth throughout. The catheter, armed in this way, was guided up the lumen of the speculum and into the ureteral orifice, barely touching the smooth side of the speculum, and entirely avoiding the sharp end, and, most important of all, without any to-and-fro movement liable to scrape the wax. I was therefore certain that there were no scratch marks on the wax when the catheter entered the ureter. After moving the end of the catheter to and fro in the lower part of the ureter, I then conducted it on up into the renal pelvis, where 16 c.c. more of pent-up urine at once escaped, showing the presence of a hydronephrosis of a low grade, and explaining the cause of the renal colic.

After emptying the kidney, the patient—in the knee-chest posture—was asked to raise the body erect while the catheter was partially withdrawn, in order to cause any renal stone to drop toward the uretero-renal orifice and so bring it into contact with the catheter. The catheter was then removed entirely, taking care to hold the labia well apart in order that the wax might not come into contact with the vulvar hairs.

An examination of the wax with a lens was made at once, and showed a *perfectly definite series of scratch marks* (see Fig. 2) *from top to bottom, which marking could have been caused in no other way than by contact with a stone in the urinary tract.* (See Fig. 3). These scratches are shown magnified eight times in the figure.

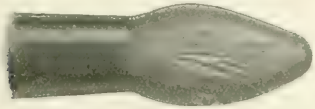


Fig. 3.—Scratch marks on wax-tipped catheter.

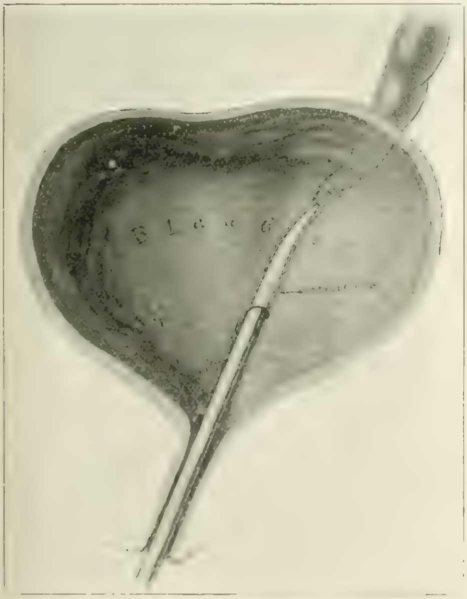


Fig. 4.—Catheter introduced through stricture; calculus first above and hydro-ureter above that again.

Further, on examining the urine drawn off by the catheter, it was found that it had broken off a little buff-colored piece of stone 1 mm. in diameter (see Fig. 5), in addition to bringing away a number of other minute pieces. The mammillated surface of the little stone could be seen under the lens and its hardness easily tested with the point of a pin. Dr. Hamburger took the minute pieces and, by the successful application of the murexid test, showed that they were bits of uric acid. The urine, examined by Dr. Mason Knox, who assisted me throughout the entire investigation, was tested for urea and found to yield 1 c.c. of gas to the cubic centimeter, showing a greatly reduced excretive activity on the part of the kidney (two-fifths normal).

Having dilated the ureteral orifice and demonstrated the presence of the stone, it was not deemed wise to interfere any further, so the patient was left in bed and given a small dose of morphia.

I did not use the ureteral alligator forceps to crush the stone, on account of the capacious lumen of the ureter above the stricture allowing the stone to slip away from its first position, where it could more easily have been felt and grasped. (See Fig. 4.)

Nineteen hours after the dilatation of the stricture an oblong stone 10 by 3 mm., with tapering ends, was expelled, with immediate relief of all symptoms. (See Fig. 5.)

The following interesting points were brought out in this case:

The presence, the exact location and the size of a small stone lodged in the ureter behind the vesical orifice were determined by vaginal palpation, in accord with the experience of several other observers who have also detected ureteral calculi in this way. The honeycombed structure of the stone suggests the possibility of crushing it by making a moderate pressure through the vaginal walls.

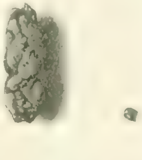


Fig. 5.—The ureteral stone; near by the small piece removed by the catheter. Both magnified two times.

The use of cocain injected directly through the vaginal walls into the ureter and the surrounding tissues opens up an interesting field for the use of this drug in the surgery of the lower ureteral tract. It would easily be possible, using cocain in this way, to cut into the ureter through the vagina and remove a stone and sew up the wound without resorting to a general anesthetic.

The interior of the ureter may readily be anesthetized by injecting cocain into it by means of a long slender nozzle attached to a small syringe.

The wax-tipped bougie demonstrated the presence of a calculus in the ureter for the first time.

By coating the catheter with wax at intervals from the tip down, it would be possible to determine more precisely the exact location of the calculus, and so avoid introducing a catheter several times to locate the stone.

The renal catheter brought away a bit of the stone, adding one more positive sign of the presence of a calculus.

The catheter showed the positive sign of the presence of a stricture at the lower end of the ureter and a dilated area above the stricture.

The catheter also showed the presence of a hydronephrosis of low grade.

By means of the ureteral dilator the orifice was enlarged to the exact size of the stone, which was thus enabled to escape within twenty-four hours.

I am not aware that a ureteral calculus has ever been assisted to escape in this way before.

1418 Eutaw Place.

VALUE OF FORMALDEHYDE IN THE DISINFECTION OF BUILDINGS, ROOMS AND CARS.*

BY JOHN E. OWENS, M.D.
CHIEF SURGEON ILLINOIS CENTRAL R. R. CO.
CHICAGO.

During the summer of 1898, with the assistance of Mr. Reidy, of the laboratory at St. Luke's Hospital, Chicago, I made some experiments with the German 40 per cent. solution of formaldehyde. We selected a room containing 500 cubic feet of space; one sheet was suspended by one side, from a cord stretched across the room. The other articles used were the solution of formaldehyde above named, and the atomizer recommended for use in cars and other places, and used by the Board of Health of Chicago. Three varieties of microbes were selected—the bacilli of anthrax (woolsorter's disease, very fatal to the human being), and those of typhoid and diphtheria. It requires a high degree of heat to destroy the spores of the anthrax bacillus. Six small aluminum cups were half filled with sterilized blood-serum in a state of coagulation; a platinum wire sterilized by heat, when cold, was drawn across the culture of anthrax and the serum in two of the cups inoculated with the same by two scratches. The wire, having been again sterilized by heat to destroy the anthrax bacillus, was used in the same manner in inoculating two other cups with the diphtheria bacillus, and after having been again sterilized by heat the remaining two cups were inoculated with the bacillus of typhoid fever. Three of the cups so inoculated were kept in the room at ordinary room temperature. Three others were placed on a small table in the center of the room above referred to. Across the room, as above stated, one sheet was hung, on which was thrown eight ounces of the solution of formaldehyde. The window and door having been closed, two newspapers were crowded in a space of about three-quarters of an inch, intervening between the lower end of the door and the floors. No effort was made to close the key-holes or to pack cotton around the window frames or doors. Some smarting of the throat, the inside of the nose and eyes was noticeable at the end of the atomization. The room remained closed for 5½ hours. At the end of this time the exposed cups—exposed to formaldehyde—together with the three cups left in the other room, were placed in an incubator at the temperature of the human body. At the end of forty-eight hours a rich growth of each variety of microbe was observed in the cups, respectively, that had not been exposed to the formaldehyde gas, and no growth whatever appeared on those that had been exposed to it. One could observe only the strokes of the wire on the blood-serum of the exposed one, while each of the non-exposed cultures showed a rich growth of each variety. The same experiment was repeated, the only exception being that in the second experiment we used only four ounces of the solution and packed two towels under the door-space. The result was the same as has just been described. A third experiment was made, similar to the last, except that we used only two ounces of formaldehyde solution, and it was gratifying to note that the result was the same—namely, that two ounces of the 40 per cent. German solution of formaldehyde, thrown into a room containing 500 cubic feet of space, were sufficient to destroy the microbes above named, and to absolutely prevent the colonization of these microbes when the exposed cups had been placed in an incubator.

In May, 1898, two agar plates were prepared and inoculated at the same time, with the bacilli of icteroides (Sanarelli—yellow fever). One plate was exposed and subjected to the same experiment; the other plate, in the meantime, remained in another room unexposed to the gas. At the expiration of 5½ hours the two plates were incubated for forty-eight hours; the non-exposed cultures showed rich growth, the exposed cultures nothing more than the inoculation stroke. The culture afterward made of the latter did not show any growth after twenty-four hours' incubation.

It having been reported that formaldehyde does not act on the bacilli above named when dry, we made the following experiment, with anthrax spores, diphtheria and typhoid bacilli: A platinum loopfull of each was spread on clean slides and allowed to dry. These slides were then exposed in a room containing 1440 cubic feet, in which an ordinary bed sheet was suspended. Seven ounces of the formaldehyde—40 per cent.—were thrown on the sheet with a spray. The room was then closed, and after 5½ hours the slides were removed and the film dissolved in a drop of sterile water. Agar was inoculated with this by means of a sterilized platinum loop. After 36 hours' incubation, at 37 C., there was absolutely no development of colonies.

I have attached to this report Circular No. 8, Surgical Department, Illinois Central Railroad Company, issued Oct. 1, 1898, which is as follows:

INSTRUCTIONS GOVERNING USE OF THE FORMALDEHYDE APPARATUS FOR DIRECT APPLICATION OF THE SOLUTION IN THE DISINFECTING OF PASSENGER AND FREIGHT CARS.

1. Suspend the two sheets found in the outfit by their edges from the roof of the car, or the bell-cord, by means of the clothes-pins. The sheets should hang their full length and be placed so as to equally divide the space in the length of the car.
2. Close the doors and windows.
3. Saturate both sheets with spray from the bottle, standing with the nozzle about eight feet from the sheet and throwing the spray against it, with the left hand directing the nozzle, supporting the tube where it passes from the bottle, and working the bulb vigorously and rapidly with the other hand. Commence at the top of the sheet and use half the required quantity of fluid on each sheet.
4. For disinfecting passenger and baggage cars, fill the spray bottle with the formaldehyde solution furnished. For disinfecting freight cars, use the bottle one-half full.
5. As formaldehyde is quite irritating to the hands and eyes, those using the solution are instructed to exhaust the spray quickly, leaving and closing the car as soon as possible. Caution should be exercised not to get the liquid on the hands or in the eyes, and not to inhale the vapor any more than is absolutely necessary.
6. Leave the cars locked tightly for at least five hours after spraying, and, if possible, allow eight hours to elapse before opening.
7. On opening, take down the sheets and clean the car in the usual way. If any spots are left on furniture or polished woodwork, by the formaldehyde, wipe them off with a wet towel and use furniture polish. If the sheets are still moist, they should be dried in the open air, but not washed until sufficiently soiled.
8. For disinfecting spaces other than cars, such as baggagerooms, etc., the same method may be used, employing one bottle of the formaldehyde for every 4000 cubic feet of room space, and one sheet for each 2000 cubic feet.

Approved: J. E. OWENS, Chief Surgeon.
A. W. SULLIVAN, General Superintendent.

The directions for the use of the 40 per cent. German formaldehyde solution and the convenience, simplicity and cheapness of the apparatus recommended are fully borne out by the experiments above referred to. Two ounces of the 40 per cent. German formaldehyde solution, thrown into a room of 500 cubic feet of space, is equal to the full of the regulation bottle of formaldehyde on two sheets in a room containing 4000 cubic feet of space (see Rule 8 of Circular No. 8). These experiments would seem to favor the opinion that formaldehyde thus used may be the ideal disinfectant.

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*Read before the American Academy of Railway Surgeons, Omaha, Neb., Oct. 12-13, 1899.

I can not close this report without stating that the Board of Health of Chicago has made such experiments as justify them in the use of formaldehyde, and in the high estimate which they place on its value. The spray apparatus, which is illustrated, is the one used by the Board and the one which we have adopted for use on the Illinois Central Railroad.

DISCUSSION.

Dr. J. T. Eskridge, Denver, Colo.—In connection with this paper I have a suggestion to make. It is well known that formaldehyde is exceedingly irritating, and I believe that by using a steam atomizer with a certain amount of alcohol in it, the vapor would not be so disagreeable and irritating to the disinfector.

Dr. E. W. Lee, Omaha, Neb.—There is an apparatus on the market which generates or gives off formaldehyde in the form of a spray, and there are also formaldehyde lamps which emit vapors. I have forgotten the name of this apparatus. It can be set going in a room, the door locked, and subsequently opened very cautiously, because the disinfecter can not very well stand the irritating fumes of the gas, and he can not remain in the room for any length of time. I would like to ask Dr. Owens why he prefers the solution instead of the vapor.

Dr. W. Ruml, Cedar Rapids, Iowa—I would like to ask whether any of the members of the Academy have had experience in using formaldehyde for surgical dressings. I have been using it for this purpose during the last two years in solution, varying from .125 to .25 per cent., for washing and cleansing the tissues. Then the dressing of sterilized gauze, saturated in a .125 per cent. of the solution, is applied in the usual way that we apply gauze dressings. There is no odor from it, and the wound is clean. If there is any sloughing, the slough is dry, and the dressing comes off absolutely clean. The sloughs are apparently mummified, and are allowed to remain until such a time as easily removed, sometimes from ten days to two weeks. When the sloughs are removed, the granulations are not only found healthy, but healing is well advanced. The usual method is to cleanse the wound thoroughly with formalin soap, 1 per cent., then wash with sterilized gauze saturated in .125 per cent. of the solution. The only disadvantage is a little smarting of the wound for a short time. At first I used a .5 per cent. solution, and felt that perhaps it increased the sloughing. However, the slough is mummified, clean, and there is no pus.

Dr. William C. Bane, Denver, Colo.—I have been using formalin—40 per cent. formaldehyde—in the strength of from .2 to 1 per cent. solution in my eye and ear work, and to me it has proven most satisfactory. In the eye it is somewhat irritating, but in cases of ophthalmia neonatorum or mucopurulent conjunctivitis, I have had very good results from its use.

Dr. W. H. German, Morgan Park, Ill.—I would like to ask the reason why the Chicago Board of Health has abandoned the use of formaldehyde vapor and is now using the spray.

Dr. B. F. Crummer, Omaha, Neb.—One or two questions have been asked, and I will try to answer them. One is with reference to the difference between the spray and the vapor of formaldehyde. For convenience and cheapness there is no comparison between the two. The little lamps that are sold are absolutely useless: the larger ones are expensive, and it takes considerable time to use them with satisfaction. There is nothing simpler than to saturate the sheets after the manner recommended and advised by the Chicago Health Department. In our efforts to control an epidemic of smallpox in one of the towns in our state the inspector began with the little lamps and found them unsatisfactory. He then rigged up a little ordinary force-pump, saturated the sheets with formaldehyde, and in a short time there was enough gas generated to effect complete disinfection of a room by this process. This plan of disinfection was carried out in a town where we had an epidemic of 400 or 500 cases of the disease. The Board of Health of Nebraska has adopted that plan in preference to the lamps, as a matter of economy and efficiency.

Dr. W. W. Grant, Denver, Colo.—The time is not far distant when railroads generally will have to adopt some general systematic means of cleaning and disinfecting cars, and formaldehyde is probably the very best agent that can be used for that purpose, but to be effective, it will have to be used in the form of fumigation. I do not know exactly what the effect of formaldehyde gas would be on the furnishings of railway cars, but railway men do know, and in that respect the construction will have to be, in the future, with a view to comfort and health first, and not, as is now largely the case, for mere elegance, because much of the furniture of our passenger and Pullman coaches is wholly unnecessary and even prejudicial to the health of individuals. In some respects the furnishings are much more expensive than they need be, and railroads will be forced to adopt simpler and more healthful things, such as suggested in my address. The material used in our railway cars, as is well known, is exceedingly difficult to clean, and the agents necessary to destroy germs will often destroy the furniture, and the officials of our railway systems will have to adopt some plan of furnishing cars to meet the modern demands of hygiene and sanitation. The cleaning of material and furnishings of cars with compressed-air does not affect the moisture and germs of disease which may remain. I found, from my investigations, that the blankets are seldom washed or cleaned in a Pullman car, consequently reforms will have to be made in this regard; the public will certainly demand a change, and the railroads will have to comply with these demands. From the instances mentioned, everyone must know that any child, or adult, susceptible to diseases, would be endangered by the furnishings of a berth, to say the least, if they had not been entirely cleaned and fumigated after having been used and occupied by an infected patient.

Dr. J. T. Eskridge—I would like to ask whether anyone knows of a case on record where a railroad company has been sued by a person who has contracted disease in its coaches.

Dr. L. E. Lemen, Denver Colo.—I can understand that, as far as the railways are concerned, an apparatus could be constructed with which a car could be effectively fumigated by compressed air with the gas. It is something that should be taken up advocated, recommended by this Academy to the different railway corporations. When we undertake to fumigate from house to house, as boards of health have to do, it is a little different. A tank could be constructed containing compressed air, so that a car could be sidetracked and thoroughly disinfected in a few minutes by means of a hose, and a dozen or fifteen cars could easily be disinfected in the course of half a day.

Dr. J. E. Owens, replying to the question of Dr. Eskridge—There has been no such suit instituted to my knowledge. This method of disinfection has been in operation on the Illinois Central since October, 1898, and I have reason to believe that the effects of the formaldehyde gas on the furnishings of cars are *nil* in all respects. Should any of the furniture be slightly discolored in consequence of contact with the gas the discoloration or staining can be readily removed, as stated in the paper, by a dry cloth and a little furniture dressing or oil.

As to the relative merits of the spray and vapor, when I returned home from my vacation a year or more ago, I found that the Illinois Central had purchased an atomizer in New York, or a vaporizer, which cost $100. It was put into use: The method was to place this apparatus at the door, put slender pipes through the key-hole and throw the vapor into the room. Then there is a lamp with a single generator advertised by a Chicago firm. With this apparatus it is claimed that one can thoroughly fertilize 2000 cubic feet of space, and by means of the double generator, double the amount of space in the same time. The single generator costs $7.50, the double $15. It is made of copper and glass. I can say from my own experience that the generation of formaldehyde by the vapor apparatus is not always reliable. Much seems to depend on the quality of the alcohol, on the degree of heat, and many others things which I [illegible] not capable of answering from a chemical standpoint. For that reason I can not discuss the generation of this vapor by [illegible]. But I illustrate an apparatus made by Sharp & Smith at $9 a dozen. It takes two clothes-pins for each sheet, and a double sheet will cost about 35 cents. It is simple. It may be used by any trainman, brakeman, or a general utility man about the station. It can be carried readily from one place to another in a satchel or case, into cars and there is very little loss, if it should be broken. We have a few in stock and they will be quickly replaced. As soon as we diffuse the spray over the sheet's surface spread out on a large surface, the gas comes from it in great volume, and that is the essential thing after all. In order to prevent irritation of the upper air-passages, everything should be made ready in the car or room previous to the use of the spray, so that a prompt exit may be effected. As soon as there is a tickling of the nose and fauces, with irritation of the eyes, it is time for the man who uses the spray to leave the room. My eyes are sensitive to slight irritation, but I found that this irritation soon passed away after going into the non-medicated air. I presume that if a man were using the formaldehyde vapor all the morning in cars it would produce some deleterious effect.

Dr. [illegible].—What are the toxic effects of the disinfectant internally, or following an overdose by inhalation?

Dr. Owens.—I do not think anyone could remain in a room sufficiently long to get the toxic effects of formaldehyde by inhalation. The effect is locally on the upper air-passages and eyes.

Dr. Arthur L. Wright, Carroll, Iowa.—Have any experiments been carried on with a view to determining the effect of formaldehyde on pus microbes?

Dr. Owens.—I am not informed of any such experiments. With reference to the surgical use of formaldehyde I have had no experience, but I understand that it is of more or less value in the surgical treatment of wounds, as stated by Dr. [illegible].

SIMPLE DEVICE FOR RAPID HYPODERMOCLYSIS IN COMBATING SHOCK.*

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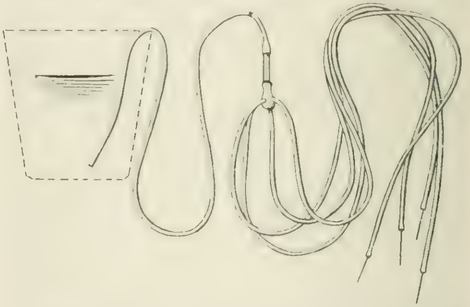
All who have tried to administer an intravenous infusion must be aware how difficult a procedure it is under adverse circumstances. It is practicable and safe with suitable aseptic surroundings, a fairly aseptic skin and moderately well-filled vessels. The case is quite different as generally seen by the railroad surgeon when his patient is in shock, in a caboose, freight car, shanty or crowded boarding-house, amid the fumes of tobacco, foul exhalations and dust, with an unwashed skin begrimed with cinders and grease, and with the veins collapsed from hemorrhage. Any one who has made the attempt knows the difficulties. It is for this reason that hypodermoclysis commends itself in emergency work.

The principal objection to hypodermoclysis has been that it is too slow in action where prompt results are demanded. Half an hour is necessary for the instillation of from a pint to a quart—too long a time in a serious case of shock. To obviate this difficulty I have devised a simple apparatus with which four or more needles may furnish fluid to the tissues at the same time, from a single receptacle. Anyone with the slightest amount of mechanical ability can construct the apparatus in a few moments, without trouble and at a trifling expense. He will require an ordinary rubber-bulb glass medicine dropper, five yards of fine rubber tubing, such as is used for nursing bottles, four extra hypodermic needles or fine aspirating needles and a wire hairpin. The whole appliance can be sterilized in a few minutes by immersion in boiling water. Any clean bowl, bottle, pail or other vessel of sufficient size will answer for the receptacle that will contain the normal salt solution.

The construction is as follows: Into one end of three feet of the rubber tubing—the end which is to serve as a siphon—is inserted a wire hairpin to act as a stylet in retaining the tubing in the proper curve to hang over the edge of a vessel. The pin must have first had its curve altered to a more obtuse angle to prevent kinking of the tubing. A few short crooks along each fork will prove of advantage by preventing its sliding through the rubber tubing when subjected to tension. By this device is secured a firm and properly curved siphon which can, by bending the pin more or less, be made to fit over the lip of any vessel. The length of the short arm of the siphon can be increased or diminished to just reach the bottom of a vessel of any depth, by merely sliding the wire a greater or less distance along the tubing.

Into the other end of the yard of tubing is inserted the nozzle of the dropper, the tip of which, if too small, should be broken off where it is wider. In the rubber bulb of the dropper are cut four openings, each a little more than half the diameter of the tubing. Two lengths of rubber tubing, each two yards long, are now drawn through the holes in the bulb, at right angles, half their length, so that a foot and a half hangs out on each side. I should add that a notch should first have been cut in the middle of each tube to be drawn, notch upward, fully inside the rubber bulb. Finally to the open ends of the rubber tubing are attached the four hypodermic needles.



An apparatus with four needles can readily introduce from two to four quarts of fluid into the tissues in half an hour. The amount will depend on the size of the needles, the elevation of the receptacle and the thickness of the cellular tissue. A much larger amount of fluid can be introduced if more needles are employed. In order to show how we may increase the number in one apparatus, I show one here which, by additional branching from the four terminal points, supplies ten needles. I have not, however, for practical purposes, found it necessary to use so large a number. One can conveniently insert a needle into each loin, and one below each scapula, on each side of the abdomen or under the breasts. It is well to change the location of the needles slightly from time to time, to prevent overdistension of the tissues.

To start the current through the siphon, suction should be made through one of the needles, the points of the others being closed by the finger and thumb. As a precaution against possible sepsis, it might be well to make the suction indirectly through the clenched fist.

In urgent cases I elevate the receptacle five feet, but this is objectionable on account of the pain and soreness produced by so forcible distension. The smaller the needles and the less the degree of elevation, the less will be the pain to a conscious patient. The rapidity of the infusion will be correspondingly slow.

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*Read before the American Academy of Railway Surgeons, Omaha, Neb., Oct. 12-13, 1899.

When the patient is suffering from shock—usually due to great loss of blood in railroad cases—the surgeon may set the apparatus in action in a few moments, and leave it almost without further attention, while he and his assistant are employed about the various steps of the operation.

I carry an infusion appliance in my emergency surgical case, and another in my obstetric bag—I have more than once saved women in postpartum hemorrhage by its prompt use—while a third is kept hanging in position in my hospital operating-room.

Hypodermoclysis can not act on the heart as instantaneously as if the veins or arteries are filled directly, but the simplicity of application and the greater safety to the patient more than outweigh the slight difference in time in most cases. I question, indeed, whether the additional time required in properly isolating the vessel, etc., does not occupy a greater amount of time even when one has every convenience at hand. There are but few railroad surgeons, too, whose experience with intravenous infusion has been sufficient to warrant them in searching for, and attempting to open, a partially collapsed vein amid the hurry and confusion attendant on most railroad work.

LEGISLATIVE PROBLEMS IN THE REGULATION OF MARRIAGES.*

BY HON. C. W. PARKER.

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Of all the obstacles the legislator has to combat, the most sure and omnipresent is the antagonism of many minds to anything and everything *new*, from the legislative standpoint. This bias of many men, this inborn conservatism which arouses in the majority an unreasonable antagonism to all measures which are out of the ordinary—an antagonism which has nothing to do with reason, or with the real value of the proposed legislation—is always to be met, when, to the mind of the average legislator, the measure brought forward is new. That is quite sufficient with some of our conservative brethren, to damn it beyond all hope of redemption, and to take from the enactment their interest and support, but, when to this conservative objection to new ideas is added the abhorrence of many individuals to everything relating even remotely to the tabooed subject of the sexual relation, the latent opposition is changed from a passive lack of interest and non-support of the measure into an unceasing hostility and open and active warfare.

These good folks turn up their eyes piously to the skies, and devoutly declare that "marriages are made in Heaven," and refuse to believe that there is any connection with this mundane sphere in this "sacred tie," notwithstanding the immutable proofs before their eyes, that in too many instances the "match" is of the earth, earthy, and the result a foregone conclusion. It is indeed an absurdity, in this day of ever-increasing divorces, separations, and notable cases of marital infelicity, to imagine for a moment that marriage, as it exists to-day, is a covenant made by Heaven, and that sentiment alone should be considered in regard to this union of the two sexes, so fraught with tremendous significance, not only to the present, but to the generations yet to come.

Next to the obstacles mentioned, as standing in the way of needed marriage laws, is the honest but misguided opinion of the male prude, who allows his sentimental regard for what he is pleased to call "the weaker sex," to so bias his judgment and reasoning powers that everything must be subservient to a sort of chivalric adulation of the female, on account merely of sex. To this worshiper of sex, the very thought of "an examination" is abhorrent and a desecration of divinity, but while all men have in common a love and veneration of all that is distinctly pure and feminine, there are certain limits beyond which the wise and prudent man refuses to allow his sentiment to carry him. Every physician knows the universal procrastination in the majority of families, in the matter of medical examinations for the afflicted females in the home, and every one also knows that, until this fallacy, this absurd and dangerous mock-modesty, is overcome, a cure is often impossible. So is it also a fact that, until the necessity of health in marriage is recognized, the inalienable rights of progeny can not be secured, nor the home and wife protected from the ravages of disease and their perpetuation.

To the number of males who view with abhorrence a physical examination for the female candidate for matrimony must be added the large percentage of women who are factors of importance in moulding the minds of legislators against all measures looking to this end. Conscious, in many instances, of their own unfitness and inability to pass the medical requirements of freedom from such inherited or acquired taint as science now proclaims as detrimental to the welfare of not only the pair, but the community at large, women, I may say the majority of women, by their lives of fashion and folly, as well as by their having no real knowledge of the importance of the purely feminine part ordained by Nature to be theirs, as wives, as well as mothers, are antagonistic to all legislation seeking to put marriage on a practical and reasonable foundation. Many women have been brought up to think ignorance of all sexual matters a certificate of innocence, and even pride themselves on a lack of information absolutely criminal in its result. We see these women bringing into the world daughters as unsexed as themselves, frail, sickly, inane creatures who from the cradle to the grave are without the vital sexual stimulus that alone can fit a woman for wifehood and maternity. Knowing nothing of the requirements of marital life, nothing of the ravages of disease as transmitted from generation to generation, nothing of the responsibilities of wifehood, and nothing of the God-given possibilities involved in an educated maternity, these women in their ignorance and folly put forth all their efforts to discourage any discussion of what they term "a delicate subject, unfit for discussion," without the slightest realization that such restrictive legislation is of vital importance to them individually and collectively, and has as its chief object nothing less than the protection of the home, the wife and her children.

Having spoken of the public sentiment against restrictive marriage laws, as briefly outlined, which we may sum up as conservativeness, ignorance, and mock-modesty, we must also consider the obstacles confronting the man with the new bill, entirely from the legislative standpoint.

The first one to confront the new measure will be the "log-roller," who listens approvingly to all arguments, and then proceeds to give the outline of "a little bill" in which he is interested, and slyly intimates that he "will vote for the new measure gladly, but"—there is always a test, and a *quid pro quo*, which is a vote in return for his bill. This "you tickle me, and I'll tickle you" policy is known to every legislator and is a greater factor in passing bills than the lay mind realizes, but there are men who refuse to buy success at any such price, preferring to see their bills fail to pass, rather than to have to support "deals and steals," to effect that consummation.

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* Presented in a Symposium on Regulation of Marriage, before the Section on State Medicine, at the Fiftieth Annual Meeting of the American Medical Association, held at Columbus, Ohio, June 6-9, 1899.

Next we shall find the obstacle of political enmity in the path of the reformer. There are "many men of many minds" in all parties, but some of the smallest individuals are those who can see nothing good in any measure which is presented by the "other side." This political narrowness bands men together against a measure, simply because they desire to "down" the other side, and be the bill good, bad, or indifferent, it matters not, it must be "killed," one way or another, if it has been presented by a political rival.

Then there is the poor fellow afraid of what his constituents may think. He is always in a "peck of trouble," and never to be found twice in the same place. He recalls the old fable of the man, his son, and the donkey, who tried to please everybody and failed ignominiously—and lost the donkey in the bargain. This timid legislator is anxious to be returned, and has no confidence in his own judgment; he wonders what this man and that would think of the measure, and dares not risk their displeasure by voting for it. He may be in sympathy with the measure personally, believe it to be good and necessary legislation, but when the time for a vote comes, he will get uneasy in his seat, and slip out opportunely to "see a man," or even screw up his courage to vote in the negative if he thinks those constituents in "the S'teenth District" will approve his bold opposition to such new and unheard of legislation. Close beside this sort of statesman sits another timid individual, who dreads being asked for his reasons for voting for the new measure. He may feel it is a wise and necessary enactment, but he has not the courage of his convictions, and falters when it comes to putting himself on record as favoring an unpopular bill, or one about which there will be discussion.

Another class must not be forgotten who are vitally concerned in the proposed law, as it will personally affect their own prerogative of marrying. There is a large number of men, both within as well as without the legislative halls, who have the very best reason in the world for wishing to utterly defeat any such restriction, as they secretly know that it would debar them from marriage. These individuals will give you every other reason in the world why such legislation is "unnecessary," "an outrage," "a crime against the freedom and rights of the individual," etc., but in their own person the real cause of their opposition is evident. No man is more violently opposed to a physical examination than he who knows he could not pass it. No man is more outspoken in his antagonism to all restrictive legislation than he who secretly knows he has no right in the sight of God to perpetuate his own condition. No man is more sure to harp on the rights of all, than he who is deceiving the world and the woman who loves him, and denying her the right to know the truth as to his absolute unfitness to father her child. Take the dipsomaniac! Shall we expect him to applaud legislation which shall disbar him from matrimony, or, think of the poor, puny, starved progeny he will be responsible for bringing into being, cursed with the hereditary infirmities of their progenitors? Drunkards have no love for any legislation affecting their privilege of making brutes of themselves, and it is, alas, equally true that those poor miserable specimens of humanity, cursed with the foulest and most loathsome diseases, due to the "sins of the father," are most violently opposed to any restriction which will reveal to the world their own condition, and prevent them passing on the scourge to the generations yet to come.

As a rule there are very few consumptives, if a recognition of tuberculosis in the patients themselves is to be taken as a criterion. Every medical man knows that the consumptive will admit he has anything else but consumption, and many die without ever being brought to a realization of their malady. No wonder then that members of this class continue to marry and bring into the world a horde of weaklings, a constant menace to the health of the community, and by whom seeds of the disease are sown broadcast. The tuberculous legislator, like the one addicted to strong drink, and the unfortunate victim of syphilis in any of its stages, is therefore averse to all legislation favoring health and requiring a physical examination for all applicants desiring to enter matrimony, but such opposition must only the more forcibly emphasize the necessity for restrictive laws, if we would protect the home and our nation from the fearful ravages of the ever-increasing army of the diseased and their imperfect offspring.

Last in the list of obstacles we may put the jealous, envious little specimen, whom it is almost an absurdity to call "a man." He wishes he had thought of the purpose of the bill himself, but as he did not, he has not soul enough to be willing to let any other legislator get any small credit which may accrue for having fathered it. He jealously views everything which may in any way be supposed to lessen his own prestige, and is vehemently opposed to the new measure, be it good or bad, simply because it is not his bill, and he dislikes to see another succeed where he himself has failed. But he is a small personage, and we shall not waste time considering him, for he is not worthy of it.

When we consider all the obstacles and difficulties in the way of needed legislation regarding health in wedlock, we must not overlook the vital opposition based on a real ignorance of what is meant by the term "physical examination." There are many men who have an entire misconception of what the term implies, and on the part of the average female the thought is full of some horrible indecency and indignity at the hands of the physician, at which her soul revolts, and many exclaim that death would be preferable to an "examination," without having the slightest idea of how delicately, and with what uniform respect for womanly modesty and decorum, the examination is conducted by the experienced physician. Here again is ignorance, and such as can only be made to yield by enlightening the masses

Having given some consideration to the obstacles in the way of needed legislation; having, as physicians say, diagnosed the disease, we may see what can be given as a remedy.

First, of all, and chief in importance, is education, not only of legislators but of all men; not only of men but of women as well; and education not only of the masses but of the classes, to an appreciation of the necessity of curbing present dangers and eliminating, as far as possible, the spread of those noxious dieases which menace not only the marital partner but the offspring and the community at large by their propagation. Women as a rule have no knowledge of the terrible dangers menacing them and their children, through the contamination of syphilis and other diseases of like nature; few of them realize the inevitable result of marrying a consumptive, and still fewer are taught to think of the crime against progeny which such a marriage involves. While many may applaud the womanly love which makes a wife cleave unto her tuberculous mate, ministering to him in the long years of his slow death, the world begins to question this "devotion," when it sees the woman a party to the crime against the offspring of such a union, which she is responsible for bringing into the world, cursed before birth with as slow and immutable a doom as the victim who dies by the loathsome ravages of leprosy.

Education alone can enlighten the world as to the necessity of lessening the spread of the hereditary taints now sent broadcast by millions of diseased couples procreating their own kind; their children in turn, by the enormous increase of each generation, endangering the health of the very nation; the time has come for legislation to prevent such a union as menaces by its consummation the welfare of the community.

While it may be true that the woman who marries a consumptive is conscious of all her act involves, while she may know that he is doomed sooner or later to succumb to this dread malady which each year claims its thousands of victims, while she may possibly appreciate the sin committed against her unborn children, by marrying a man who can not father healthy offspring, she is not entirely ignorant as in those other and far more terrible diseases, which polite society refuses to discuss. But while society may refuse to name syphilis, Nature writes it on the faces and bodies of millions, every year, and if marriages indeed are all made in Heaven, one shudders at contemplating "the joy of the angels" when the miserable imperfects born of such a crime against Nature are forced into being, under the curse which the scriptures pronounce shall continue until the third and fourth generation.

Sentiment in regard to a love marriage between a healthy male and his mate is very pretty, and we applaud all the congratulations, flowers, and marriage festivities, but these things do not end matrimony, they begin it, and it is well to look a little ahead, and to view the union of the man and his bride in its relation to the community, for it has a bearing on the welfare of the community at large, which the sentimentalist overlooks. If the wedded ones are not pecuniarily able to be self-supporting, if the male or the female are persons of known inebriety and dissolute character, their union becomes an added burden to the charitably inclined, and to the thrifty tax-payer who must support their ever-increasing progeny. If the man or woman is of weak mind, an imbecile, or pauper, the county will have, before many years, a very tangible proof of its interest in the "union of the two free souls," who are indeed free to thoughtlessly bring a horde of imperfects into being, to prey on the pockets of those who must support them from the public purse. But there is a far more vital reason than any mere financial question, in regard to this unrestricted propagation of all who desire to marry. When the union of the two is a danger to the health and well-being of every individual in the community, it is time to put aside sentiment and to reason logically.

But this brings us back to the last proposition: How can "this end devoutly to be wished for" be consummated? It appears to me that while education must be insisted on as the best means to secure the end aimed at, it is also necessary to "make haste slowly," and I therefore suggest that it might be well, where it would not be possible to at first pass an effective measure, to exempt the woman from the operation of the bill, it being recognized that in most instances the man does not marry, nor desire to marry, a diseased mate, and this exemption of the woman will do away with all the sentimental objections of those who consider such an examination for her a kind of profanation, but who are sensible enough to offer no objection to it for the man. Then again, I see now that I should have been more successful in securing advocates for my bill had I exempted those who feared the measure might strike themselves. Instead of the original bill as drawn, I should offer, as a substitute, a measure not only freeing women from the examination, but making the measure less stringent, so as to only include those with tuberculosis when actually developed, dipsomania when positively proved, and syphilis in all its stages, together with actual imbecility. While the original bill, to my mind, was none too stringent to meet the requirements of our day, it behooves us to accept in a tacit way the conservative spirit which will not be pushed, but which must be coaxed on step by step. As the old schoolmaster well said: "The cure for a little education is more education."

THE LEGAL RESTRICTION OF MARRIAGE FOR THE PREVENTION OF PAUPERISM, CRIME AND MENTAL DISEASES*.

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Pauperism, crime and insanity have in their etiology most important relations to heredity, that great fundamental law of Nature by which like must produce like, not in never-ending sameness, but in variety, tending on the one hand to improvement by environment, or by the same ever-powerful modification to destruction.

The child comes into the world with life and certain gifts from parents, often loaded with encumbrances so burdensome that they prove a curse to their possessor, sometimes so free that the heir at law has nothing to fear in the race of life. How the minute cells, that by their union make conception, microscopic as they are, should contain within themselves all the possibility and all the minutiæ of a life of pauperism on the one hand or of exalted statesmanship on the other is a mystery that can not now be solved.

The farmer recognizes the great law of heredity, that was declared to the children of Israel amid the thunder of Sinai, and governs himself accordingly. The animals that he selects for propagation are always the best of their kind, and the seeds that he sows are carefully selected. Under our higher civilization abnormal man, be he defective, dependent or delinquent, is propagated, cultivated and protected; his feeble and crippled offspring are nursed to manhood and sent forth to produce their kind. Under savage and semisavage conditions, these abnormalities are speedily relinquished, the deformed and weaklings have no place in their system, and some way or other are soon cut off.

Under savage and semisavage conditions no restrictions of marriage are necessary, the speedy destruction of the degenerate prevents damage to their social fabric by any amount of fecundity, but our higher civilization, by the protection it gives to all such and by the absence of restrictions, is constantly endangering its own integrity by such multiplications as follow, the only safeguard being that the women early become sterile, by reason of infections, the product of filth and careless habits.

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* Read in a Symposium on the Regulation of Marriage before the Section on State Medicine, at the Fiftieth Annual Meeting of the American Medical Association, held at Columbus, Ohio, June 6-9, 1899.

To secure reform the laity must be educated; legal enactments that are not popular can not be enforced, and this education must come from the medical profession, that profession that is always most unselfishly engaged in the great work of preventing disease, prolonging life, and ameliorating human suffering. The importance of heredity as an etiologic factor in the production of pauperism, crime and insanity no physician questions; he sees every day, in his professional rounds, too numerous evidences to permit the slightest doubt in his mind.

The Juke family, with its 1200 criminals and paupers; the Ben Ishmael tribe with its 1700 of like kind, and the Ada Jurke descendants, numbering 500 pariahs, are by no means exceptional. The genius of a Dugdale, a McCulloch or a Pellman could multiply them indefinitely, and the surprising thing is that we stand by unconcerned in the midst of this great pollution of our race.

The paupers may be divided into two classes: etiologically, those due to heredity and those due to heteronomy, the first by far the more numerous; they are by birth physically, mentally or morally defective; the others come from adversity, old age, sickness, accident.

Those of the first class are the product of uncontrolled marriage and are incurable. Fortunately, for the race, they tend to their own extinction and in the third and fourth generations have paid the penalty of the violation of the laws of Nature. The number of these defectives added to the population is much greater than many suppose.

That the habitual criminal is a product in great part of family degeneration no physician can doubt, although he recognizes the powerful effects of environment in molding character and correcting defects. Yet, we all come into the world with what Maudsley has aptly called a tyranny of organization for good or for bad that only the most powerful surroundings can suppress or alter. Poverty and unpropitious circumstances did not prevent Abraham Lincoln and others of our great American leaders from mounting to the highest round of the ladder of fame, and yet these exceptional cases only make more evident the great facts of heredity.

The powerful effect of drunkenness, even temporary, in aiding in the producing of degenerates, we all recognize, and as Maudsley says: "Here as elsewhere in Nature like produces like, and the parent who makes himself a temporary lunatic or idiot by degrading vice propagates his kind in procreation, and entails on his children the curse of the most hopeless fate."

Heredity in insanity is beyond question; there is difficulty in getting precise figures, because of prevarication on the part of relatives, and the heredity is not always the direct inheritance of insanity, but it is rather a sequence of that rule in nervous diseases by which they may undergo transmutation in transmission. In spite of the difficulty of getting at the truth, we find the percentage of heredity placed by Moreau as high as 90, and by Maudsley at 28; the whole truth, as is usual, is doubtless *in medias res,* but accepting even the lowest, the evidence is conclusive that this most horrible of diseases is transmissible, and we, the guardians of the race, should be more active in our endeavors, by scattering broadcast these horrible conclusions, to limit its propagation.

That great conservative English physician, Sir William Aitken,[1] wrote that legislative enactments regarding the intermarriage of persons tainted by disordered intellect are greatly to be desired, and the concealment of such disorder, with a view to marriage, ought to render marriages which are concluded under such circumstances null and void.

The time is not yet ripe for legislation, and will not be so until we, the members of the medical profession, with that self-sacrificing devotion to duty that has ever characterized us, shall so enlighten the laity that they will of themselves for their own peace and comfort demand the necessary enactments.

RESTRICTION OF MARRIAGE FOR THE PREVENTION OF COMMUNICABLE DISEASES.*

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Next to the instinct of self-preservation the most powerful and all-prevailing law of animate creation is the sexual impulse, having for its fundamental object the perpetuation of generic life. In its natural operation it promulgates physical perfection through the laws of natural selection and the survival of the fittest. These great and beneficent laws bring to the front the most virile in physical strength and prowess to be the progenitors of the species. They have preserved all animal life, in its normal surroundings, in the beauty of perfection in form, development and adaptation to environments. Man himself, the intellectual, reasoning, talking animal, forms the one exception. Among all other animals the type of physical perfection is the common rule. Among civilized nations of mankind it is the rare exception. Man is the only animal who permits the deformed, the degenerate, the diseased of body and mind to perpetuate his anomalies by unrestricted breeding. By the well-known rules of stirpiculture he cultivates perfection of form and disposition in the domestic animals suited to a great variety of purposes. Heredity, pedigree, variations, combinations, all are carefully studied, and desired ends are surely predicted and obtained. But when he turns to the choosing of his own mate, and the rearing of his own progeny, flesh of his flesh, and blood of his blood, these wise and wholesome rules of breeding are usually ignored. He puts blinders on his horse sense and hands the reins over to ignorant caprice, to unreasoning sentiment, to mercenary consideration, or to selfish lust. It is highly discreditable to our enlightened age that the marriage relation is generally contracted without due regard to these vital principles. We assume, without taking time to argue the propositions, that the fundamental object of the mating of the sexes is for the procreation and care of offspring, not barring other exceptional and legitimate incentives; that behind this union exists the sexual instinct as a conscious or subconscious psychic force leading up to it; that the home, the social fabric, the state itself, commerce, science and the arts, are but adjuncts and corollaries of these basic principles.

Manifestly, then, there are many responsibilities, yes, and dangers, connected with marriage, which the parties to the contract and society itself must not ignore. These great interests can be protected only by the wholesome moral sentiment of the public and by restrictive legislation.

One-fourth of the human race dies before the first year of life has passed by. When the fifth year is reached, one-half of all that are born alive have perished. Among the causes of this frightful loss of human life, perhaps the largest factor is a defective parentage which has transmitted an enfeebled vital resistance to its offspring. · Such individuals have no moral right to transmit a heritage of suffering and premature death. The bulletin of public charities of Illinois, just published, shows that there are about 10,000 inmates in our state asylums, at an annual cost of over $2,000,000 to taxpayers; a large share of the responsibility for this burden rests on diseased and neurotic parents, whose degenerate children are the victims of hereditary ailments, mental and physical.

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[1] The Science and Practice of Medicine, vol. xi, p. 190.

* Presented in a Symposium on Regulation of Marriage, before the Section on State Medicine at the Fiftieth Annual Meeting of the American Medical Association, held at Columbus, Ohio, June 6-9, 1899.

A study of our penal institutions shows that criminality is on the increase. One of the lessons taught is that law-breakers beget law-breakers, hence habitual criminals and individuals with marked stigma of degeneration should not be allowed to procreate.

We do well to question the institution of marriage under modern civilization, and to compare its lack of salutary restrictions with the practical results of other ages in the upbuilding of national strength and character. In the evolution of citizenship and government among the ancient Greeks the fundamental idea was the development of physical perfection in the beauty, strength and symmetry of the human form. To this end the youth of both sexes were given over to the gymnasia for careful training. Under the laws of Lycurgus, all infants were inspected by the ephors, who culled out the feeble and defective, and ordered their destruction, for every Spartan boy must become a soldier, and every Spartan girl must be fitted to become the wife and mother of a soldier, that both might the better serve the state. So it came to pass that the word Spartan for all time is a synonym for physical vigor, endurance and courage. This love for the development of grace and perfection in the human form had its flower and fruitage in the beauties of the Greek tongue, which has transmitted models of oratory, philosophy and poetry to all ages. It inspired the chisels of Phidias and Praxiteles, whose art has been the universal despair of sculptors in every clime. It threw a charm about the architecture of the temples of Athens which holds the traveler spell-bound amidst the decay of centuries.

No need for asylums and penal institutions for the feeble-minded and the degenerates of crime in such a commonwealth, for the sires and dames of the nation were mature and wholesome types of manly and womanly perfection. Physically, it is doubtful whether any modern nation can compare with those ancient Greeks; certainly not in symmetry of development, in grace of movement, and in power of endurance. In hand-to-hand conflict with the same weapons, no army of to-day could have withstood the cohorts of Alexander.

While we could not advocate a return to the Greek idea of democracy, that the individual belonged to and existed for the state alone, or sanction the inhumanity that consigned defective offspring to the prey of wild birds and beasts, at the same time we do believe that the pendulum of individual freedom in unrestricted marriage has swung too far in the other direction in the name of personal liberty, by which grave physical, mental and moral defects are allowed to be communicated to partners, or transmitted to offspring as personal afflictions or unnecessary burdens to the state.

The only available remedy at present seems to be moral regulation to enlighten public sentiment on these matters, by educational methods in the home, in the school, and in the church. Our youth should be trained physically and morally for the duties to be assumed in the marriage relation as a part of public education. The principles should be inculcated that individuals having serious transmissible defects of any character have no more right to inflict them on their partners or their progeny than they would have to injure their neighbors to the same degree. In this light thousands of marriages are moral crimes against partners to the contract, against children of such a union, and against the commonwealth.

Let us consider some of the most serious dangers which may attend matrimony, and which can only be remedied by legal restrictions. It is a recognized principle of representative government that its individuals have the right to protection by the state from injuries which they are powerless to avert.

Great advances have been made in preventive medicine in recent years, through governmental regulations. In times of epidemics from cholera, smallpox, or yellow fever, the enforcement of quarantine, vaccination, the sanitary regulations for the prevention and stamping out of these scourges at any cost, is esteemed the highest wisdom. We are singularly blind, however, to the widespread, dangerous, endemic, every-day diseases of tuberculosis, gonorrhea and syphilis, *simply because they are everyday, endemic diseases.* This ever-present trio terminates more lives annually than all the combined epidemics of a century.

The health and life of husband or wife are often sacrificed on the marriage altar through pre-existing infections of a partner in wedlock. Not only so, but the offspring, even *in utero*, are menaced by the same dangers; when we add to these the effects of dipsomania, epilepsy, and mental diseases in parents, as etiologic factors in the physical, mental and moral degeneracy of their children, it looks as if it was high time to quarantine the marriage license, and detain the candidates long enough for careful sanitary inspection and for the exclusion of such as are a menace to life or health of wife or husband, or probable offspring.

Tuberculosis, king of death among all diseases, cuts off from 11 to 14 per cent. of the human race. It is often propagated through the marriage of tuberculous individuals, whose weakened progeny also are strongly predisposed to the same infection. The majority of males become gonorrheic, usually *before* marriage. A large proportion of these remain in uncured, chronic or latent stages for indefinite periods, during which time they are capable of imparting this dangerous condition to others. It is variously estimated that from 10 to 25 per cent. of all females become gonorrheic, usually *after* marriage. This is the disease responsible for most of woman's pelvic woes. It is the greatest cause of sterility in both sexes; it is the greatest cause of blindness in early life; it is not infrequently the slow death-warrant to a confiding, innocent bride.

Syphilis plays great havoc in the marriage relation. It is the greatest disease cause of abortions and stillbirths. One-third of all syphilitic pregnancies terminate thus. Another third of hereditary syphilitics die during the first six months of existence, and the remainder are more or less debilitated and short-lived from impaired vital resistance. It bears a strong causal relation to locomotor ataxia and certain forms of insanity and nervous diseases. Marriage often occurs during the communicable stages of syphilis.

All men and women entering the bonds of wedlock have a right to know that their bodies shall not be contaminated through this relation by reason of already ex-

[illegible] They have a right to know that their progeny shall not be the victims of [illegible] diseases [illegible] from the same source. Every unborn child, debarred as it is from choice of parentage, time, place, manner, and station of birth, has its recognized legal rights. Among these also should be placed the inalienable right to be born free from the blight of clearly preventable diseases.

We hold that it is plainly obligatory on the part of the state to protect those who, from the nature of the case, are powerless to protect themselves, by enforcing wise restrictive marriage laws. Matrimony is of the utmost importance to organized society. An institution so essential to the highest good of society should have few barriers imposed to its free exercise: manifestly only those who are qualified by the endowments of healthy bodies and minds should be allowed to enter on its privileges and responsibilities. Until recently the only restrictions in most of the states have been confined to questions of minority, ability to make a contract, and consanguinity. To these the Southern States have added miscegenation. North Dakota, besides redeeming herself from a pernicious divorce law, has led all her sister states in a genuine reform along the lines we have just mentioned. On Feb. 25, 1899, the Creed Bill to regulate marriage was passed by her senate. Under this bill no license to marry can be granted unless applicants present a certificate from a board of examining physicians, that they are free from infectious venereal diseases, epilepsy, habitual drunkenness, hereditary insanity and tuberculosis. This bill was modeled on the exact plan of the Parker Bill, which failed to pass the Ohio legislature a year ago last winter. Similar bills have been presented, or are ready for presentation, in several other states.

We confidently expect to see state after state following her lead in this most important legislation for the protection of innocent wives and their little ones, from contaminations which endanger not only the health and happiness of homes, but the very welfare of the nation. When the public comes to realize that unsanitary marriages are just as dangerous to the community as unsanitary dwellings and contaminated food and water-supply, then will this beneficent legislation be demanded and enforced.

[illegible] Ave.

RESTRICTIVE MARRIAGE LEGISLATION FROM THE STANDPOINT OF THE WIFE, MOTHER, AND HOME.*

BY MRS. ALICE LEE MOQUE

WASHINGTON, D. C.

Before taking up the question of reforms in our marriage laws, it may be well for us to consider briefly, from the sociologic point of view, what marriage was in the past, that we may be able to logically deduce from what it was, and is, what it may become. To do this, it must be frankly stated at the beginning, I shall have to speak plainly of sexual conditions, but beg that my hearers will appreciate that, in the words of Leterneau, "I have striven never to depart from the scientific spirit, which purifies everything."

To the sentimentalist of to-day, the fundamental truth on which the marital tie rests is forgotten or ignored. Losing sight of the plain and homely facts, proving the humble origin, of what they are pleased to call "the divine sacrament," they insist on a blind conservatism, which clings tenaciously to beliefs and practices, absolutely criminal in their immutable effects. To the student of biology, sociology, and ethnology, the institution we call marriage is not alone a covenant of man, but is identical in purpose, and the result of the same instinct that brings together two of the lower vegetal cellules into one protoplasm, and in no way differs materially from the fundamental phenomenon of that generative fecundation known to exist among the lower animals, as well as among men.

In the animal kingdom we find the two primitive types of family, the matriarchate or maternal, and the patriarchate or paternal, as we do all the other forms of sexual relation from promiscuity and polygamy up to the highest monogamy. He is indeed a blind worshiper of the genus homo who fails to perceive that the principal traits of primitive man, as exemplified in the lives and customs of many low types still extant, but prove our close relationship to our brethren with fur and feathers.

Primitive man, like his anthropoid ancestors, secured his mates by using brute force; in time, marriage by capture, toned down into marriage by purchase, to be followed by marriage by servitude—or work done for the owner of the chattel, to secure her person. A woman merely represented value, whether wife or daughter, and from the dawn of history until to-day we see the father's claim to her services recognized.

Herbert Spencer, in his admirable work, "Synthetic Philosophy," after showing how the tribes changed from endogamy to exogamy, says: "The primitive relation of the sexes shows the cruelty, inconstancy, and indefiniteness of the union of men and women. The wills of the stronger, unchecked by political restraints, unguided by moral sentiments, determined all behavior." Even to-day there is no better guide for the student, by which he may gauge the civilization and advancement of the race or tribe, than is its treatment of women, and the care shown progeny. Thus we see all the old forms of sexual depravity being gradually eliminated, as we follow man's evolution from barbarism up to civilization, and see the new, and divine ideals of altruism, taking the place, once entirely swayed by the unbridled lubricity of male passion.

But while all other subjects of needed reform are openly and freely discussed, a false shame, a prurient mock-modesty blushes if the well-being of progeny is discussed, and seeks to silence all questions if they but remotely lead up to that most vital obligation, our responsibility to future generations.

"The final aim of all marriage, all love intrigues," says Schopenhauer, "is really of more importance than all other ends in human life; what it all turns on is nothing less than the weal or woe of the next generation. Not that of any one individual, but that of the human race to come, is here at stake."

In the past, the belief has been general that the superiority or inferiority of offspring was a matter for which what was termed "Divine Providence" alone was responsible, but to-day the world is awakening to the truth, and no longer can the bringing into existence of the maimed, the halt, the blind, be excused or palliated by throwing the onus of the crime on that Providence, which "doeth all things well."

"The sooner men and women realize the responsibility of parentage," says Wm. Windser, "the sooner deformity and idiocy will be diminished and obliterated. This realization of responsibility can only come through education, and every effort to disseminate knowledge in this direction, however made, should be fostered and encouraged."

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*[illegible] of Marriage, before the Section on State Medicine, at the Fiftieth Annual Meeting of the American Medical Association, held at Columbus, Ohio, June [illegible] 1899.

The time has come when men must fearlessly face the problems which confront them; when they must no longer suffer abuses which it is forbidden to name; when they must shake off the false sentimentality which while prating glibly of love and marital affection, and objecting in stentorian tones to the "desecration of marriage by restrictive laws," is every day and night in the Christian calendar, disobeying those laws of Nature, for which the penalty imposed is nothing less than life-long misery for the helpless little ones, who will reap the harvest sown by the "sins of the father."

"I conclude that each generation has enormous power over the natural gifts of those that follow," says Francis Galton in "Hereditary Genius," "and maintain, that it is a duty we owe humanity to investigate the range of that power, and to exercise it in a way, that, without being unwise toward ourselves, shall be most advantageous to future generations."

In this enlightened era, it is evident that there can be no individual right, which, in its very nature, is a public wrong. While it may seem to some a grievous thing to say to two young persons desiring to marry, you must not, yet these same sentimentalists seem to see nothing wrong in the wedlock which must inevitably—by natural law—result in a crime against progeny. As the Bible states, one does not 'gather figs of thistles,' and science proves the immutability of hereditary taint. As Dr. Trall well says: "Nature punishes *always* and pardons *never!*" when her laws are violated or disregarded.

Whether the result of an ill-advised match between those not in a physical, mental or moral condition to become parents is disease of one or both parties, or personal alienation, or depraved or imperfect offspring, or all, there is no possible escape from the penalties.

To what a terrible extent just one depraved family can vitiate the human tide, statistics have already amply proven, and it is well before condemning restrictive legislation, to see if it is not indeed at least the lesser of two evils. Dugdale, a member of the Prison Association of New York, gathered data of a criminal family named Juke, and as figures can not lie, the tale they tell is worth considering. Five Juke sisters, in seventy-five years, had 1200 descendants, embracing every form of degenerate: paupers, 280; criminals, 140; thieves, 60; murderers, 7; prostitutes, 165; illegitimate children, 91; venereally diseased, 480 known cases. The years of pauperism and infamy cost the State of New York $1,308,000. Can any one really believe that these Juke women had the right to so saddle the community with this burden of debt and infamy? Surely not, nor can any sane man or woman really believe that their maternity was anything less than a crime against progeny in such a case, as well as a crime against the state and the tax-payers.

As the child is but the composite of what its parents are and their ancestors have been, the Presbyterian doctrine of being born to be damned is not so far from the truth as we may think. "If we could be born right the first time," says Dr. Chase, in his work on the "Responsibility of Sex," "the difficulties in being 'born again' would be materially lessened, and it made unnecessary." "We know," he says, "that for any one knowingly possessed of contaminated blood, to enter the parental relation, is a crime. I say a crime, and no less so, because human law and justice are too materialized to reach it. The crime is two-fold: first it is a crime against the offspring of such wedlock. The wrong inflicted smites the defenseless, the poison scattered corrupts the innocent. Second, the crime is against the race; its infancy is weakness, its maturity is frailty, its old age disease."

From the standpoint of a woman, a wife and mother, it appears to me that no thought can be higher, no desire more in keeping with the maternal instinct, than this effort to protect the unborn, and this law to uphold the inalienable rights of progeny to be well-born—or at least we see that they be not handicapped, by being forced into being, deprived of their birthright, health. In the woman of normal conscientiousness, the maternal instinct will always be found to be well developed, and if she be taught to understand the responsibility resting on her, as mother of future generations, we shall soon find her living up to the new and higher ideals, as soon as she, by the knowledge given her, shall acquire a more perfect appreciation of her status. To the female of low moral, physical, and mental condition, we can not hope to appeal in any other way than by force, as the maternal as well as other instincts are blunted, and sensuality alone is the *raison d'etre* of motherhood, coupled with ignorance as to how to escape the burden and the too frequent determination to shift the care of the accidentally-begotten encumbrance on the public, at the earliest possible moment. We speak lightly of what we term "the animal instinct," and yet the maternal love of animals and the maternal instinct of the smallest creatures often puts to the blush our boasted pretensions of superiority over our little sisters of the woods and valleys. We will not but touch on the ignorance, the sin and the shame of those poor degraded individuals who swarm in the tenements of our large cities, whose bloated figures and crime-hardened faces show the lives they lead; we need not dwell on the known fact that maternity with them is but an accident, and their offspring, when not used as a means of beggary to procure strong drink for the besotted parent, is left at the door of a foundling asylum, or the little puny body found strangled in some ash-barrel. Maternity with them is indeed a misfortune, as they consider it, but how much more a misfortune to the poor, miserable child, and to the community at large.

But let us turn our eyes from this appalling lack of mother-love, and view the solicitous care of the little sand-moth, as she prepares, with patient industry, the hole in the sand in which to lay her eggs. Let us watch her as she carefully covers them up, and follow her as she diligently searches for the proper food which will nourish the young ones she will never see, and watch the little mother as she places it beside the eggs, and then, her labors over, lies down and her little life is over, for the preparation for the welfare of her progeny is complete. Ah yes, we, the highest creation, may learn much from the devotion and maternal care exhibited by these little mothers for their offspring, and the lesson will teach us to rightly appreciate our own responsibility as mothers of men, when we learn from the little sand-moth how diligently we should prepare the way before birth, for the well-being of our own progeny.

"All laws," says Dr. Trall, "are sacred in the sight of the law-giver, and woman's instincts can recognize no higher law—whatever she may assert to intellectuality—than that of self-preservation, and no duty greater than that of bringing into the world children of sound and vigorous constitution, or none at all." To no woman more than myself can the sentimental side of marriage appeal, by none can a love marriage be more appreciated as necessary or a love-mate more dear, but to me, the thought of obtaining a selfish gratification and happiness at the expense of my own little ones would [illegible] abortion. It is too much like the Fijians, who propitiate their gods by offering up their children as living sacrifices.

No mother-love, nor maternal care after birth, can ever make up to a child for the sins committed against it by forcing it into being, unasked, to suffer the penalty imposed by Nature for broken laws. "No good will, no charity however splendid," says Helen Campbell in her book on "Prisoners of Poverty," "can fill the place owned by that need which is forever first, and most vital between man and man—Justice. No labor, no love, no self-sacrifice, ever can balance that scale in which justice has no place."

Is it then too much to claim that none should more religiously uphold the inalienable rights of the unborn and unbegotten than the mothers of the land? Is it too much to claim that to no one will the boon be more surely given than to wives, when restrictive marriage laws are enforced and the medical examination is the guardian of the young wife's health and happiness, as well as the custodian of the rights of progeny. Women as a rule are most bitterly opposed to reform, particularly when it concerns themselves; they are swayed by their emotions, not ruled by reason, and are more devout partisans of fashions and follies, more servile followers of custom than are men. And yet, if the race is to be lifted up, if we are to reach a higher status than that of the present, if we are to be the progenitors of a better, nobler, healthier race, it must come through woman, for no stream can rise higher than its source, and as Emerson has pointed out, "A man is what his mother made him," and it is idle to inquire why a loom which weaves only huckaback does not turn out cashmere. The women, the wives, the mothers, must be taught the truth, they must be told facts, and learn the hideous result to themselves, their children, and the world at large, of perpetuating the diseases and imperfections which threaten the race. They must be enlightened as to the cause and effect, and learn that God's laws are all perfect, and that the bringing into the world of the imperfect and degenerates, the imbecile and the dipsomaniac, the consumptive and the diseased, is a crime against the child, against the home, and against the nation, a crime which no woman with the heart and instinct of true mother-love will knowingly commit.

But, while a great step in advance would undoubtedly be taken, if restrictive marriage laws could be enforced, I have some sympathy with those who claim that because a person has been unfortunately born, he should not be denied the privilege of mating with "the dearer one yet than all others;" and again we must, if we be honest and straightforward, admit that many of the most vicious, depraved and diseased are not the result of wedlock, so restrictive marriage laws would not, even if enforced, prevent the procreation of criminals. What then can be done to overcome this difficulty? What method can we suggest which, while working no hardship on the individual, will protect the community?

George Sand, the French writer, naively said: "A man asserts, a woman may merely suggest," and so I do not assert, but simply ask your consideration of the question, in a reasonable, logical light, reiterating the former thought that no private right is lawful if it is a public wrong. We may be very sorry for the thief, but we lock him up when he steals our silver; we pity the imbecile and the insane, but we can not permit them to remain at large; we pray for the drunkard, but we put him in the inebriate asylum when he becomes troublesome; we weep for the murderer, but we imprison him, and when the safety of the community demands it we hang him. In other words, we protect ourselves from every form of depravity, but we leave the one most vital part unprotected. "We imprison the thief and point the finger of shame at the prostitute," says George F. Talbot, "but when they come together in the 'holy bonds of matrimony,' the minister of religion pronounces it an ordinance of God, and society stands helpless before the teeming swarms of vicious progeny that are to be the fruits of such a marriage."

But we must not only have a physical examination, to insure the health of progeny born in wedlock; we must find a reasonable and logical, as well as just and humane, method of protecting humanity from those "teeming hordes," Talbot speaks of who may or may not marry, but who will undoubtedly "increase and multiply," and impoverish the earth.

In the *N. Y. Medical Journal* (Jan. 28, 1899) there was an article referring to a new method of procedure for effecting the sterilization of women, as practiced by Professor Spenelli of Turin. In an editorial the *Journal* states: "The danger (arising from the procreation of diseased and degenerate offspring) is undoubtedly a real one, and if we are honestly and firmly opposed to all restrictive marriage legislation, it is not because we are not in hearty accord with the object aimed at, but because we think it would create evils more far-reaching, more deplorable than even the results against which they are directed. We have contended that with the union of the man and the woman, *per se,* the community has nothing to do. It is only by virtue of its potential results that the community acquires any right to intervene. Now, it is conceded, that the unrestrained reproduction of the physically or mentally diseased or degenerate is a menace to the welfare of the community, but we can not but feel that there are numberless instances in which a safe and easy method of rendering women sterile, as that mentioned by Spenelli, when pregnancy would be a source of more than ordinary danger to the individual, or a direct wrong to the community, is far better than a harsh prohibition of marriage."

It is unnecessary to give any of the details of this new method of sterilization, as you all know much more about it than I could tell you, but I beg that you will consider it in this connection, together with an article by Dr. A. J. Ochsner,[1] which I read with much pleasure, on the "Surgical Treatment of Habitual Criminals." May it not be that surgical science shall be the means of giving humanity the panacea so long sought for all the horrors and crimes committed against progeny by the criminal and degenerate classes? May it not be that Dr. Ochsner's method of sterilization, in conjunction with Professor Spenelli's—both simple surgical operations without danger of pain to the patient—shall be found to be the answer to those who, while objecting to restrictive marriage laws, are yet honest enough to acknowledge the menace to the health and well-being of the community at large, which unrestricted criminal procreation now presents.

"The law of marriage is no respecter of persons," and "ignorance of the law excuses no one," so it behooves us to know the truth, and face facts, even if they be unlovely ones. Those who rightly understand the responsibilities of sex, and particularly those arising from wedlock, will see the necessity of unselfishly seeking the way to insure future generations from contamination of blood. To the educated, enlightened, thoughtful man and woman, the rights of the helpless babe will appeal, and we shall yet see the world accepting the necessity of a physical examination for the protection of the state, the wife, mother and home, as they now accept the necessity of a physical examination for those desirous of taking out a life insurance policy, to protect the company. More than this, with education along rational and altruistic lines will come the conviction that, with the vicious, the depraved, the perverts and degenerate, as well as the diseased and imperfects, who have no consciousness of the wrong they commit, the crime against the child is a crime against the race, and they must be made incapable of perpetrating it.

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[1] THE JOURNAL, April 22, 1899.

Let us, as a last thought, fix our minds on the necessity of protecting and caring for those who can not help themselves. Let us remember that while those needing the medicine may object to the dose, we, having diagnosed the disease, must fearlessly display the contagious-disease placard, and not forgetting our duty to the individual, must never lose sight of our supreme responsibility to the community. "Diseases, which as a class, engraft themselves on the life-forces," says Dr. S. B. Chase, "so grow into it, and become an integral part of its constitution, as to stamp themselves irrevocably on the individuality of either parent. This is a solemn and startling truth, and should be written in letters of inextinguishable light upon the altar of every home where consumption haunts with hectic beauty and cheating hope, or where scrofula stalks with hydrocephalic head, distorted vertebra and leprous skin, or where misery-making idiocy has made wreck of all that is beautiful in human form. Let this fact be insisted upon, that diseases are a part of our individuality and become transmitted in impregnation, with the mournful truth, worthy of solemn mention, that such diseases when inherited or acquired are irrevocably and beyond the reach of art or medicine."

Let us then blush not to hear and know the truth. Let us uphold the law, remembering that: "Of law there can be no less acknowledged than that her voice is the harmony of the world," while aware that the heart of every lover of his kind echoes with the altruistic desire to protect the wife, the mother, the child, and the home. For that end we shall band together fearlessly, conscious that "Ignorance is the curse of God, Knowledge the wings wherewith we fly to heaven."

DISCUSSION ON SYMPOSIUM ON MARRIAGE.

Dr. G. L. Richards, Fall River, Mass.—I am glad to see the American Medical Association take some notice of these problems and help in their solution. While most of us admit that the time is not yet ripe for restrictive marriage legislation, it certainly is time for at least a beginning to be made, and I was very much interested in Mr. Parker's conclusions that, on account of his political experiences, he felt that the bill introduced by him in the Ohio Legislature was too drastic to pass. It is true that restrictive marriage laws will not reach a large number of those persons who will always be a burden to society, as Mrs. Lee Moqué has said in the latter part of her paper, where she referred to the Jukes family. If I remember rightly, very few of this family ever took the trouble to marry, and we must admit that if we had restrictive marriage laws they would have but little effect on people of that class, the very ones we wish most of all to reach. In spite of that it becomes our duty as physicians to insist on more care being taken along these lines and to see to it that those afflicted with diseases which we all regard as in the main hereditary, such as insanity, idiocy, dipsomania, syphilis, and tuberculosis do not marry without a protest on our part. I would also go so far as to say that no person who has ever been an inmate of an institution for the care of feeble-minded should be allowed to marry. We have a very excellent school for the feeble-minded in Massachusetts, and under the care of that institution a great many of the children are being trained and developed so that they afterward may take care of themselves. These children we are glad to educate at public expense, it is much cheaper than having them grow up to be inmates of almhouses and jails. I want them to be self-supporting individuals, as far as possible, but I do not want them to marry and raise up a race of imbeciles like themselves. It is time that the medical profession took up the ideas expressed in the most excellent address[1] of our President, Dr. Mathews, and laid down the law or doctrine that syphilitics should never marry. I hold that it is absolutely wrong for any physician to give his consent to the marriage of a syphilitic. I will grant that syphilis is theoretically curable, but must at the same time insist that practically it is not, simply because the patient will not follow the advice of the doctor a sufficiently long time to effect a perfect cure, and because too many physicians fail to sufficiently realize the gravity of the disease and the long time required to effectively rid the system of its poison. The result is that the patients follow the treatment for a while; as long as there are any active symptoms; with the subsidence of these they feel better and cease their visits to us. A few years later the same patient comes to us or some one else, and a syphilitic lesion is recognized in the throat or elsewhere. This lesion may be in the body of the other party, if a marriage has taken place. On sending for the principal, we shall probably be told that his physician had informed him he was cured and he could safely marry. A young man came to me a few weeks ago with an undoubted syphilitic lesion in his throat, although he had regarded himself as cured. He was engaged and wished to know how soon he could marry with safety. I replied: "You can *never* marry with my consent. You can find plenty of doctors who will tell you that after a certain time you can marry, but you can *never* marry with my consent."

I am very glad to hear these matters discussed here to-day. They are matters which affect the well-being of the race. No farmer would consent to breed pigs, cows or chickens with half the carelessness with which we bring new human lives into the world. I have often thought of one of the opening remarks in Lawrence Sterne's novel of "Tristram Shandy." The story may be somewhat under the ban, but the remark is so pertinent to the present discussion that I will take the liberty of quoting it entire. The hero remarks: "I wish either my father or my mother or both, as they were in duty, both equally bound to it, had minded what they were doing when they begot me; had they duly considered how much depended upon what they were doing, that not only the production of a rational being was concerned in it, but that possibly the happy formation and temperament of his body, perhaps his genius and the very cast of his mind and for aught they knew to the contrary even the fortunes of his whole house might take their turn from the humors and dispositions that were then uppermost. Had they duly weighed and considered all this and proceeded accordingly I am verily persuaded I should have made quite a different figure on the whole from that in which the reader is likely to see me. Believe me good folks this is not so inconsiderable a thing as many of you think it." Will not the coming generations have a right to feel that way toward us unless we look out for their interests better in the future than we have done in the past. Dr. Holmes' remark that the education of a child should begin a hundred years before he is born still has great force.

Dr. S. L. Jepson, Wheeling, W. Va.—The papers of the afternoon have brought before this Association matters upon which I have been thinking for quite a number of years. I have never had the courage to present my thoughts to the medical profession, but I am glad somebody else has been thinking as well as myself, and that these thoughts have been presented to us in such a practical way. Dr. Brower has laid before us the social phase on which this discussion must be based. That is, that neglect of proper precautions in choosing companions in marriage tends to the degeneracy of the offspring. We might go further than that. It tends to the degeneracy of the nation, and might tend to its destruction. I claim, therefore that the state has a right to intervene in behalf of her own preservation. Mrs. Moqué has presented an eloquent appeal in behalf of the "poor little mortal cast out on life's partner' without ever a thought or a wish of its own.' I would go one step further and enter a plea on behalf of the people who pay the taxes, and on behalf of this great nation which we hope to see exceed any other that the world has ever produced.

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[1] The Journal, June 10, 1899.

When we allow marriages of diseased persons to go on unrestricted, we are simply hastening the degeneracy of the whole human race. No man with a positive disease has any moral right to marry. Whenever the rights of the individual interfere with the rights of the state, then the state has a right to interfere. When smallpox exists in a community we step in and interfere with the rights of the individual, and protect him and the community by insisting on vaccination and rigid quarantine. So in this case the state should intervene, and when a man or woman is about to marry who has an active disease, whether tuberculosis or syphilis, that tends to produce a degenerate offspring, I claim the law should step in and prevent it. Any man who has practiced medicine has seen the evidence of the bad results coming from such marriages. I know of the case of a man who, it was claimed, had been allowed to marry, by his own physician, and within a month after marriage he imprinted a kiss on his wife which gave her syphilis. She has now been under my care for years, and I suppose it is the experience with all of you that a woman with syphilis is a very hard patient to treat, because she will not do as you wish her to. She thinks she is cured as soon as active symptoms disappear, and she insists on having her own way about it. The difficulty is doubled, if she is to be kept in ignorance as to the true nature of her disease. I believe these matters may be slow in coming, but we are making a good start to-day, and the question should be agitated year after year until its importance is impressed on the laity and finally we may hope for some legislation on the subject.

Dr. C. F. Ulrich, Wheeling, W. Va.—I am very glad that these subjects are being discussed here in this Section. I have attended this Association for a good many years, and have always affiliated with this Section, but have never seen such a meeting as we are now having. Public thought is being awakened, and those who have previously been afraid to express their thoughts for fear of shocking some one are taking courage of their convictions and coming to the front to speak out. This subject is a very important one. It is just beginning to come before the public. Now and then it has been mentioned and printed in books that nobody ever reads, but now it is brought before us in such a way that everybody is compelled to notice it. This will start the people to thinking, and ultimately this question will come to the front and laws will be enacted and enforced, and the world will be reformed. In the first papers that were read there was much said about the restriction of marriage and curing the evil by that means. All that time I was thinking to myself: "What becomes of all the illegitimate offspring that these marriage laws would not affect at all?" But Mrs. Moqué has touched the right chord in suggesting sterilization. I have seen this suggested in The Journal as a punishment of a certain class of criminals, which would also serve to prevent a repetition of the crime; it met my hearty approval, but I have never heard it expressed so forcibly and fearlessly as in the paper that has just been read, and I most heartily approve every word contained in this presentation of the subject.

Dr. D. R. Brower, Chicago—I wish to express my thanks for the very great interest this important subject has raised here. It is most gratifying to me to see this Section as it is to-day, crowded with people who are here at more or less personal discomfort to testify to their appreciation of the work that is being carried on here and by other organizations. The laity must be educated and doctors must be the educators. There are some of our practitioners who are afraid that if they talk about these things before lay audiences, they are violating the Code of Ethics. It is, on the contrary, in true harmony with the Code, for it is assisting in the elevation of those who are around about us and who are dependent on us for care and guidance. I desire to thank Mrs. Moqué, who has given us such a very eloquent exposition of this question, for her very emphatic references to one of the things that I tried to emphasize in a feeble way yesterday, the sterilization of these defectives and degenerates.

CAN THE STATE SUPPRESS GENITO-URINARY DISEASES?*

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It is but meet that I preface this effort with my thanks to your chairman, for the compliment given me in his invitation to prepare a paper for this meeting.

Never having made a special study of state medicine, I can not offer more than the outcome of practical experience, observation and thought on the devastations caused by the diseases which are the subject of my investigations. Over twenty years ago I strenuously advocated the registration and systematic examination of the unfortunates believed to be the principal disseminators of genito-urinary diseases. Subsequent study, however, and personal observation since then, especially in Europe, have shown me that the control of public prostitution, even if ideally carried out, can be but a small factor in the prevention of genito-urinary diseases. Ideal compliance with the law is indeed impossible, as the following considerations show.

Five years ago there were 20,000 registered prostitutes in Berlin. These were regularly examined and, if found infected, were confined until cured. Most conservatively tracing the possible course of such an individual, it may, for illustration's sake, be assumed that she is examined and found uninfected on a Monday. On the same day she has relations with a man infected with gonorrhea. For a person in her life it would be rare if she cohabited with but one man a day. But assuming this to be the number, she has had opportunity to infect at least three men, one on Tuesday, another on Wednesday and possibly a third on Thursday, before presenting herself for examination on that day. Even then the new infection may not be manifest and she might receive her certificate of health—practically a license to continue infecting more men—until her next examination the following Monday. Maintaining our strict conservatism, we will adhere to the three men she has infected. These three, each cohabiting during the week with only two women, can infect them. Without considering the more than probable geometric progression, we have within one week at least three men and six women infected with gonorrhea, nine persons in all. And what is said regarding this disease will apply equally to other venereal affections.

In Berlin, therefore, where the most rigorous and complete system of registration and examination is conducted by the *Sittenpolizei*—police of morals—the whole plan falls exceedingly short of its purpose. But in Berlin, too, where 20,000 licensed prostitutes are subject to biweekly examination, there are estimated to be 25,000 clandestine ones who escape the vigilance of the police. The diseases they convey are beyond numerical calculation.

In France, a similar system of registration and examination prevails. At its very inception, its futility was manifest. Sanger[1] says in this connection: " . . . it appears that a serious effort was made to put it (prostitution) down under the sovereignty of Catherine de Medicis. An ordinance of Charles IX, dated 1560, prohibited the opening or keeping of any brothel or house of reception for prostitutes in Paris . . . the consequence is said to have been a large increase in secret debauchery. A few years after the passage of the ordinance, a Huguenot clergyman named Cayet, proposed to *re-establish public brothels in the interest of public morals.* (Italics mine.)

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*Presented to the Section on State Medicine, at the Fiftieth Annual Meeting of the American Medical Association, held at Columbus, Ohio, June 6-9, 1899.

In England, Parliament deems it beneath its dignity to take any notice of prostitution. It is said that no brothels exist in Great Britain, but anyone passing around Piccadilly Circus at about midnight can not fail to see at least ten thousand prostitutes displaying their dresses and jewels in quest of prey.

In New York the personal investigation made and prosecution instituted about three years ago, by an eminent clergyman, drove prostitutes from their thickest haunt—the "Tenderloin." Now they are dispersed all over the city, so that hardly a neighborhood is free from her "whose footsteps take hold on hell."

Manifestly then, from these few examples alone, it is impossible for the state to regulate prostitution. If public prostitutes are the principal disseminators of genito-urinary diseases, the state, to effectively suppress these diseases, would have to appoint medical officers of established probity, for the purpose of proving that a man and woman intending to cohabit can not infect each other. Aside from the absurd impossibility of such an undertaking, it would require at least ten days to definitely determine the freedom of either from infectious bacteria[2]. Where is the man who, when impelled by the most imperious of impulses, would wait ten days for the result of such examination?

The periodical examination of prostitutes, the nearest, although feeble, approach to public safeguarding, could be effective only if microscopic examination were made immediately after each coitus. The medical profession has no member so degraded, who even for very large compensation, would remain in a brothel for such a purpose.

It has been before suggested that public prostitutes are not numerically the greatest disseminators of disease. That they individually do less harm than clandestine ones seems to be shown by Fournier's statistics, from which it appears that more men are infected from so-called "respectable women" than from common harlots. Of course, Fournier could not have obtained his data otherwise than from the statements of his patients. These, with that peculiar tendency of men to idealize the females with whom they have sexual relations, or thinking to minimize their offense against morals, may have clothed their infectors with putative decency. This reflection is not offered as an argument against Fournier's statistics, nor for men to seek sexual gratification with married women. If extra-nuptual sexual relations are wrong, they are a thousandfold more so when had with a woman who has sworn fidelity to another, or who has anything of purity left in her. On the other hand, in direct support of Fournier's statistics, it may be urged that public prostitutes take greater care of their genitalia. It is their business to keep clean, for otherwise their "trade" would suffer the necessary consequences.

Prostitutes have existed and flourished from the remotest ages, and probably will exist for all time to come. They seem coeval with civilization, for only in the simplest, smallest community has the purchasable, desecrated living form of what once was a woman no being.

It is not likely that the majority of the male community will ever limit sexual congress to purposes of procreation. Women, therefore, too lazy to work, too degenerate to appreciate the ignominy of such a traffic, too anxious to disport the gew-gaws of finery, will ever be found swelling the ranks of the degraded. Then, too, others, not public harlots, will ever join them, as did Potiphar's wife, in the quest for Josephs. And the result? That immense army of men infected with genito-urinary diseases. Say you of them that it is right that their sin should find them out? But what of their wives and children made to suffer death, blindness and other ills[3] from the sins of their fathers?

Let us be fantastic enough to blame a man for acquiring a disease he did not seek. Let us insist that he should control the most intense of passions. Let us even, when we get old or hypocritic enough to assert that masculine purity includes masculine chastity, insist that no man should go to his marriage-bed less virtuous than he expects his wife to be. This would take all sympathy from the man who, yielding to the most imperious of impulses, acquired disease in consequence. *Pari passu,* it would justify the sympathy that is given one who contracts pneumonia, in consequence of lying drunk in the gutter. The craving for alcohol is an acquired vice, the genesic impulse is God-given. Its misdirection or abuse is undoubtedly wrong, but repentance thereof and arguments condemning it always come too late.

Physiologically and psychologically, extra-matrimonial intercourse is not preventable. What then can the law do for the suppression of its consequences, to the offenders themselves and to those who are, or later become, nearest and dearest to them?

As much of an understanding of man's law on the subject as one unlearned in it can obtain is perhaps best derived from Tiedeman[4]: " . . . Prostitution is an offense against the law, and these city ordinances render lawful the practice by authorizing its prosecution under certain limitations and restrictions, among which are police supervision and inspection. But the subjection to this control on part of the prostitute is voluntary in order to render practices lawful which are otherwise unlawful. It is rather in the character of a license, under certain restraints, to commit an offense against public morality."

Obscure though this quotation is to those not accustomed to legal investigation, its study clearly shows that the law is unable to suppress the *fons et origo* of genito-urinary diseases. A little farther on (p. 291) the same learned author says: "No law can make vice a crime, unless it becomes by its consequence a trespass upon the rights of the public. But while this may be true, no man can claim the right to make a trade of vice. A business that panders to vice may and should be strenuously prohibited, if possible. Fornication is a most grievous common vice. Under this view of the limitations of the police power (that police power does not extend to the punishment of vice) it could not be made a punishable offense, although it would be commendable as well as permissible to prohibit the keeping of houses of ill-fame." In New York State the keeping of such houses is made a misdemeanor, and even an owner, who lets houses for such a purpose, is liable to criminal prosecution.

To briefly sum up the matter then: 1. History shows that illegitimate relations between sexes have always existed. 2. Moralists, theological or lay, could never induce the suppression of vice. 4. Physicians know that men who have suffered even most intensely from genito-urinary diseases, expose themselves to new infection, even long before they are cured.

Where then is the remedy? Much thought and investions by a rather extraordinarily large experience have led to somewhat trite conclusions. Indulgence is craved for a rough sketch of the manner in which these conclusions were reached, so that they may come forward and, as much here as I would like to give my convictions.

During [illegible] to cast my professional lines mostly among intellectual men. The majority of these were college-bred, extraordinarily well-informed on all the subjects that form part of a higher education. Without exception, all of these owed their unnecessary sufferings to the most crass, criminal ignorance of even crude outlines of genito-urinary physiology. Concerning the not at all remote consequences of genito-urinary disease to themselves and to others, they have not even as much idea as I have of Confucian literature. I know there is such a literature; they have never heard that clap is caused by the gonococcus. As the Germans say: "*Der Knüppel liegt beim Hund.*"

In wars between nations, so in the greater, nobler, only decent war, that against disease, to be forwarned is to be forearmed. It is manifestly the duty of the state to oblige all institutions of higher learning to raise the silly taboo that excludes the genito-urinary apparatus from physiologic teaching. A man who, previous to taking his A.B., knows that all parts of his organism may be invaded by the gonococcus, that he may lose his life from gonorrhea, that he may become hopelessly blind in consequence, that he may be long disabled from mental and physical work, that the disease may through him cause the death and disabling of others, will not trifle with himself by means of advertised nostrums, quackery or neglect. He will at once seek the physician, so that his ailment may be cured as quickly as possible[5], thus striving to prevent its invading the deeper and more remote organs.

Permit the introduction of a case here to illustrate one phase of this matter. A man who had earned the titles of A.M. and LL.M. in one of the finest universities in our land had the misfortune to contract gonorrhea. He knew from the remarks of others that he had clap, but the pain he suffered and the filthy discharge seemed utterly out of keeping with the facetiousness with which he had heard the disease mentioned[6]. He was one of those men in whom the finer sensibilities predominate. As part thereof there existed a most intense affection for his father. By most unhappy coincidence he had used the bath-tub just before his father on the same day that he learned of the danger that gonorrhea portends to the eyes. Twenty-four hours later his father's eyes were puffy, reddened and secreted thick pus. This pus contained numerous gonococci. Prompt and most active treatment saved the old gentleman's eyes and the son's life. From what I know of the young man, I am sure he would have killed himself had his father become blind in consequence of his ignorance. Had the young man been taught at the university that gonococci can be transferred in this indirect manner, the danger to his innocent father would have been averted.

While extraordinary good fortune allowed the eyes of the gonorrheal patient to escape contagion in this instance, it was criminally ignorant on his part to use the bath without protecting it from infection. Had he been taught, as part of his higher education, that gonorrheal discharge loses none of its virulence in water, that it can adhere to the sides of a bath-tub, wash-bowl or other vessel, that even the smallest particle coming into contact with the eyes can destroy them irremediably in forty-eight hours, he would, while bathing, have protected the bath with a condom, and for better security would have scrubbed it with seething hot water and strong bichlorid solution after using it. If the next one to use the bath had been his mother, or innocent sister, either or both might have acquired the disease, with all the terrible consequences it is proven to bring women. This case alone will suffice to call to the mind of every practitioner, many instances of disease and death from genito-urinary diseases, which could have been avoided had ignorance not prevented.

If the character of genito-urinary diseases is taught henceforth in institutions for higher education, it would aid in protecting those who graduate therefrom. But what of the thousands who left school before such instruction was given? What of the millions who never attended college? For these, evening lectures should be delivered at the public or private schools. But many will not or can not attend such lectures. For their benefit, physicians everywhere should instruct each patient at least in the rudiments of the pathology of genito-urinary diseases. It is perfectly true that relatively few are gifted with the ability to impart knowledge. Each one, however, should strive to do it, to the best of his capacity. Elsewhere[7] I have tried to cover the subject in words that will be comprehensible to all. My object was to give physicians the result of experience, in a form that would be readily available, whenever it became necessary to use non-technical language to a layman. If that article is followed by others from abler pens, much will be accomplished in the suppression of genito-urinary diseases.

The inferences I should like to have drawn from this effort are:

1. Sufficient of the physiology and pathology of the genito-urinary apparatus should be taught, in institutions for higher education, to convey to students the dangers of genito-urinary diseases to themselves and to others.

2. Similar instruction should be given in schools attended by boys at the age of puberty.

3. No man who has ever had gonorrhea should be allowed to marry until it is proved by a physician that he can not infect his wife.

4. Regular physicians should be elected, by their societies, to deliver evening lectures to the public on genito-urinary diseases.

5. Every father should be taught to warn his sons of the dangers of genito-urinary diseases. When from incompetency or delicacy the father can not or does not wish to do this, the family physician should discharge that duty.

6. Every medical society should elect its most competent member to write at least one article on the subject, worded for laymen's comprehension, and to be published under the auspices of the society.

Weak as is my effort to cover this matter of gravest import to humanity, I hope to see in your hands the crude ideas I offer not only carried out, but vastly improved.

31 West Sixty-first Street.

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DISCUSSION.

Dr. L. B. Tuckerman, Cleveland, Ohio—I am very thankful for this highly interesting paper of the Doctor's in connection with the other papers of the day, and I had just suggested to my friend, Colonel Parker, that the one omission in his bill for examination was that of a clause requiring a thorough examination of every applicant for the evidence of posterior urethritis. The Doctor says that the man who has had gonorrhea should not be allowed to marry until he is thoroughly cured and until the physician can demonstrate that he is. I should hesitate, and I think any physician, unless endowed with extraordinary skill, could well hesitate to say that in the thousands of crypts in the urethra, and in the prostatic glands, there were no spores left that might develop and infect, even though he had found on repeated trials, that he could not get the gonococcus by means of a swab or otherwise. I saw the statement in a medical journal not long ago, that one of the leading German physicians, a specialist in genito-urinary diseases, had certified to seven young German officers of the army that they could get married, and all seven of them infected their wives. I regard this one disease as a greater bar to marriage than either syphilis or tuberculosis, or any other disease that I know of, looking back on my experience of twenty years, not so wide in the treatment of the disease itself as in dealing with its consequences to innocent women and children. It would seem that the line which the Doctor proposes, the general diffusion of knowledge, would be the one in which reform must come.

Dr. Frances Dickinson, Chicago—In the dispensary one phase too often comes to us like this, a girl thoroughly rotten with syphilis. We tell her she must not go out of her room; that she must stay in. But she says, "I've got it; somebody gave it to me and I'll give it to everybody that I can." Now what can we do about these cases? The girls are out on the street. Are not the men there after them? It is six of one and half a dozen of the other when ignorance and degeneracy are present. A leader in London has said: "If you take the money away from the man the streets would soon be clear." This makes the subject an economic one. Marriage laws will not control the prostitute, male or female. The study of biology and bacteriology added to our public school curriculum will give us a laity who will help solve the problem. I believe the laity will solve it before any body of practicing physicians will. Like preachers, physicians wait till a tabooed subject is popular.

Dr. G. W. Hiett, Pittsburg, Pa.—I can not sit here without lending my voice in behalf of righteous people who are being cursed every day with the dreadful ravages of venereal infection, without saying that, as we invoke the laws to punish criminals, as we invoke the law to protect society from the irresponsible conduct of the insane, is it possible there is no law, or that there is no good government that will plant the *germ* of a law that will grow and develop and wipe out this injury to people who have no right to suffer? Is there no protection for these innocent, deserving people? With all due regard to the gentleman's paper—and I believe it voices his convictions; he is a student, he knows a good deal more than I do of what he is talking about in that specific case, I grant him all that. I am a practitioner who must meet some of the saddest cases. You all meet them. Is there no prospect of a law that will protect society from such abominable uncleanness? I say there is, and I am not alone in saying it. One of the gentlemen in the city in which I have practiced medicine for several years, who is now dead—many of you would know him if I mentioned his name—said to me: "Doctor, you are a young man. Use all your influence whatever you possess to stamp out these abominable, unclean diseases, gonorrhea and syphilis. I am in favor of the law taking hold of this matter. I used to think differently, but now the government, the law of the state, of the municipality should do something." Why, I ask you, why can not the state plant the bud of a law and aid it to grow into a vigorous tree that will bear fruit, that will cure this evil and stop this suffering of those who have no right to suffer. If it was only the polluted, guilty creature, either man or woman who suffered, it would not be so bad. But it does not stop with these, as all well know, gonorrhea and syphilis number innocent victims by the thousands. As the gentleman from Cleveland has said, it is a Mauser bullet that poisons the flesh. It kills rapidly. But should these innocent people, these wives, mothers, and innocent children suffer? I say, no! I say, invoke the law! Impure, unlawful sexual indulgence, if tolerated by society at all, should be tolerated by state sanitation and thus prevent the spread of venereal infection, so that society may be protected from its ravages, both directly and indirectly, just as it is protected by preventing the development of other infectious and contagious diseases. Imperative inspection of houses of prostitution by the state will cause the inhabitants thereof to be more cleanly, physically at least, if not mentally and morally. I fail to see why the state should not lend its aid here in preventing infection, as well as along other lines. In my judgment there can be no reason in her failure to do so. Have good health by *preventing* disease always, because the doctor, unfortunately, can not always cure his patient.

Mrs. Alice Lee Moqué, Washington, D.C.—On this subject of prostitution I have done a great deal of reading and have studied and contrasted conditions, in not only our own cities, but abroad. As a result I find the horrors of ancient Pompeii perpetuated in our own city of San Francisco, the only difference being that in the latter the unfortunates who sell themselves are more hopelessly prisoners of lust, more abject sufferers in soul and body. I wish to emphasize the fact that while we always look on this subject from one standpoint, the one in the wide world for whom we women should be truly sorry is the prostitute. The sin for which she is the sacrifice is the crime committed, not against the individual woman, but against the sex, for *it is not the individual woman who is disgraced by her calling, but the whole sex is dishonored, for the crime is not a crime against the woman, but against the sex.* In the city of Washington, I am happy to say, we are working to reclaim these "little mothers," as we call them there. Some of them are mere girls, barely 16 or 17 years old—and no more fallen and lost than the rest of the world—nor are they, strictly speaking, prostitutes, although they are mistakenly classed as such. We admit they have made a mistake. They have believed, in their ignorance and their inexperience, believed with all their souls, that what a man has told them was true, and they have blindly followed the natural instinct of the woman, to give herself to the man she loves. Whether it is right or wrong, it is Nature, and since life began, the sex-impulse has been all-powerful, and the last force to yield to reason and civilization.

The situation to-day is the outcome of the position we women take on this subject. We will not allow the man to right the wrong he has committed against the woman, and *his* child. If he marries her, we scorn him, and ostracize her. As virtuous women we feel it incumbent on us to "make an example" of each one of these poor forsaken sisters of ours, and because of their one mistake, their one misstep, we refuse to permit them to ever again become honest respectable women. What is the result of this attitude? What can be the result, but one thing, prostitution? No other door is open to them, after society casts them out.

But who supports these women? It is not some unknown foreigner, in a far land; no, but our fathers, our husbands, our brothers, and our sons. Let us remember this, and the close relation these women bear to every home in the land. With the woman it is not a question of choice of livelihood, it is merely prostitution or death. With the man it is merely the gratification of an animal instinct, at the expense of his honor, his health, and manhood. Consequently, to the woman who sins to eke out a few years of wretched existence before the river or the potter's field claims her, we can be at least just, if not merciful. In the young, credulous girl in her teens, totally inexperienced, ignorant, untaught, who loves not wisely but too well, "much can be forgiven for she hath loved much." We find 80 per cent. of the girls in our home are country girls, and not out of their teens. They were credulous, they are credulous—in religion, in everything; they believed everything they were told, and as a result they fell into the snare set for them. The question is not of the small per cent. who may be said to be "born wantons," who, it is claimed, are hopelessly depraved by natural inclination, and the innate tendency of the degenerate, but rather, can we make honest women of these little mothers, who I claim are not fallen or polluted, but who, if neglected and [illegible] of [illegible] and have until what has been her [illegible] is sold for money, and the woman no longer a woman? I claim that these girls are led by the first misstep desperate and ruined, that they are not anything but what we as women with our social excuse and as women more fortunate, untempted, sheltered and happy ought to excuse. I claim further that they are mothers—if not wives—and that the God-given impulse is the mother-love, and that if left the little one they can be reclaimed by the power of the maternal love. The [illegible] has gone back on her, the world is hard and unsympathetic, charity is cold; but every soul longs for love, and the love of her child can not but help these poor deserted little mothers to be better women. It is touching to find that, even deserted and abandoned, these girls of ours refuse to betray the man who has wronged them. Of twenty-two women in our home in Washington, I am yet to hear one tell the name of her seducer. Very small girls they are, most of them, ignorant and untaught, but if you ask them who betrayed them, the answer will always be: "I don't care to say." I think it is simply beautiful, and a lesson some wives might take to heart. Our plan is to receive these girls before their child is born, and we try to teach them that *all* maternity is Divine.

I believe, with Dr. Valentine, that the great cure for these evils is to educate the rising generation. *If the father can not, the mother can.* I have three boys of my own, and there is nothing I can not tell them. I have a little fellow 7 years old, and the other day he came to me and said: "Mother, where do babies come from, I know *you* won't tell me a lie?" And I did not. I told him the truth, and just as plainly and beautifully as I knew how, beginning with the flowers and birds, and winding up with his own prenatal existence. And so I talk with my other boys, plainly and frankly, and I am repaid by what they tell me, and their confidence in me as friend as well as mother. I have never told any fairy tales, of babies being found on the doorstep, or plucked from bushes. I tell them the truth and the truth is sufficient to startle them. A boy of 17 needs to be scared.

Another thing is that we must get the women of our land to recognize the necessity of stretching out a hand to their fallen sisters that they may rise. We must say to her: "You have made a grave mistake, but come, be honest and self-respecting; come, and be the true woman and mother you can be, if you will." When we will do this, we shall have eliminated a large—yes, the larger—number of those who are forced into prostitution. It is said they can not be reclaimed, but I say they can, if we will but give them the chance to prove it; and if we reclaim all those who want to be respectable women, the good people will be surprised to see how many of these betrayed women desire to be true women and mothers.

Dr. C. F. Ulrich, Wheeling, W. Va.—I wish to relate a case that will illustrate certain points that Mrs. Moqué made. It is not exactly in the line of disease. There was a business man in our town came to me and said: "I've got a young woman in a bad fix and I wish you would help me get her out of it." I told him that I was not in that line of work. He later sent the girl for examination, and I found that she was pregnant. About three weeks after that I was called to a house where I had never before been, and I found this woman in a terrible condition. She had had a miscarriage and the placenta had not come away, and she was nearly dead from the loss of blood. I succeeded in removing the placenta and finally brought her around all right, but before I did anything, I said: How did you do this? She said she went "to a certain doctor," naming him, and he did it. I thought to myself that this would be a good opportunity to have the fellow punished for his misdeeds, but I reflected and said to myself: "The people will all swear falsely, and the man will get off as he did before." And if I drag this case into the courts and before the public, that woman will be driven to the brothel. Otherwise she may possibly be saved. My efforts restored her to health. I said nothing, and six months afterward she married a very respectable man and proved a first-class wife to him. About nine months afterward I was called to deliver her of a fine healthy child. Did I do right?

Mrs. Moqué—If she told the man, you did.

Dr. Ulrich—She did not marry the man who got her into trouble.

Dr. Reed, Springfield, Ohio—I came to the meeting of the American Medical Association not expecting to say anything, but merely to listen. I have been wandering around among the various departments, and I just thought, when I came in the door, that I, at least, am at home, for I have had thoughts similar to those I have just heard, but I dared not express them. I intend to make the study of syphilis and diseases of the urinary organs a large part of the remaining part of my life. I have from time to time wondered why ministers and clergymen do not discuss this question, and that brings to my mind the position of the church on this great point that the Doctor has given us so eloquently from his past experience. The church has ruled the world for thousands of years. It is the church that says open and shut. And before I go on further I must say to you that I am amazed and astonished to realize at the present moment that the church has not power over this great question of marriage and the prevention of contagious diseases of a syphilitic character. In all cases, every clergyman that I know, of every denomination, will take a man and a woman, a boy and a girl, and say, "Bless you, my children," and then let them go, never pausing for a moment to investigate whether these people are fit for marriage or not.

If in our efforts we will be able to induce the states to recognize this subject, it will not be the first time that it has been tried. In my young days I had a peculiar experience in St. Louis, and the able paper of Dr. Valentine has brought it back to my mind. I was 20 years of age and an interne in the City Hospital, and some of our doctors had tried to introduce a social labor law. Their efforts only lasted about a year, and it seems the intention was to regulate prostitution. In taking up the subject of education, of course we must enter deeply into that subject. We can not do anything without informing our people of the nature of their bodies and the nature of the diseases from which they suffer, and they ought to be taught this from youth to old age and through all the relations of life. But I beg to say to you that we are beginning under very trying circumstances; that the public sentiment is against us, and I do not know how the church stands on this point. With its vast power and wonderful influence it ought to give us its aid. But you say we must appeal to the nation. It is Esculapius appealing to Cæsar. We must appeal to the nation for the prevention of disease, not only of tuberculosis but for any other dangerous disease, but of tuberculosis as well as for syphilis. I believe that it ought to be done, but there are barriers in the way. We are trying something that has been tried before and have failed. If the question was put to me and I was asked, "Can you do it?" I would say that it is a tremendous labor. It is a great and righteous task, but we can not go back, we must go forward.

It pleases me very much to find a Section of the American Medical Association engaged in this great and wonderful work. Two or three years ago I had the pleasure of reading the proposed amendment of the state laws, which was given by the Hon. Mr. Parker, and I thought the question was in advance of the times, but that it ought to be taken up and thought of by every serious physician and every intelligent person. I have spoken of it frequently. I have studied the bearings of it and I hope to see the day that the principles announced in that proposition will be carried out.

We need power. The physician, in his relations to society and to the world, is now using the least of his powers. He is acting as a healer. He is called out at night to attend a patient, no matter what the disease, and he receives his fee and is told to go on. He uses only a small part of his ability. The great amount of learning that he gleans in the colleges is lost to him. He has no chance to use it. If we could induce such legislation throughout the country, then he would have a chance to use his knowledge. But we want power. Individually we can not do a great deal. We now have no power collectively. If the state will listen to us, and if we can obtain this power, we can do wonderful things, even in this very difficult problem. The press, that wonderful engine of power, can help us very much. The question occurs to my mind as to how we should begin.

Dr. F. C. Valentine, New York City—I am exceedingly gratified and flattered that so many of you have so instructively and so interestingly discussed my paper. I naturally felt abashed when I began to read it. I now feel still more so that my little effort has seemed worthy of so much discussion, which gives it an importance I do not deserve. I will be allowed, I am sure, to say a few words regarding some of the arguments that have been brought forth, and in doing so it is not because I deem myself competent to disseminate more knowledge on the subject but merely to develop the question and bring it further home to you and aid in getting individual and concerted action on so important a matter.

Dr. Tuckerman called our attention to the existence of posterior urethritis in the male as one of the tremendous causes of the evil we are combating. I am quite sure that he offered it only as a part of the things we have to consider. Let me relate an illustrative case: A man, to-day 48 years of age, at 18 contracted gonorrhea and was apparently cured. His wife bore him three healthy children. He comes to me to-day—I am speaking of about three months ago—with the first symptoms of enlarging prostate, that reduction of the urinary parabola and getting up at night, which we are all familiar with. On expressing the prostatic juice I found it contained gonococci. Shortly before I left New York this pure woman's ovaries were removed for gonorrheal ovaritis acquired from the gonorrhea that this man, her husband, had imagined was cured twenty years ago.

Are you going to let your gonorrheal patients go out with the idea that they are cured before you have determined the fact that the prostate gland, the urethra, its crypts, glands, follicles, and in fact all the urethral adnexa are clear? I said before, the public needs education. "Modesty often makes a liar out of a man." How many physicians are there who have had gonorrhea? How many of them have committed the abominable crime of marrying, before they were positive that they could not infect their wives? Let their consciences answer. Six years ago I came before this Section and asked it to consider what might be done to protect innocent women and children from this fell destroyer. My attempt was voted down instantly on motion of an eloquent gentleman who held that as this is a Christian country, and that as this is a Christian ASSOCIATION, no such abominable thing should be brought up before it. And now I am here, your guest, invited to present the very same ideas. Verily I am led to exclaim with the Rev. Mr. Johnson, "The sun do move."

Dr. Dickinson said that I omitted saying anything about teaching the girls. I must have expressed myself badly if the Doctor inferred my belief that the girls were ever ready to gratify man's sexual desires for money. I omitted mentioning the education of the girls on those matters because those who have the care and education of girls, their mothers, should be advanced enough to tell them the truth. We have a noble example with us to-day, and she is not the only woman whom I have heard mentioned who was not afraid to properly educate and thus warn her children. She would not lie to them and say that some kind angels dropped them out of Heaven, or something of that kind, thus giving the child its first lesson in mendacity. How can a child be truthful if it has a lying mother? You will not teach your girl that she is likely to become a mother in the course of time, unless she marries a man who has lost his virility by venereal disease.

Dr. Dickinson protests against my creating the false impression that girls are ever ready to gratify men for money. I do not believe anything of the kind. I have seen too much of all sides of the world to have any such idea, and no matter how much I believe that the unfortunate is irreclaimable I am sorry that I can not agree with my colleague from Washington —the fallen woman is irreclaimable because the world makes her so. Occasionally a prostitute has married and has been a good woman afterward, but God help her if she remains within 20.000 miles of the place where she sinned.

Dr. Hiett asks us if there is no law to protect us from such abominable uncleanness. He says there is such law. I fail to see it. There is a law, which lies with each one of us; it is in educating our patients when we have them. One of the first questions the person affected with a venereal disease asks, is, how soon he or she may resume cohabitation. Then is the time for us to exercise the real priesthood of our profession to warn the sufferers, lest they make others suffer too.

Mrs. Moqué told us how efforts are being made to rescue these unfortunates from the streets and educate them back into decency. It merits all approbation, but from my experience in New York, St. Louis, and various cities of the United States, and from general observation, I can not agree with Mrs. Moqué that these unfortunates can be educated back into decency. From my studies and special investigations of this matter I do not believe that much is accomplished by simply treating and curing genito-urinary diseases. We should search for their cause. I searched for it, as I said, in St. Louis and New York. I was in St. Louis at the time of the social evil law of which the Doctor spoke. But in Berlin, in Paris, and in London, everywhere indeed, the same thing prevails. But there is a kind of prostitution that is not that of the streets. It is the kind that the law will never reach. It is the kind that the fellow boasts about, the "decent" married woman whom he seduces or who seduces him. These are not amenable to any law.

Mrs. Moqué said that if the father can not tell the children—the sons—the mother can. I have touched on the unscientific part of her argument in speaking of other remarks. But this one point struck me most forcibly. It brings us to the simple question: which is mentally the stronger sex? If the mother is strong enough to teach her children what the father can not, she certainly proves that hers is the stronger sex. But is the woman stronger? According to woman she is not. Woman tells us that unfortunate girls listen to the cajolery of their lovers and give themselves to them. This is hardly an evidence of strength, but one of ignorance. We are here to combat ignorance, and it is just such ignorance that we must destroy.

Dr. Reid told us about the social law evil in St. Louis. That law exists to-day; the prostitutes are keeping it up for protection to themselves. They do this by hiring physicians to examine them semi-weekly, and give them certificates of health. And the keepers of the brothels, I am informed, insist on their inmates keeping up the exactions of the social evil law. It is only selfishness that prompts this. But how did this law come to naught? It was abolished—I am sorry to say it, as I am a respector of all religion and the inferior of any man who has a religion of any kind—abrogated by church influence, because the churches held it was flying in the face of God to protect man from the results of his own iniquity.

The Doctor said that public sentiment is against us. In part he is right. And the breaking up of the social evil law in St. Louis showed it. He said we have tremendous labors before us; it is true. We have, and if we do not perform them, nobody will. He says we want power from the state. For what do you want power from the state? We are more powerful than the state. Before the state awakes to its duty we may tell one man that he must not marry, and we can tell another man that he must not cohabit with this woman, for she is diseased, and we can take the third man, who has evil intentions against a woman, and can show him his wickedness. All this and much more is our power—indeed our duty, and if we accomplish in a thousand years nothing more than to turn one single soul out of the wrong path into the right, we shall know we have not labored in vain. We shall have obeyed the highest behests of our priesthood, without pealing organ or incense, without public acclamation, without self-interest. I repeat that I envy every man who has a religion, but I admire the physician more than the clergyman, especially if he leads one poor sinner to *mens sana in corpore sano.*

DR. L. B. TUCKERMAN—I would like to offer this resolution: Be it *resolved*, that this Section appoint a committee to inquire and report as to—

1. Whether the gonorrheic can be so treated and so far cured that he can be allowed to marry with safety to his wife.

2. If he can be so cured, what are the forms of treatment, the period of time, and the physiologic reactions which will positively determine the question of his fitness.

[Drs. L. B. Tuckerman, Cleveland, Ohio, Frances Dickinson, of Chicago, and Dr. F. C. Valentine, of New York City, were appointed on this committee, to report in one year. See p. 565.]

Uremia.

℞.	Calcii chloridi....................	[illegible]	1
	Potassii chloridi..................	gr. xi	[illegible]
	Normal saline solution (75 p. c.)..	℥xxxii.	1000

M. For subcutaneous injection.

A CLINICAL STUDY OF 450 CASES OF SCARLET FEVER*

BY ANNIE STURGES DANIEL, M.D.
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In presenting this study of scarlet fever, I have limited it to those cases occurring in children under 12 years old, attended in the tenement houses of the East Side of New York City, an overcrowded district containing chiefly a foreign population, in sanitary surroundings varying from moderately good to very bad. The nursing has been of a most varied character, from that of an intelligent mother to that of a drunken woman.

No patient has been considered who did not present the typical physical symptoms of a well-marked scarlet fever, and none that was not seen during the period of eruption and attended until convalescence or death. Each presented the symptoms of redness of the fauces, a definite eruption of red pin points scarlet in color, very close to each other, with a general appearance of a diffuse redness—this followed by desquamation, and the disease accompanied by fever.

The cases are divided into those presenting mild symptoms throughout and those in which the symptoms were severe, or in which the disease was complicated; 304 presented mild symptoms throughout, and each child made a complete recovery, with the exception of three who were left with a permanent endocarditis.

Ages.—These ranged from 7 months to 12 years; the largest number of cases occurred at 3, the next at 4 years; only 8 occurred under 1 year—of these 1 was at 7 months, 2 at 10 months and 6 at 1 year. At from 9 to 12 years there occurred 20 cases; of this number 8 were at 9 and 10, and 2 each at 11 and 12 years.

Premonitory State.—A premonitory period existed for four days with 6 children, three days for 11, two days in 46 cases, and twenty-four hours in 55 cases. The remainder were seized at once, while in apparently perfect health.

The First Symptom.—The eruption was the first symptom noted in 186 children; spasms in 2; a chill in 2; sore throat in 18; fever in 28; fever and vomiting in 27, and 41 presented vomiting only as a first symptom. One patient, an epileptic boy, had no spasms until the fifth and sixth days, then a succession of epileptic seizures; in other respects the course of the disease was normal.

Fever.—The highest rectal temperature noted was 105 F.; this occurred only in one child; the lowest temperature, 98.4 F., occurred in 2 children; 20 presented a temperature of 104 F. One of 99 F. throughout the course of the disease occurred in 19 children.

Course of the Fever.—The temperature fell to 99 F. or below at periods varying from three to nineteen days; 41 children had at no time a temperature of more than 100 F., and the mothers insisted that no fever had been present at any time. The fever in the majority fell on the third day; in 1 it persisted for nineteen days. In 4 patients the desquamation was delayed; in these the temperature had fallen to normal but rose during the twenty-four hours preceding the desquamation, falling again to normal as soon as desquamation was fairly established; in these cases there was nothing abnormal except the delayed desquamation.

Heart.—In every instance the heart was carefully examined at frequent intervals, especially during the first five days; 66 children presented an endocardial murmur, disappearing entirely in 63, and remaining permanent in 3. The disease had apparently no effect on a child with chronic endocarditis; 6 children presented persistent irregular heart action.

Involvement of Joints.—Eighty-nine children complained of pains in various joints, of a mild character, going away with the disappearance of the eruption. Of these, 4 had an accompanying endocarditis, 3 were found with marked torticollis unaccompanied by enlarged glands; this symptom appeared during the stage of eruption.

Gastro-intestinal Tract.—Four patients presented mild gastro-intestinal catarrh during the period of desquamation.

Bronchial Catarrh.—This symptom was presented during the period of eruption, by 24 patients.

Kidneys.—Twenty-three children presented albumin and casts in the urine, these rapidly disappearing. This small number is probably due to the fact that the majority were so young, hence no clinical symptoms of involvement of the kidneys; one passed a markedly diminished quantity of urine from the beginning to the end of the illness; repeated daily examinations failed to reveal either casts or albumin.

While the normal course is rarely precisely the same in two children, the number of abnormalities is legion, and usually more than one abnormality is present. The prognosis as to life and ultimate recovery presents a most serious problem as well as the question of treatment. There were 146 abnormal cases.

Kidney Complications.—This is probably the most dreaded complication, and occurred as a solitary one in 15 patients; of this number 5 presented nothing unusual; 2 became chronic; 1 received absolutely no treatment, the mother utterly refusing to give one dose of medicine. Some of these presented peculiar symptoms of sufficient interest to be related briefly.

CASE 1.—A child of 2 years presented a mild type of scarlet fever until the second week, when she was seized with a sudden swelling of both parotid glands, later involving the submaxillary glands; there was no edema nor swelling in any other part of the body. The urine was nearly one-half albumin. Careful and repeated examination revealed no casts. The child died in convulsions after twelve hours of complete suppression of urine.

CASE 2.—This patient's course was normal until the second week, then a rise of temperature. No casts were found and only a trace of albumin, the quantity passed being normal in amount; the child died suddenly, of pulmonary edema. Autopsy revealed an extensive inflammation of both kidneys.

CASE 3.—This patient presented a mild but persistent endocardial murmur, and on the evening of the seventeenth day was suddenly seized with an attack of frightful dyspnea, dying soon after. The urine had been examined carefully at intervals. A specimen passed shortly before the attack of dyspnea, and a small quantity found in the bladder at the autopsy, contained neither casts nor albumin, but the kidneys showed intense inflammatory action; the heart presented a recent endocarditis.

Four patients presented urine loaded with casts and a large amount of albumin, but absolutely no edema nor swelling in any part; 3 of these recovered; the fourth died after complete suppression of urine for twenty-four hours. Repeated attempts were made with the catheter to ascertain whether urine was present in the bladder.

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*Presented to the Section on Diseases of Children at the Fiftieth Annual Meeting of the American Medical Association held at Columbus, Ohio, June 6-9, 1899.

Case 4.—A child in whose urine had been found both casts and albumin, but in whom there were no unusual symptoms, was suddenly seized with intense dyspnea, dying very soon. At the autopsy both the pleural and the pericardial sacs were much distended with fluid.

Angina.—The difficulty of clinically making a positive diagnosis of the angina of scarlet fever and that of diphtheria presents itself when the involvement of the throat is the first symptom noted, and is especially difficult when the process extends to the larynx. In none of our cases was the Klebs-Loeffler bacillus found. Fifty-nine patients in whom the first and most important symptom was the excessive involvement of the throat, are included; 15 presented no other feature; 15 were accompanied by septicemia, while 29 were variously associated with other complications. Fifty-one presented a moderate amount of exudation on the tonsils and pharynx in addition to the normal redness of scarlet fever.

Angina with Involvement of the Larynx.—There were two children with this condition. A gray exudate completely filled the mouth, pharynx and fauces of one child, and it became hoarse, with marked dyspnea. Suddenly the latter became intense, the child deeply cyanosed, and death almost instantly occurred. The other child presented severe symptoms, but made a good recovery.

Severe Angina with Endocarditis.—This occurred in 5 patients without other complications; 4 entirely recovered, 1 endocarditis remaining permanently.

Angina with Complete Temporary Deafness. This occurred in 1 patient without discharge from the ear, the child recovering completely.

Angina with Regurgitation of Fluids.—In a child 19 months old, on the third day, marked regurgitation of fluids occurred through the nose, lasting for two days.

Angina Accompanied by Eruptions.—

Case 1.—This patient had severe angina with endocarditis, and on the eighth day a typical eruption of varicella. As far as known the child had not been exposed to the disease.

Case 2.—In a patient 16 months old, there was mild angina until the third day, then extension to the nose and larynx; on the day following there appeared, on the arms, an eruption of dirty, red-colored papules, extending to the legs, leaving the trunk, which presented the well-marked eruption of scarlet fever, clear; on the evening of the fourth day she was seized with a spasm and died in coma a few hours later. During the illness the temperature varied from 102 to 106 F.

Case 3.—A girl, 2 years old, without preliminary symptoms, was seized with severe angina; the eruption of scarlet fever appeared twenty-four hours later. The membrane extended to the nose and ears, with a profuse purulent discharge. The eruption of scarlet fever remained forty-eight hours. Immediately after its disappearance there appeared on the extremities and buttocks a papular eruption in irregular patches, itching intensely; this appeared and disappeared at regular intervals during the entire course of the disease, the disappearance always beginning in the center and extending to the periphery of the patch; on the nineteenth day of the disease there was general edema of the extremities, and albumin and casts were noted at intervals, but neither in great abundance. On the twentieth day, without warning, the child was seized with a spasm, during which she died.

Case 4.—A child of 19 months presented a mild attack of scarlet fever and progressed normally until the ninth day; she then had fever and an eruption appeared closely resembling measles, first as small red papules on the face, rapidly extending to the trunk; this was accompanied by severe angina; the progress of the disease was intensely rapid, the child dying twenty-four hours after the appearance of the eruption. Every effort was made to obtain an autopsy, but in vain.

Case 5.—A girl, 19 months old, presented mild symptoms until the third day, when the angina became more marked; on the fifth day there was much swelling of the submaxillary glands; the urine contained blood casts and much albumin. Desquamation was profuse. On the eighth day a papular eruption appeared on the forehead, spreading over the face and trunk, the papules rapidly coalescing, and the child dying twenty-four hours later.

These cases probably belong to Henochs' "Scarlatina Variegata," or simply a symptom of the general septicemia.

Angina with Suppuration of Submaxillary Glands.—This occurred in 10 cases:

Case 1.—Severe angina, multiple arthritis, submaxillary abscess, were followed in this patient by death in convulsions.

Case 2.—Severe angina, suppuration of glands with papular eruption similar to those previously mentioned, occurred in this instance. Recovery followed after a protracted illness.

Case 3.—A boy, 6 years old, had severe angina, severe pain in the right knee only, and on the second day regurgitation of fluids through the nose. The urine at this time contained casts and albumin. From the third to the eleventh day suppuration of glands was evident; these opened on the eleventh day; on the eighth day there was a sudden rise of temperature to 106 F., without special reason, and on the ninth, endocarditis. The child, after a prolonged convalescence recovered, with a permanent endocarditis. The other 7 patients presented nothing of unusual interest, all recovering.

Angina with Severe Arthritis.—There were 4 cases of this complication, 2 presenting nothing unusual.

Case 1.—This patient presented severe angina, multiple arthritis, endocarditis and bronchopneumonia, with recovery.

Case 2.—Severe angina with torticollis was evident in this patient; this was not due to the enlarged glands, persisting after the angina had disappeared with the enlarged glands.

Severe Angina, Pleurisy with Effusion and Arthritis.—A girl of 5 years presented a very extensive angina extending to the nose; on the fourth day there was severe arthritis, on the thirteenth pleurisy with effusion, the heart very irregular. She ultimately recovered.

Involvement of the Nervous System.—A moderate amount of delirium occurred in all cases accompanied by fever and great restlessness at the height of the eruption; 2 only were introduced with spasms, and these died later of septicemia.

Meningitis.—

Case 1.—A girl of 4 years, on the second day was found with retraction of the head and other symptoms pointing to an involvement of the meninges. She died in coma on the sixth day of the disease. I greatly regret my inability to have had an autopsy in this case.

Case 2.—This patient was a normal case until the seventh day, when there was vomiting, retraction of the head and semicoma, from which the child gradually recovered. There was nothing in either of these cases to give any other cause for the complication than an actual involvement of the cerebral meninges.

Facial Paralysis.—This occurred in one patient, on the left side of the face, the immediate cause being pressure by an enlarged gland, the paralysis remaining after the glandular swelling had disappeared, and the child ultimately recovering.

Excessive Fever without Complication.—This occurred in 10 patients, usually as an initial symptom subsiding with the disappearance of the eruption; the highest temperature noted in these cases was 106.5 F.

Case 2.—A boy of 5 years was suddenly attacked with fever; his temperature a few hours after was 106 F.—6 p. m.; the next morning at 9 o'clock the temperature was 99 F. The fall could not be attributed to medication; a mustard bath was given by myself, the mother so intoxicated that she was utterly unable to give any attention to the child. These patients presented nothing unusual except the fever, and nothing of importance was noted in the others.

Septicemia.—There were three patients who presented this complication, the children dying in from twenty-four to forty-eight hours after the initial symptom without complications; they were characterized by spasms, and great restlessness followed by coma, a marked symptom being the apparent inability of the child to make a loud noise either by crying or talking. Neither hoarseness nor dyspnea was present.

Involvement of the Liver.—A girl of 5 years, on the fifth day of an otherwise normal attack, was seized with fever, at once followed by an intense universal jaundice; there was marked tenderness over the liver, but there was no change in the normal size of this organ; a slight amount of albumin was found in the urine. This complication is said to be common in tropical countries, but in temperate climates very rare. This child, the only one presenting this complication, completely recovered.

Multiple Arthritis.—This occurred in 7 patients, without other complications, except in one family in which 4 children were attacked with scarlet fever and 2 of them had severe arthritis, 1 of whom also had endocarditis.

Case 1.—A girl of 5 years, on the second day developed intense pain in the joints of the extremities, accompanied by much swelling; no murmur presented at any time, but the heart was very slow and irregular, varying from 54 to 70 beats; this persisted for a month. The father of this child has rheumatism at intervals, one sister has had chorea and another has chronic endocarditis. The other patients presented no symptoms of special interest.

Arthritis with endocarditis without other complications existed in three cases.

Endocarditis.—This, without other complications and accompanied by fever, was seen in 2 patients, both of whom recovered.

Endocarditis and Nephritis.—In 3 patients the endocarditis occurred first and was followed later by the nephritis.

Endocarditis with Chorea.—This complication occurred in 1 patient, the chorea appearing on the third day after the endocarditis was detected.

Endocarditis, Arthritis and Severe Nephritis.—This complication occurred in one instance. The child completely recovered. Eight days after complete desquamation it had an attack of acute rheumatic arthritis and endocarditis, and completely recovered.

Pericarditis with Effusion.—Two patients presenting an endocarditis at the same time, arthritis and marked torticollis appeared in one; the other, on the eleventh day, was found with irregularly outlined patches of coalesced papules confined to the extremities.

Lungs and Pleura.—Nine presented complications of these organs: Bronchitis with gastric enteritis, 1 case; bronchopneumonia, 6, and one patient had this affection complicated by submaxillary abscess, and one by severe septicemia, the latter dying.

Pleurisy.—This occurred without effusion in 1 patient, appearing on the second day after the eruption.

Lobar Pneumonia.—In 1, a boy of 5 years, nephritis had occurred from the beginning, the temperature varying from 103 to 105 F. On the evening of the sixth day, the child became violently delirious, the temperature rose to 106 F., the physical signs of lobar pneumonia were found in the lungs; on the sixth day the temperature suddenly fell below normal, the child was found in collapse, the pulse extremely feeble, and the patient apparently dying; during the next twenty-four hours the temperature gradually rose to 105 F., slowly falling again, and perfect recovery followed.

Secondary Eruption.—Two children presented this unusual condition. One had a mild, but typical attack of scarlet fever. In the third week, while desquamating profusely, he vomited without cause; he had considerable fever for twenty-four hours, and then another typical eruption of scarlet fever. Desquamation was long and profuse. The second case, as the first, was mild until the second week, then followed symptoms precisely similar to a primary attack; the second seizure, however, was much more severe, and was accompanied by severe angina and nephritis; in the second week of the secondary attack the child was covered with a papular eruption closely resembling measles, but without the accompanying coryza, and there had been no known exposure.

Scarlet Fever and Measles.—Four patients presented this complication.

Case 1.—A boy, 5 years old, had well-marked scarlet fever with a temperature varying from 101 to 105 F., without apparent reason for the fever; the type was otherwise mild; desquamation began on the fourth day and was profuse. On the eleventh day he presented coryza, on the fifteenth a well-marked and typical eruption of measles, the temperature 105.8 F., and decided bronchial catarrh, and on the seventeenth marked nephritis with swelling of the submaxillary glands; on the twenty-fourth day the glands were incised, and much pus was discharged. The child died on the thirty-first day of the nephritis. He had never had measles.

Case 2.—A brother of Case 1 was attacked in the same manner, with a mild type of scarlet fever; on the second day coryza increased the fever; on the third there was an eruption of measles accompanied by much bronchial catarrh, and on the seventh much swelling of the glands with increased fever and discharge from both ears; the fever continued, the child dying on the nineteenth day, with a temperature of 108 F. He had never had measles.

These were 2 of 4 patients with scarlet fever in this family; the other two children had had measles, which was epidemic in the house and the children had been exposed to both diseases.

Case 3.—A child, 15 months old, with mild scarlet fever, was desquamating on the third day, and on the fifteenth an eruption of measles occurred. Both diseases were typical and of a mild type.

Case 4.—A girl, 5 years old, with well-marked scarlet fever, angina moderate, on the third day had a temperature of 104 F., marked bronchial catarrh and arthritis, and desquamation on the fourth; on the sixth she had photophobia, coryza, and twenty-four hours later an eruption of measles; she died on the fifteenth day from the first symptoms of scarlet fever, of bronchopneumonia.

All of these children had had a known exposure to measles, and none had had the disease before; the eruption in each was typical of measles as well as of the scarlet fever.

Scarlet Fever and Malaria.—One patient only presented this complication—a girl, 3 years old, who had lived in a markedly malarious district, but who had never had malaria. The scarlet fever was a severe type, the angina severe; there was a discharge from both ears on the fourth day, the morning temperature 104 F., the noon 101 F., and at 9 p. m. it was 106 F.; there seemed to be no reason for the excessive fever. On the sixth day the child fainted, without apparent reason; this was repeated in the same manner in the evening, the temperature fluctuating between 102 and 104 F. On the thirteenth day there was a chill, repeated on the fifteenth, and on this day a well-marked endocarditis was found; the child was much exhausted, fainting whenever lifted. On the sixteenth quinin was administered. On the eighteenth she had another chill, with a mild convulsion; the spleen was much enlarged. There was neither chill nor fever after the twenty-second day. The endocarditis disappeared and, except for a chronic otitis media, the child completely recovered. No examination of the blood was made, as at the time when the examination would have revealed the organisms, I considered that the child was in so precarious a condition that even a small puncture might precipitate a fatal fainting spell. The care which the mother bestowed on this child helped materially to save its life.

Secondary Attack.—A boy, in June, 1895, presented a well-marked mild type of scarlet fever, a mild endocarditis accompanying. Desquamation was marked, the child completely recovering. In January, 1896, while in apparently good health, there was severe vomiting for twenty-four hours, then eruption, with severe angina, mild endocarditis, nephritis and otitis media, followed by good recovery.

Scarlet Fever and Wounds.—Three patients presented this complication.

CASE 1.—A girl 3 years old had a tumor of the larynx removed at the N. Y. Infirmary for Women and Children. On the third day after the operation she developed scarlet fever with a moderately severe angina and nephritis. She wore a tracheotomy tube throughout the illness, and nothing abnormal was noted about the wound. The child had been visited by her mother, who had just come from a child dying of scarlet fever.

CASE 2.—A child, 3 years old, on the third day of her scarlet fever, received a lacerated wound of the scalp, which remained unattended for twelve hours; it healed rapidly, the child presenting nothing abnormal.

CASE 3.—A child of 2 years, on the eleventh day, was severely scalded on the scalp. The ulceration was deep and extensive, in some places reaching the bone, but the child, after a tedious illness, recovered.

Unusual Onset.

CASE 1.—A boy, 4 years old, was "feverish" for eight days, then the right hand and foot became suddenly swollen and painful, and there was slight vomiting. Twenty-four hours later there was a well-marked eruption of scarlet fever. With the appearance of the eruption the swelling extended to all the joints of the extremities, with an accompanying angina. Careful examination of the urine revealed a few red blood-cells; on the fourth day a faint, rough blowing murmur was heard with the first sound of the heart. Desquamation began on the fifth day. On the sixth day pain in the joints was severe, and there was a pericarditis with effusion, and the heart was irregular, at times only one sound, and this changing from a rough blowing to a musical whistling sound, alternating at short intervals. The urine at no time showed casts or albumin; the red blood-cells disappeared on the fourth day. The child recovered with a permanent endocarditis of the mitral valves.

Heredity.—Nothing was especially marked except alcoholism in one or both parents, in about one-third of the cases.

Personal History.—Marked rachitis existed in a large number of patients; otherwise there was nothing special in the personal histories.

First Appearance of Abnormal Symptoms.—In twenty-six patients the abnormality was noted later than two days.

Fever.—This varied from 103 to 108 F., falling to normal at periods varying from four to twenty-one days.

TWO HUNDRED AND TWENTY CASES OF HEMORRHOIDS. OPERATED ON SUCCESSFULLY BY THE LIGATURE METHOD.

BY JOSEPH B. BACON, M.D.
CHICAGO.

This list was compiled from consecutive cases and there was no death and only one complication occurred in the entire series. While this is very gratifying, it does not necessarily prove anything unusual in this age of antiseptic surgery, since Mr. Allingham, of London, has reported four thousand consecutive operations for hemorrhoids by the ligature method without a death. But it is especially important that these successful cases should be published because of the prejudice of the laity against any surgical procedure for the relief of piles; a prejudice which unfortunately too often is shared by the general practitioner of medicine. In the one case mentioned above, during the second week of convalescence, I noticed one ligature remaining. It seemed to be loose and I removed it by very gently dragging upon it. There was no hemorrhage at the time, but during the day, when the patient assumed the upright position, there was an internal hemorrhage filling the rectum. The patient feeling a desire to go to stool, the hemorrhage was noticed and the house surgeon tamponed the rectum. The tampon was left for twenty-four hours and the patient confined to bed. I report this case to illustrate the following points that are necessary for success: 1. The reason for this ligature being retained in place for two weeks was that it was too coarse and did not permit the knot being sufficiently tightened, so that it would cut through the pedicle in three or four days. I have in all cases used fine silk since this accident, and have never found it necesssary to remove a single ligature, and rarely does a ligature remain a week. 2. The hemorrhage was internal until the quantity produced a desire to go to stool, showing that serious hemorrhage can take place without external evidence and that the nurses should be taught to notice general symptoms of hemorrhage after each stool until the ligatures are all passed. 3. If it becomes necessary to remove a ligature, always procure a good light and remove it only by cutting the loop, so as not to disturb the organized clot in the blood-vessel. 4. In case of hemorrhage after hemorrhoidal operation, remember the wounds are all within the grasp of the dilated sphincter and can be easily seen and [illegible] gently [illegible] by forceps or by a tampon of sterilized gauze or cotton placed so as to be grasped by the sphincter ani muscles.

The mortality can be thus reduced in hemorrhoidal operations, by means of cleanliness at the time of operation and after the operation by both surgeons and nurse. I make it a point to use the same care in preparing the patients, the ligatures, the instruments and my hands as if I were going to open the abdomen. While it is all but impossible to make the rectum free from pathogenic germs, yet if one is careful not to introduce them from instruments, ligatures, fingers, dressing or from the adjacent skin about the anus, the danger is reduced to simply a possibility. While we often fail to secure primary union of the wound, there is free drainage, and I have never seen an abscess or any sign of deep infection in a single case.

Another reason why I have had no deaths from hemorrhoidal operations is that I have refused to operate on patients suffering from serious organic diseases of the heart, lungs, liver or kidneys. Hemorrhoidal operations are rarely performed to save life or to prolong life. Hence one is not justified in taking risks such as would be taken if an operation was to be performed for a patient suffering from the above diseases. We operate in most cases to save suffering from protruding piles, or to save the patients from inconvenience of replacing the tumors after stool; or to relieve them of the dread that the piles may become inflamed and the cause of suffering later in life. It is rarely that one is called to operate for hemorrhage, probably not more than one case in twenty being of this nature. The hemorrhage, if not prolonged and recurrent, relieves the patients' symptoms and they decide to postpone operative interference. When a patient is doomed from some serious organic disease, and has but one or two years to live, operative interference for hemorrhoids is very rarely indicated. I have never seen a case of hemorrhage from piles that could not be controlled within a few days and usually in one, by having the patient move the bowel only at bedtime, and then after a copious enema, in order to free the rectum from feces and thus remove congestion from the internal hemorrhoidal veins. Then treat the wound antiseptically. The six or eight hours in bed usually permit the rent in the veins to unite. In those cases of piles where I refuse to operate, I advise the patient to use daily enemas at bedtime, and thereby keep free from hemorrhoidal pain and discomfort, and as they have only a short period to live, they will not be injured by the use of the rectal flushings.

I prefer the ligature method over all others, because it is a finished, accurate operation. One is able to remove the redundant skin tags opposite each internal tumor, and thus demonstrate to the patients that all tumors have been removed. In most cases where the tumors are large enough to necessitate operative interference, the veins anastomosing between the internal and external groups of veins have become varicosed, and unless a section of these is removed from each side of the anus, the operation may in time prove a failure by the return of the internal tumors. These veins can not be removed except by dissecting them out and ligating them. I have never seen a single case of hemorrhoids return where these anastomosing veins were also dissected out and the external skin tags and underlying veins were removed. In short, I think it all but impossible and certainly very improbable that a patient will have a recurrence of piles if the modern ligature method is used.

Acutely infected hemorrhoids should be operated on and a permanent cure thus secured. I have often done this with most gratifying rsults. The patient is at once relieved of the throbbing pain, because when we operate we thoroughly divulse the sphincters and the recovery after the operation is as rapid and the patient is not confined to bed any longer than would be the case were the acutely inflamed tumors left to a conservative waiting method. Thorough preparation of the patient before operating is necessary.

My routine plan is to give six grains of pill. hydrarg. at bedtime. The following morning, on an empty stomach, a Seidlitz powder is given and repeated every half hour until the discharges are free from fecal matter. One powder may suffice, yet as a rule two to four are necessary, and occasionally eight or ten. If the hemorrhoids are acutely inflamed, protruding and painful, the operation should be performed as soon as the bowels are thoroughly empty; otherwise I postpone the operation until the second day, meantime keeping the patient on a liquid diet and 1-30 grain of strychnin by mouth every six hours.

After the patient is anesthetized, the rectum should be thoroughly irrigated and the skin around the anus should be thoroughly scrubbed with brush and soap, then with sublimate solution and alcohol. Another important point is the dressing of the wound. A rubber tube four inches long and one-half inch in diameter is covered by several layers of sterilized gauze, making the diameter of the tube and gauze one inch. Sterilized vaselin is now applied to the gauze in order to prevent granulation tissue invading the meshes of the gauze. This tube is inserted between the blades of a bivalve rectal speculum, three inches into the rectum, so as to reach above the circular fibers of the levator ani muscles. If a bivalve rectal speculum is not used to distend the rectum in inserting the tubes, the gauze may pull a ligature off and necessitate religation of the blood-vessels. Sterilized gauze is now packed around the end of the tube so as to compress all capillary blood-vessels. A cotton compress is placed over the gauze and held in place by a bandage. We now have a clean wound covered with a clean dressing, and it is very important to keep it so. I am convinced that many cases are infected by not attending to the details of applying the bandages. We often see a bandage applied, and if the patient is examined in a few hours, the dressing is misplaced and the wound exposed to the atmosphere and bed clothing. The only way to apply a bandage that will keep everything in place is to pin a long roller towel around the waist tightly so that it can not slide over the pelvis, then take a roller bandage and fasten one end of it to the towel when, by passing it back and forth, each time passing it under the towel and drawing it tight over the dressing, all will be securely held in place. The cotton compress is changed the second day, as some serum will have soiled it, but the gauze and tube are left in place until the fourth day. To remove tube, give a Seidlitz powder before breakfast the fourth day, and repeat it in half an hour and, as soon as the patient feels the effect of the Seidlitz, give an enema of two quarts of sterilized water through the tube. Have some cotton and dressing forceps ready and, as the syringe point is withdrawn from the tube, plug the end of the tube with cotton. Remove the bandage and the tube will pass with the bowel movement without dragging on the sutures, as the enema will have dilated the rectum and loosened any sutures that might be adhering to the gauze. After the first dressing the wound should be washed daily with a 1 to 2000 sublimate solution, or oftener if bowel movement occur, and dressed with sterilized vaselin and gauze. The bowels should be moved daily by enema, and the patient compelled to use the bed-pan, and under no condition go to the closet for the first ten days, otherwise the wound will be torn open by the peristalsis and recovery delayed. Experience has taught me that this detailed advice must be given to the interne and nurse if we are to have satisfactory results after these operations, hence I have taken the liberty of lengthening this paper with minute instructions for the benefit of inexperienced operators.

TWO PRACTICAL POINTS IN CARE OF THE TUBERCULAR.

BY WILLIAM PORTER, A.M., M.D.

Physician in charge, Mount Saint Ann's Throat and Chest Hospital; Professor of Physical Diagnosis and Diseases of Chest, in the Beaumont Medical College; Physician to the Throat and Chest Department of the Protestant Hospital; of St. Luke's Hospital; of St. Joseph's Sanatorium; Clinical Lecturer at the City Hospital.

ST. LOUIS, MO.

As we are getting to know more of the nature and progress of tuberculosis, we are becoming more practical and hopeful in the care of it. Our therapeutics is founded on a definite pathology and is, for that reason, more positive and exact than ever before, and it is not assuming too much to say that the results are better. There is no disease where attention to the minutest detail of hygiene and function is better repaid. Indeed, these considerations are as important as any attempted specific medication, valuable as that may be.

The old days of practice, when cod-liver oil was prescribed for the stay-at-home cases and a climatic hypothesis for those who had the money and the courage to go, are superseded by a time when the physician interrogates every organ, endeavors to restore each failing function and individualizes each case, both from the standpoint of general and that of specific medication. I would not decry that which we have learned from our fathers. Tonics and nutritives are still needed, but to order these is not the whole duty of the practitioner. Climate has in many cases a wonderful effect, but whether in the average case it will compensate for the advantages of conditions that must be surrendered, is a question for careful thought.

Believing that the very best results in the treatment of tuberculosis are in cases where the comforts of home or well-conducted sanatoria are supplemented by well-advised medication, I have almost abandoned climate hunting for my patients. In addition to the possibility of not finding the right climate for the individual case, there is always the problem of comfort and economy to consider and the dangers of nostalgia—no inconsiderable item in the general estimate—and infected resorts. There is no doubt that some of our resorts are fast becoming foci for the dissemination of tubercular infection through lack of common sense precautions.

In the very near future, I believe that the tubercular patient, instead of being sent to California, Texas, Colorado or Arizona—each doubtless having some advantages—or anywhere for "change of climate," will be placed in a well-fitted sanatorium, where, with all the modern methods of sanitation, disinfection, exercise and medication, he will not only have a large chance for complete restoration but will be taught to keep well. The reports from this method of care show that recovery takes place in 50 to 60 per cent. of the incipient cases and in about 25 per cent. of the more advanced. The fact that in Europe, the sanatoria are meeting with so much success that the United States Government is establishing one or more, that some of the states have already provided for them, and the further fact that steps have been taken in our own city for building and equipping a consumptive hospital, makes this question of interest to every physician.

But the sending of special cases to well-selected climate, or placing them in a well-fitted sanatorium, will never be the complete answer to the demand for the physician's care and study. Most of these patients will always be treated in the home, and it is there that the true physician must meet and, if possible, conquer this most insidious of all foes. The purpose of this paper is to emphasize two, among the many, points that should be borne in mind, and I am the more earnest in speaking of them because they do not receive the attention in our text-books to which I believe they are entitled.

The first of these is the condition of the heart. To almost all of this class, death comes through a steadily failing heart. The heart muscle partakes largely of the strength and the weakness of the general muscular system. In all wasting diseases, the heart muscle is likely to suffer. We recognize the danger in typhoid and in pneumonia, but we sometimes forget it in chronic conditions. I believe that diminished heart power is nearly always a factor in chronic tuberculosis. It is a curious fact that pulmonary tuberculosis is almost unknown in valvular heart lesions where there is compensatory hypertrophy. Is not this due to the condition of full blood-supply in the lung, resulting from the increased pressure in the bronchial blood-vessels? We also know that tuberculosis begins most frequently at the lung's apex, where the blood-pressure is the least. Beginning, as it often does, at the base, it is generally a sequence of pneumonia, having its inception before re-establishment of healthy circulation. We further know that one of the best prophylactics, as well as one of the best exercises for those predisposed to tuberculosis, is chest expansion, which is a direct stimulus to the pulmonary circulation.

On the post-mortem table it is the rule to find flabby and even atrophied heart muscle in cases where the disease has existed for any considerable length of time. We see the results of this toward the end of life, in the feeble pulse, the hurried respiration—not altogether due to lung lesion—and, still later, the edema and the engorgement of the vital organs. I do not believe that it is any stretch of the imagination, or in any sense a false deduction, to say that heart inability is not only the immediate cause of many of the unfortunate phenomena in tuberculosis, but that it is often responsible for the sudden termination in many cases.

It has been my practice for several years to anticipate this complication and to begin very early with such remedies as have been found efficient in preserving the power and action of the heart. Many new heart tonics have found favor with physicians, but I know of none that equals small doses of digitalis with the addition of a little strychnia. If there is much nerve irritability, arsenic may be added or substituted. Much depends on getting pure drugs, and this is especially true in reference to digitalis. Increased and encouraged action favors nutrition and increased power, with return to normal conditions of the nerve and muscular fibers, and increased heart strength gives better circulation and better tension in the blood-vessels of the lung. I am sure that I have prolonged life, in some instances for several years, by attention to this indication.

Another point, not referred to in the books, to any extent, is the importance of keeping the lower bowel well emptied. There can be no better opportunity for the retention and reabsorption of bacilli and ptomains than is found in an intestine abnormally distended and crowded with fecal matter and partially digested food. In nearly all cases of constipation in tuberculosis there is weakening of the muscular fibers of the intestine, retention in the descending and part of the transverse colon, and gas distension of the ascending tract. Aside from the ordinary sequela of chronic constipation, there is the additional danger of auto-infection from the bowel. We do not attach enough importance to this, self-evident though the proposition may seem.

The patient who is constantly expectorating tubercular matter will certainly receive more or less of it into the stomach with the act of deglutition. It is estimated that seven billion bacilli may be expectorated by one tubercular patient, in twenty-four hours. How many may pass from the upper air-passages into the digestive tract, can only be conjectured. The weak gastric digestion does not greatly change the activity of the bacilli nor the virulence of their ptomains. These pass into the intestine, where absorption is one of the main functions. Is it an unreasonable proposition that this manner of auto-infection is one of the processes in tuberculosis?

While the sanitarian is doing all in his power to prevent infection from sources without, it is certainly the duty of the physician in charge to do all that he can to prevent and overcome infection from internal sources. Were it not for auto-infection, many of our cases of tuberculosis would be much more amenable to treatment. How often it has happened that a patient has done well for a time, under the ordinary treatment. There has been a gain in weight, strength and general appearance. Suddenly there was a change. Without any apparent cause there has been a return of the hectic, the night sweats and a loss of flesh. Oftentimes these symptoms have been accompanied by a diarrhea more or less persistent. Does not this suggest auto-infection? The very fact that impaired assimilation is so early a complication in tuberculosis is an evidence of the plausibility of this hypothesis. To me this deduction is something more than a mere hypothesis, it has all the authority of a recognized fact. If this part of the treatment is neglected and the lower bowel permitted to become a receptacle for the retention and absorption of material containing so much *materies morbi* as the tubercular sputum, then the physician must not be surprised if in spite of his efforts in other directions, his patient does badly.

I have elsewhere stated my belief in the theory that some of the good results credited to creosote, guaiacol and other remedies of this class, are due to their immediate action in the intestinal tract, either as germicides or in rendering the intestine uninhabitable for the bacillus and in counteracting the influence of the ptomains. So strong is this belief that it has become my custom to order a high enema once or twice a week, so that the lower bowel may become well emptied and in as aseptic a condition as possible. With this practice, I feel that I can safely use much smaller doses of creosote, which is a decided gain in the medication. I have also found that often the afternoon fever is greatly diminished, but that it may return if the flushing is neglected—another evidence of its value.

If there is inertness of the small intestine, it is better to give laxatives than to neglect it. Often the peristalsis induced by the flushing of the lower bowel will extend to the upper and be sufficient. Drastics should be avoided. A few drops of tinct. nucis vomicæ often acts well. There is no objection to a saline, but it should not be given before breakfast, as is too often the case. In the comparatively healthy individual it may be all right, and the theory that some of the salines promote the secretion of the gastric juice is a reasonable deduction from experiment in the laboratory, but the same conditions are not present in cases of lowered vitality and digestive function.

Sherican Lea has shown that in natural gastric digestion the conditions are favorable for the rapid absorption of soluble salts, but we are not dealing with natural gastric conditions. Besides, whatever of the salts remains unabsorbed must neutralize the hydrochloric acid to some extent. Where the alkalies, such as bicarbonate of soda, do produce a better gastric action when given near the time of eating, in cases of faulty gastric digestion, I believe that it is because of their reaction with the lactic and fatty acids. I have generally found that a mild saline at bed-time, with an enema in the morning, is sufficient. If, in addition, nux vomica or strychnia, as spoken of in the former part of this paper, is given, it will nearly always be enough.

I would again urge the importance of these two indications in tuberculosis—heart weakness and constipation. They are a part of the direct progress of the disease and, I believe, are complications of no little gravity. The attractive study of germ infection and specific medication should not lead us to neglect other conditions that play no little part in the tragedy of many a human life.

3886 Washington Ave.

CHANCRE OF LIP IN A CHILD SEVEN MONTHS OLD, PROBABLY ACQUIRED THROUGH A FEEDING-BOTTLE.*

BY L. DUNCAN BULKLEY, A.M., M.D.
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NEW YORK CITY.

While extragenital chancres innocently acquired are not so very rare, instances of their recurrence at the early age of 7 months are seldom seen, and this is the youngest subject in whom I have seen it, among nearly two hundred cases of extragenital chancre which have come under my observation.

In earlier times, before the danger of infection was so well-recognized, instances of the innocent infection of children were very common, and literature is full of those[1] where children of all ages have been infected in the greatest variety of ways, indeed, where veritable epidemics of syphilis have arisen, having their origin in a child infected by nursing or otherwise. All are familiar with the various methods by which this has taken place: vaccination, circumcision, nursing, feeding in various ways, as well as by kissing and fondling, and also through various mediate objects. Among these feeding-bottles have occupied a not inconspicuous place in times past, and dozens of cases are on record, often in country towns and small places, where this has occurred. Happily these instances are very infrequent of late years.

The method by which this accident happens is easy to understand. In preparing the food in a feeding-bottle it is not at all infrequent to see an attendant place the nipple to the lips, either as an example to the child, or to ascertain whether the prepared food is too hot or too cold, or properly sweetened, etc. The nipple is seldom washed after this, but is placed directly to the child's lips.

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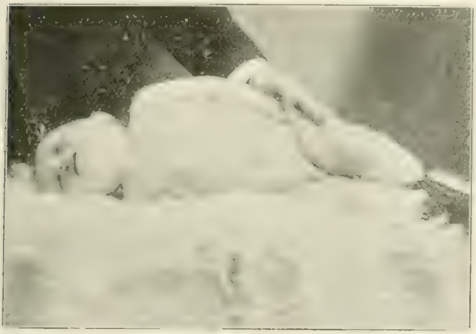
*Presented to the Section on Cutaneous Medicine and Surgery, at the Fiftieth Annual Meeting of the American Medical Association, held at Columbus, Ohio, June 6-9, 1899.

[1] L. Duncan Bulkley: Innocent Syphilis. New York: 1894.

If now the individual doing this chances to have mucous patches on the lips or tongue, some of the sticky secretion from them is sure to adhere to the nipple; if there should be a chancre, which is infinitely less probable, the probability of infection is very much greater. It is well known that a very small amount of the virus is necessary for inoculation, and very brief contact has been known to transmit the disease, both directly and by mediate means. It is, therefore, very understandable how the infant taking the nipple, after it has been applied to infected lips, can with the slightest abrasion on the lips absorb the poison and acquire the disease, by means of a chancre developing in the place where the poison on the nipple was applied.

While this method was not clearly proven in the case to be mentioned, the probability seemed so strong that it is thought well to mention it. Diligent inquiry has been made by the physician who brought the child to my clinic, but thus far he has been unable to trace the person from whom the infection was acquired. The case was as follows:



Chancre of the upper lip.

W. W., aged 7 months, was brought to my clinic at the New York Skin and Cancer Hospital, by Dr. E. L. Cocks, on April 26, 1899. The mother came with the child. She was a large, well-developed woman, from Finland, and 24 years old. I believe this was her first child. Thorough examination of her, and also of the father, by Dr. Cocks, who is an old assistant of mine, revealed the absence of syphilis in both.

The child was a splendid specimen of health, large and robust, and but for the eruption, in perfect health, and it had always been in perfect health until the occurrence of the present trouble.

The history was that the mother had noticed the soreness of the upper lip on April 1, nearly four weeks before the visit. This had persisted and become more pronounced up to the date of the visit. When first seen by Dr. Cocks, a few days before I saw them, there was a raw, sore place a little to the right of the median line, about half an inch in either direction; there was enlargement of the submaxillary and anteauricular glands of that side, with some general adenopathy, and already an almost universal macular eruption had appeared, more pronounced on the trunk. When the child came to the clinic the eruption was in full bloom, and perfectly characteristic.

I did not notice the soreness of the lip at once, but recognizing the syphilitic nature of the eruption, and noting the superb health and development of the child, I remarked to the audience that it could hardly be a case of inherited syphilis, that we must look for the site of the infection, and that I felt confident that we should find an extragenital chancre present. The sore on the lip was promptly recognized as a chancre.

Chancres of the lip vary greatly in their appearance. While they will sometimes be very sharply defined, and present considerable hardness, they are not infrequently rather indefinite and illy defined, and with only a general boggy hardness; sometimes there will be quite a large area of raw surface, which may at times become covered with a crust; in other instances most of the surface is glazed over, with infiltrations beneath. In the present instance there was a raw, red, exuding surface, about half an inch in either direction, causing the lip to seem pouty, and with some slight crusting on either side. On palpation there was a distinct and well-defined hardness, rounded in outline. The adjacent glands were markedly enlarged. The condition of the lip, and also the eruption, are readily seen in the accompanying photograph, which was sent to me shortly afterward by Dr. Cocks.

Careful questioning of the mother failed to reveal any source of the infection. The child had been bottle-fed since two weeks after birth. It could not be found from whom the infection had occurred, but, as the father and mother were born in Finland, and as syphilis is very common there, it is more than likely that some one of her friends, who had now and then temporarily cared for the baby, had infected the nipple of the nursing-bottle, in the manner described. Dr. Cocks is still investigating, and writes that he hopes to trace the source of infection.

Syphilis from innocent causes is almost pandemic in certain parts of Russia and Finland, and is mostly transmitted in family life, and is seldom thought of as a venereal disease, as the cases thus acquired are very rare, compared to those acquired through family and friendly intercourse. Among the ignorant peasants few precautions are taken, and the disease is often untreated, and spreads readily and naturally. In this country there have been a few small epidemics from unrecognized cases of extragenital syphilis, but when once discovered the disease has been readily stamped out in such localities. But there are yet large numbers of syphilitics everywhere, and not at all infrequently I meet people who have very active mucous patches quite capable of communicating the disease where the patient seems quite unconscious of the danger to which he is submitting those around him. One can not be too cautious in regard to dangers from syphilis, and the greatest care should be exercised in instructing patients with the disease, especially when in an at all active stage, so that they may not communicate it to innocent victims, such as the little one whose case has been detailed.

4 E. Thirty-seventh Street.

DISCUSSION.

Dr. R. R. Campbell, Chicago—The eruption, as shown in the picture, is a very typical one and the case is an interesting one throughout. I would like to ask the Doctor whether he noticed when the macular eruption usually made its first appearance. In observing these cases in my clinic at the Chicago Policlinic, I have been interested in observing where it makes the initial appearance. In following up this point I have ob-

[illegible] syphilis in the first eight [illegible] where the eruptions did not first appear about the genitalia. I had one case of extragenital chancre on the lip of an adult, which was caused by the use of a [illegible]. I traced it to [illegible] and found him suffering with syphilis. The manifestation seemed to be secondary in character about the face, but when I looked at the [illegible] it was more marked, showing older lesions which had appeared first about the genitalia. I would like to hear from other gentlemen as to whether they have ever noticed that point.

DR. A. E. CARRIER, Detroit, Mich.—The subject of extragenital chancre is very interesting. Why could not the disease in this case have been acquired by kissing as well as from the nipple from the nursing bottle? I have had two cases within a short time of chancre on the tonsil, and both were innocently acquired. One patient had been treated for diphtheria and had had four injections of antitoxin, and had been under the care of several physicians before she was sent to me. This case occurred from the patient kissing her affianced. The second one was probably contracted from infected instruments, as she had been treated locally for mild sore throat, from which she recovered completely, to be followed later by a chancre on the tonsil, and nine months later, when I first saw her, the body was covered with syphilitic lesions. I have seen so many cases of syphilis among nursing girls, who have come to my clinic for treatment, with mucous patches in the mouth, and lesions on the lips, that I wonder, when so many chances are taken in this way, that so few cases of extragenital chancre occur.

DR. THOS. J. HOLLAND, Hot Springs, Ark.—Our patients come to us, and in many of them the histories of an original lesion are not traceable; but I have seen quite a number where it first appeared on the tonsils. I have not been able to explain it exactly, but I have a case just now, a short history of which may possibly be of some interest. The young man has a very bad case of eczema. He claimed to have contracted it in the war. Itching was excruciating. He was at Hot Springs for about six weeks, when, very much relieved, he went away, as he thought, about well. I did not think so. He had gone two weeks when he telegraphed me that the disease was appearing on his arms and he would like to come back. When he arrived he had an ulcer on his left tonsil, which was suspicious in appearance. The eczema was not troubling him as much as I anticipated. I watched the tonsil for four or five days, then an eruption broke out under the arms and over the body, a typical syphilitic eruption. That boy had been out from under my care only about two weeks, and for two months I saw him practically every day, and no other lesion appeared. The only one which existed prior to the breaking out of which I spoke was the ulcer on his left tonsil.

I can say that at least 5 and possibly 10 per cent. of the people who come under my observation for syphilis do not know or remember of an original lesion. I am unable to trace it or unable to assist them in calling to their minds the fact that they had a lesion at all.

The paper which the chairman read is a very interesting one, and there is no question that kissing, the nursing bottle, and drinking cup as well are all prolific in their effects, so far as communicating syphilis is concerned. At Hot Springs every one is cautious with drinking vessels. Many of them are fearful of drinking out of the glasses, etc., and I instructed my people how to drink without exposing the mucous membranes of the mouth. There is no question in my mind that there is not enough attention paid to the selection of nurses for children. I think a great many children are affected by disease and care[illegible]

DR. A. H. BOWEN, Columbus, Ohio—With regard to extragenital chancres, I have had several interesting cases; two [illegible] on the finger. One was on a dentist and the other on a physician. In the latter, before he found he was affected he had communicated it to his wife and both were suffering from it in severe form. In another case it was on the scrotum, 1½ inches from the root of the penis; in another, on the lip. In the latter I was unable to trace the source of infection. In regard to the location of macular eruptions, I always find them more marked and distinct on the abdomen than on other portions of the body.

DR. M. F. LEE, Columbus, Ohio—Three years ago I saw two patients with chancre of the lip. One was a young man, 23 or 24 years of age, who used a blow-pipe in his business, and he told me he had been poisoned by an acid solution it was dipped into. It struck me as being a typical chancre. I told him so, and he was very much alarmed. As he went to go out he asked me to give him a drink; he almost fainted. Three or four hours afterward he came in with a nice-looking woman who had a chancre on the lip, an eruption of a very severe type of syphilis. She confessed to having kissed the young man, and she had been kissed by a professor in a college who had visited her some time before. These two people were treated—they were engaged. Some time afterward this woman brought a man to within a block of my office. I saw them; he came to the office and she went away. It was the professor.

I have seen one case of a chancre which was undoubtedly contracted by blowing powder in the throat. The patient had been treated by a throat specialist who used a bulb, and in that way carried the secretion from the mouth of one to the mouth of the other.

DR. D. L. PARKER, Detroit, Mich.—There is one point of view that impresses me. That is in regard to the nature of transmission of the poison. It seems to me that the view taken by the Doctor is most rational in the case presented. Infection must have been either by the nipple of the nursing bottle or by the direct act of kissing. I have seen a few cases of chancre of the lip. These are not generally diagnosed until they have been on the lip for some time. In these, in the household, where they use the same drinking cups, glasses, etc., I am surprised to find how very rarely the disease is transmitted. And it makes me think there must be associated with the transmission heat and moisture; that the cold water may have applied chilliness enough to the virus to cause it to be so inactive that it will not readily transmit. In other ways the moisture and heat are supplied, and in those cases it is more apt to be transmitted.

DR. FRANK WARNER, Columbus, Ohio—I did not hear the paper, but I gather from the drift of the discussion that the experience of these gentlemen is the experience of all physicians in practice, that is, that physicians are constantly running across patients infected with syphilis by exposures out of the ordinary. There is one case that I remember, in particular, of chancre on the lip of a female, supposed to have come from kissing; probably it did, for in the mouth in the male who kissed her were found mucous patches. I suppose that is the most frequent way chancre on the lip is acquired, but it may occur from common drinking cups, no doubt; and the plan suggested for drinking from public fountains by not bringing the cup into contact with the mucous surface is a valuable one, one which I learned fifteen years ago from Dr. Dunn, a physician in Cincinnati, who has since died. I remember having seen a chancre on the finger, which came from the examination of the vagina, on the surface of which was located a syphilitic disturbance, the exact stage of which I do not remember. In another case a chancre on the arm came from the bite of an infected patient. These cases only go to illustrate that any of these methods is capable of infecting a patient with syphilis; and I believe we should instruct the public more fully along this line.

DR. R. R. CAMPBELL, Chicago—Since speaking before four cases have been recalled to my mind, seen with Dr. Miller of Chicago. One was a street-car conductor, and the other a man from one of the best families of Chicago. The chancre was situated on the tonsil, the left in each case, and we could not trace any possible source of infection. In the case of the street-car conductor, particular attention was paid to the history, and we traced it down as carefully as possible. He was rooming with another man, and we thought possibly he had been using the pipe which the other used, but found there was no possible source of infection from that. In the other instance the patient was from one of the best families and Dr. Miller had had him under observation fully thirty years, and there never had been any syphilitic history in the family; he had never had anything of the kind as a boy or a young man, and this time came to see Dr. Miller with a chancre on his tonsil, followed by the evolution of typical syphilis. He said he had not used any smoking utensils which another had used, and the only possible means of infection, which we could reasonably suppose was that, as he was taking luncheon in various restaurants, he had carried the virus back there by the use of table utensils, notwithstanding the fact that that may seem to be rather an unreasonable conclusion to arrive at in a case of chancre on the tonsil.

Case 3 was a male cook. In cutting a piece of steak he accidentally cut the middle finger of his left hand and at the point of injury, either from the knife or a dirty cloth that was used in dressing the wound, infection took place and an initial lesion developed nineteen days after. In following the case and searching for other possible sources of infection, not the slightest could be found. The subsequent evolutions of the disease followed the ordinary course.

Case 4, a traveling man, always shaved in a barber shop, and received at one sitting a cut on the chin, and in twenty-seven days thereafter what proved to be a chancre presented at the point of injury. The patient had not been exposed in the meantime, to any reasonable source of infection other than from the razor or towels that had been used, for in closely examining and questioning the barber employed I was satisfied he did not have and never had had syphilis. My diagnosis was confirmed by the subsequent evolutions of syphilis.

Dr. Thos. E. Holland, Hot Springs, Ark.—I would like to ask what constitutes a necessary condition to contract syphilis; in other words, how must the surface be prepared in order to absorb the virus? Must it be abraded or placed in a mucous membrance and allowed to remain a certain time, or, like vaccination, does it require an ulcer or sore place? I do not think you can take the virus and bind it on the unbroken skin for six hours and have any effect. It is a question whether you can do it on a mucous membrane. What must the condition of the lip be to take on syphilis? Is it necessary to have an abrasion in order to absorb the virus?

Dr. L. D. Bulkley, New York City.—I will answer the question as far as possible. I have seldom seen a case of chancre of the lip without some history of an abrasion, a bite, or "cold sore," etc. The other case, chancre of the tonsil, is most interesting. I reported fifteen unmistakable cases, with full histories, in one paper. The tonsil is necessarily abraded. I believe that if a person swallows a little bit of the virus, the pathogenic germ lodges in some crypt of the tonsil, and so produces the ulcer. In case of the penis, the pus germs are held under the foreskin, with the virus of syphilis, and can break the mucous membrane there and be the means of forcing the entrance. I do not believe that the virus of syphilis placed on the fully-developed, healthy epidermis would have the least effect, but it often enters through the abrasion of the epidermis. One physician came in the other day whose inoculation on the forefinger occurred nearly four months ago, dating back to a confinement. We traced it back as syphilitic. Almost four months after infection the eruption came out over his body. It is the longest duration I ever knew. There are cases on record up to five months, but these are very rare.

This child reported is the youngest one I ever saw with acquired syphilis. I have seen children down to 2 or 3 years old infected, but never saw one under 1 year old, before. There are almost none reported under one year old in recent literature.

In regard to kissing, it is so seldom that a child is kissed directly on the lips, that a chancre is not often acquired by them in that way. Nor is it often that chancre of the lips is acquired by kissing in home life: it is not sisters to whom men give chancres, but sweethearts.

Another unusual thing is observed in this case, in the location of the sore on the upper lip; three chancres out of four are on the lower lip; it is most rarely that we see them on the upper.

Dr. E. E. Campbell.—Did you ever observe in regard to the location of chancre on the tonsil, whether they were most commonly on one side or the other?

Dr. L. D. Bulkley.—No, they are almost equally divided. In regard to the matter of first development of the eruption, it does frequently come first on the body, not always as low as the umbilicus; but it is rather apt to be on the face fully as early. It is hard to say about that in regard to many of the cases that come to us, because in many instances they do not know of the absence until the eruption has appeared. In quite a large share of my cases the chancre has been found only after considerable search. In one case, after the patient was stripped it was only after a long time that I was able to find the initial sore, which proved to be a typical chancre near the end of the coccyx, which he had gotten from a bathing suit.

Therapeutics.

Glycerin in Nephrolithiasis.

A. Hermann, in the *Medical Chronicle*, January, 1900, gives the following favorable figures in the treatment of 115 cases of this disease with glycerin. In 15 cases concretions were passed and improvement noted; in 25 cases there was improvement of the condition of patients without passage of concretions; in 46 cases glycerin had no effect.

Improvement noted in the above patients was along the following lines. Usually the dull boring pain in the back, which frequently accompanies the disease, was stopped, painful sensations along the ureters would disappear, and movements of the trunk, which had been avoided because painful, could be made without distress. Pain in the kidney region usually followed administration of the drug, but was not severe enough to require the use of narcotics. These generally ceased after a time. Urine voided after the use of glycerin was quite free from albumin, sugar, or blood, but contained much mucus and pus, especially where the disease was complicated by pyelitis. Urine passed after taking glycerin contains considerable quantities of the substance. He attributes the active qualities of glycerin to certain characteristics of the drug. The renal passages are lubricated, but he thinks it has no solvent chemical action, as concretions passed seemed just as hard and had quite as sharp points as those passed spontaneously.

The dose was kept within the limit of from one to four ounces, according to the weight and age of the patient. The amount given was dissolved in an equal quantity of water and administered once a day between two meals; it was repeated two or three times in intervals of several days. In a few cases with nervous patients, headache was complained of; diarrhea might rarely occur in people with disordered digestion, but these effects lasted but a few hours.

Massage for Pyloric Constriction.

The *Semaine Méd.* calls attention to Dubard's suggestion that the pylorus responds much more promptly and effectively if the massage is commenced on the intestines and peristalsis started before the region of the pylorus is touched.

Active Treatment vs. Expectation in Acute Gonorrhea.

The *Semaine Méd.* of January 27 quotes Stefon to the effect that in the military hospital at Warsaw, 233 soldiers with acute gonorrhea were treated with the urethral injections now in vogue, resulting in the cure of 48 per cent. in on average of twenty-eight days. A hundred other cases were treated exclusively with alkaline drinks, with 68 per cent. cured, the average forty-three days. The first method no doubt induces a more rapid cure but fails in a much larger number of cases. Local treatment, it adds, should be reserved for the chronic form.

Obstinate Neuralgias of Obscure Origin.

Henry Posert, in the *Memphis Lancet*, February, 1900, describes treatment of some cases of obstinate or obscure neuralgia, which has sometimes proved beneficial. He finds in supraorbital neuralgia that errors of refraction have no bearing, as they are seldom present, and if present, when corrected no relief is obtained. He also fails to find their cause in gouty or rheumatic diathesis or malarial intoxication. Quinin never relieves it. He has been successful in applying cold locally, giving hyoscyamin, aconite, cannabis indica, and caffein internally. (See ¶ 167, p. 554.)

Cervico-occipital neuralgia may be limited to the great occipital or it may involve the four upper cervical nerves. The pain, which is often intense, is not relieved by antirheumatic or antineuralgic remedies.

Most dorsointercostal neuralgias follow la grippe or malaria, but occasionally one is found which can not be traced to debilitated conditions; these resist treatment for a long time. He finds that galvanism, quinin, salicylate of sodium combined [illegible] small doses of opium which if persisted in effect a cure. One form of neuralgia of the back is especially obstinate. It extends laterally from the sixth dorsal spine to the [illegible]. With it the skin is not sensitive to light touch, as it is located at the side of the spine, deep seated, and almost exclusively confined to the erector spinæ muscles. The pain is excruciating, and is often found in persons without hysterical stigmata or gastrointestinal, renal, hepatic, or uterine trouble. Dry hot air, and some of the coal-tar derivatives sometimes bring relief.

He finds that neuralgic pain in the lower portion of the glu[illegible] branches of the sciatic is most frequent in the fall, leading him to believe that it is due to cold. The pain is usually confined to the right side, and is often so severe as to keep the patient in bed for days and weeks. Hot baths, phenacetin, and later, faradism will overcome the trouble, though it may take a long time.

Cellutory for Painful Dentition.

[illegible], Nov. 12, 1899, gives this formula:

R. Acidi citrici
Aquæ destil. aa ... ʒiv ss
Cocainæ hydrochlor. ... gr. iss
Syrupi ...ʒv
Tinct. vanillæ ... gtt. xii

To be rubbed on the gums.

To Relieve Pain and Keep Burns from Scarring.

Before applying the following prescription, wash the surface of the burn with 1 dram of common soda dissolved in a pint of tepid water. This can be done painlessly by allowing it to run from a sponge or cloth over the surface:

R. Bismuthi subnitratis ... ʒi
Vaselin. ... ℥i
Acidi carbolici ...m.v

This added thickly and covered with a light dressing, will relieve pain instantly.

Use and Abuse of Poultices.

Owing to the lack of proper instructions to the patient in the use of poultices, says S. E. Earp, in the *New York Medical Journal* of February 3, much harm is often done. The majority of people are quite ignorant as to the purposes for which poultices are applied. He gives the following eight conditions under which they should be employed: 1, to relieve congestion; 2, to reduce inflammation; 3, to promote absorption, favor resolution, or hasten suppuration; 4, to diminish tension; 5, to soften incrustations; 6, to encourage tissue relaxation; 7, to stimulate healthy granulations; 8, to perform the office of a deodorant and, in a sense, of an antiseptic.

Used improperly, they may produce an anemic, flabby condition of the part and consequently a lowering of the vitality, and possibly a necrosis of the tissues. A poultice applied after the evacuation of pus is often a detriment.

The material, except that it should usually be non-irritating, matters very little, the only consideration being its heat-retaining capacity. In pneumonia, peritonitis, and other deep-seated inflammations, the poultice should be large, to cover a surface equal to the organs, and reapplied often to get the effect of the heat. It should be covered with sheet rubber, oiled silk, or oiled newspaper and should not remain in contact when cold. The poultice may be used as a medium, where the therapeutic effects of certain absorbent disinfectants, counter-irritant, or anodyne remedies are required. The charcoal poultice is used as a deodorant in foul ulcers or where there is gangrene, but it must be frequently replaced, as its rapid absorption of gases soon renders it useless. When used, a layer of powdered charcoal should be sprinkled on the surface. Linseed meal, which is popular because of its oleaginous nature, is prepared by adding two parts of meal in small quantities to five parts of boiling water. Bread poultice may be prevented from drying quickly by adding marshmallow, glycerin, or vaselin.

Guaiacol in Orchitis and Epididymitis.

The discomfort caused by these inflammations seems hard to relieve and a report of any drug that promises a cessation of pain, is gladly received by physicians in general. William Nuss (*Bulletin of the Cleveland General Hospital*, vol. i, No. 1) has tried guaiacol in several cases with markedly favorable results. The mode of treatment has been rest in bed and a few drops of guaiacol applied at stated intervals over the swellings. Usually three or four applications have been quite sufficient to reduce swelling and bring about a permanent cure.

Modified German Method of Treating Typhoid.

C. D. Miller (*Merck's Archives*, January, 1900), after much experimental research, has for the past ten years treated all typhoid cases by strictly following the modern idea of diet, hygienic precautions, and external treatment, but administers internally the following modification of Dr. Bartholow's mode of compound tincture of iodin and carbolic acid:

R. Tinct. iodini
Acidi carbolici, āā ...m. x
Aquæ destil.
Syrupi, āā ... f℥ii

M. Sig. A teaspoonful in a little cold water every two hours.

He notes the following symptomatic changes after the above prescription has been administered: Fever declines promptly; stools become less frequent and less offensive, their character changes; restlessness subsides, delirium disappears, and the patient becomes tranquil, falling into a quiet sleep, from which he awakes refreshed. In the period mentioned, he has treated over five hundred cases, none of them ending fatally.

Treatment of Simple Grippe.

Lutaud, editor of the *Journal Méd. de Paris*, advises in a recent issue taking 20 centigrams of quinin sulphate every day as a preventive measure during epidemics of the grippe. He recommends the following potion to relieve the pains:

R. Antipyrin ... ʒi 4
Alcohol, 96 per cent ... ʒiiss 10
Syr. of raspberry. ... ℥ii 60
Aquæ dest. ... ℥iii 100

M. Sig. A dessert-spoonful.

To be taken every hour until the pains are arrested. Induce perspiration with hot, slightly alcoholic drinks. Examine the chest and watch for pneumonia. If the temperature reaches 39 C. give 50 centigrams of quinin sulphate in one or two doses. Prescribe a saline purgative the second day.

Pruritus Ani.

J. P. Tuttle, in the *Medical News*, Jan. 20, 1900, finds the following combination to be of great value in the local treatment of this distressing symptom, while the radical cure of the underlying cause is being attained:

℞. Acidi carbolici...10 to 20 parts
Acidi salicylici... 2 to 10 parts
Acidi borici... 5 parts
Glycerini—or cold cream... 100 parts

Ichthyol is very useful, and where there is pain at stool, conium and cocain are applied. With this treatment, he has not found it necessary to curette the parts, apply actual cautery, or resort to dissection of parts.

Vomiting of Pregnancy.

Dr. A. Gordon Paterson writes to *The Lancet* advising the use of the following mixture twice daily before meals:

℞. Fluid ext. ergotæ...m. v
Aquæ ...℥ss

M. Sig.

He says he has seldom found it to fail, after a few days' use, in relieving the nausea. The same mixture, with the addition of m. iii nux vomica, is often very useful in checking the sickness of the menstrual period.

Chilblains.

R. Creosoti ... m. x
Plumbi subacetati, sol. ...m. x
Extracti opii ... gr. ½
Lard ... ℥i

—*Devergie.*

Argentamin in Gonorrhea.

E. Williams speaks highly of this remedy in the treatment of gonorrhea, in *The Therapist*, January 15. He begins treatment with injections of peroxid of hydrogen, followed by argentamin, 1 to 3000. In three cases reported by him, this treatment was carried over a period averaging about three weeks, at the end of which time the gonococci had all cleared up and the patients were discharged cured. All alcoholic drinks must be strictly prohibited during treatment and the argentamin must be fresh.

Medicolegal.

Eye Specialist as a Physician.—The ruling, in a prosecution for unlawfully practicing medicine, that, if the defendant held himself out as an eye specialist, he held himself out as "one who devoted himself to a branch of the healing art which is the profession of the physician and surgeon," and that, "if the defendant held himself out as an eye specialist, he held himself out as a physician and surgeon, within the meaning of the statute," the supreme judicial court of Massachusetts holds was correct. It further holds, Commonwealth vs. St. Pierre, that proof that the defendant acted either as a physician or surgeon was sufficient to support the complaint, which charged him with holding himself out as a physician and surgeon. There is, it continues, but one offense, and that may be committed by the defendant's holding himself out as a physician or a surgeon. If the complaint charges that the offense is committed by the defendant's holding himself out both as a physician and surgeon, the whole offense is proved if he is shown to have held himself out as either. Moreover, the court holds, the burden is on the defendant to show that he is a registered physician, if he relies on such justification. This, it adds, applies in cases where the absence of a license is made part of a description of the offense.

"Acts of God" That Justify Breach of Promise to Marry.—Under the expression "the act of God" are comprehended all misfortunes and accidents arising from inevitable necessity which human prudence could not foresee nor prevent. Hence it is held that "illness," being beyond the power of man to control or prevent, is the act of God. Furthermore, it can no longer be doubted that, if the performance of a contract is rendered impossible by the act of God alone, such fact will furnish a valid excuse for its non-performance, and such a stipulation will be understood to be an inherent part of every contract. And this principle, the supreme court of appeals of Virginia thinks, it would seem, should apply with peculiar force to a marriage contract, the performance of which, owing to causes subsequently intervening, and altogether independent of any default of the party, might result in consequences disastrous to the life or health of the parties, or either of them. Wherefore, the court holds, in Sanders vs. Coleman, that a contract to marry is coupled with the implied condition that both of the parties shall remain in the enjoyment of life and health, and, if the condition of the parties has so changed that the marriage state would endanger the life or health of either, a breach of contract is excusable. In this case the evidence showed that there was a predisposition in the defendant's family to physical trouble of the kind that had developed with him; that his father had died with a similar disease, and a brother with urinary trouble; that after his engagement with the plaintiff, and before the time fixed for the marriage, the defendant had, without fault on his part, developed, and was suffering with, a grave malady, involving the urinary organs, which had continued and kept him constantly under the advice and treatment of a physician up to the time of the trial; that he had cystitis, with probable inflammation of urethra, complicated with enlargement of the prostate gland, and that an indulgence in sexual intercourse would aggravate his disease, and likely shorten his life; and that it would be, not only a wrong and injustice to the defendant, but also to the plaintiff, for him to marry her in his condition of health. Marriage, the court adds to this statement, is assumed in law to be for mutual comfort. And, being satisfied from the evidence that the defendant acted [illegible] with good faith, [illegible] [illegible] justified the alleged breach of his contract to marry the plaintiff.

Might Not Be Acting As a Physician.—[illegible] vs. St. Pierre was a prosecution for unlawfully practicing medicine. The government had put in evidence the testimony of a number of persons to the effect that they had visited the defendant at various times, that he gave to them medicines and advised them how to use them; that at these times they had conversations with him about the nature of their complaints; that he afterward visited some of them at their houses, and treated them there, and that they paid him money; and the bottles and packages, which the witnesses testified were given to them, had been put in evidence. The defendant offered to prove that on each and every occasion, at the time, the parties were told by him that he was not a doctor, and that he did not charge anything for his services. This evidence was excluded. The supreme judicial court of Massachusetts holds that such exclusion constituted reversible error. It says that if the defendant sold the medicines, receiving payment therefor, and gave advice gratuitously as to the use to be made of them, he was not, so far as those instances were concerned, holding himself out as a physician. His declarations accompanying the acts and showing the character of them were admissible as part of the *res gestæ*, or things done. It was open to the government to contend that in these instances he was really acting as a physician, and was paid as such for his services, and that these statements were efforts to evade the statutory provisions. But when the commonwealth put in testimony to the effect that he had given directions and advice as to the use of the contents of the packages and bottles sold by him, and had been paid by the persons to whom the contents were sold, it was the right of the defendant to prove that in each instance he was paid, not for advice, but only for the drugs; and in that way to raise the question whether, so far as these instances were concerned, he was selling the drugs, and giving information gratuitously as to their use, and therefore not thereby holding himself out as a physician, taking payment therefor, and was seeking by such declarations to evade the effect of his action. This question was for the jury, under all the circumstances.

Justifies Physical Examinations.—Without going into an exhaustive discussion of a question which has been so much and so often discussed by courts and text writers, the supreme court of Minnesota takes the position that, on both principle and reason, in a civil suit for physical injuries, where the plaintiff tenders an issue as to his physical condition and appeals to the courts of justice for redress, it is within the power of the trial court, in the exercise of a sound discretion, in proper cases, on an application reasonably made, under proper safeguards designed to preserve the rights of both parties, to order such an inspection, and to require the plaintiff to submit to it under the penalty of having his action dismissed in case he refuses to do so. It says that, with all due deference to those authorities, some of which are eminent, that are to the contrary, it can not avoid thinking that they base their conclusion upon a fallacious and somewhat sentimental line of argument as to the inviolability and sacredness of a man's own person, and his right to its possession and control free from all restraint or interference of others. This, rightly understood, is all true, but his right to the possession and control of his person is no more sacred than the cause of justice. When a person appeals to the state for justice, tendering an issue as to his own physical condition, he impliedly consents in advance to the doing justice to the other party, and to make any disclosure which is necessary to be made in order that justice may be done. No one claims that he can be compelled to submit to such an examination. But he must either submit to it or have his action dismissed. In very many cases the actual nature and extent of the injuries can only be ascertained by a physical examination of the person of the injured party. And while personal injury cases were formerly very infrequent, the court goes on to say, in Wanek vs. the City of Winona, of late they constitute one of the largest branches of legal industry, and are not infrequently attempted to be sustained by malingering on the part of the plaintiff, false testimony, or the very unreliable speculations of so-called "medical experts." To allow the plaintiff in such cases, if he sees fit to display his injuries to the jury, to call in as many friendly physicians as he pleases, and have them examine his person, and then produce them as expert witnesses on the trial, but at the same time deny to the defendant the right in any case to have a physical examination of the plaintiff's person, and leave him wholly at the mercy of such witnesses as the plaintiff sees fit to call, the court insists, constitutes a denial of justice too gross, in its judgment, to be tolerated for one moment.

Current Medical Literature.

Titles marked with an asterisk (*) are noted below

New York Medical Journal, February 17.

1. —*Studies on Internal Antisepsis. Edwin Klebs.
2. —*Importance, Both Medicolegal and Clinical, of Early Recognition of Certain Organic Affections of Nervous System, Including Paresis. J. Leonard Corning.
3. —*Overstudy. Leroy M. Yale.
4. —*Therapeutic Value of Alcoholic Stimulants. F. A. Castle.
5. —*Digitalis and Aconite: Their Physiologic and Therapeutic Action. F. O. Hawley.
6. —*General Treatment of Phthisis Pulmonalis. George A. Evans.
7. —*Plea for More Extended Use of Antitoxin for Immunizing Purposes in Diphtheria. John S. Billings, Jr.
8. — Four Cases of Diabetes Mellitus of Apparent Bacterial Origin, and Their Successful Treatment. J. P. Sheridan.
9. —*Skin Manifestations of Influenza Observed in the Present Epidemic. J. Edward Herman.

Medical News (N. Y.), February 17.

10.—*Improved Operation for Acute Appendicitis or for Quiescent Cases with Complications. R. F. Weir.
11.— Bubonic Plague. Edwin Klebs.
12.—*Consideration of Acute Inflammatory Rheumatism. W. H. Neilson.
13.— Two Cases of Rupture of Right Lobe of Liver; Laparotomy; Recovery. H. Beeckman Delatour.
14.—*Report of Bacteriologic Investigations on Yellow Fever. Aristides Agramonte.
15.— Case of Post-Epileptic Amnesia. David Trumbull Marshall.

Boston Medical and Surgical Journal, February 15.

16.—*A System of Clinical Instruction for the Simultaneous Instruction, in Small Sections, of a Large Number of Students. A. H. Wentworth.
17.— Case of a Man Who Swallowed His Suspenders; Removal by External Esophagotomy; Recovery; Other Similar Cases. Maurice H. Richardson.
18.—*Clinical Value of Oliver's Hemocytometer. David D. Scannell.
19.— Diffuse Peritonitis from Acute Appendicitis in a Girl Aged Thirteen Years; Operation; Recovery. J. Coplin Stinson.

Medical Record (N. Y.), February 17.

20.—*Inoculation of Malaria by the Mosquito: A Review of the Literature. Irving Phillips Lyons.
21.—*Observation on Surgery of the Brain, Based on Clinical and Experimental Evidence. George W. Crile.
22.—*Splenic Extract and the Splenic Function. Charles Raymond Carpenter.

Philadelphia Medical Journal, February 17.

23.— Unusual Case of Molluscum Fibrosum. Daniel H. Williams.
24.— Gangrenous Stomatitis Treated with Antistreptococcus Serum. W. C. Cahall.
25.— Position-Symptoms in Joint Disease. Harry M. Sherman.
26.—*State Care of Consumptives. Charles E. Nammack.
27.—*Earliest Recorded Autopsies in America. Francis R. Packard.
28.—*Pleural Friction Sound: Maneuvers for its Elicitation. Albert Abrams.

Cincinnati Lancet-Clinic, February 17.

29.—*Plantar Reflex and Babinski's Sign; Their Diagnostic Value in Spinal Disease. F. W. Langdon.
30.—*An American Need. H. H. Spiers.

Medical Review (St. Louis, Mo.), February 17.

31.—*Is Appendicitis a Medical or Surgical Disease? With Remarks on the Medical Treatment. John Zahorsky.

Medical Age (Detroit, Mich.), February 10.

32.— Relation of Digestive Disturbances to Gynecology and Obstetrics. A. L. Benedict.
33.— Gunshot Wounds of Abdomen. J. B. Murfree.
34.— Cancer of Breast. Samuel Lloyd.

Medical Fortnightly (St. Louis, Mo.), February 10.

35.— Case of Multiple Chancres. A. H. Ohmann-Dumesnil.
36.—*Physiology. A. L. Benedict.

Annals of Surgery, February.

37.—*Further Observations on Depression of the Neck of the Femur in Early Life; Including Fracture of the Neck of the Femur, Separation of the Epiphysis and Simple Coxa Vara. Royal Whitman.
38.—*Technique of Positive and Negative Diagnosis of Ureteral and Renal Calculi by Aid of Roentgen Rays. Charles L. Leonard.
39.—*Intestinal Obstruction due to Intussusception. John F. Erdmann.
40.— Interscapulo-Thoracic Amputation. Russell S. Fowler.
41.— Pathology of Lymphatics of Peritoneum. Byron Robinson.
42.— Traumatic Rupture of Bile-Duct. Richard W. Garrett.
43.— Actinomycosis in Man, with Special Reference to Cases Which Have Been Observed in America. John Ruhräh.

Western Medical Review (Lincoln, Neb.), February 15.

44.—*Some Things. H. C. Crowell.
45.—*Case of Chronic Inversion of Uterus: Spontaneous Reduction After Three Years. A. F. Jonas.
46.—*The Vaginal Route. O. Beverly Campbell.
47.— "To Do or Not To Do," in the Lying-in Room. M. L. Hildreth.
48.—*Some Uses of the X-Ray, Its Usefulness and Mistakes. J. Rudi-Jicinsky.
49.—*Cystosarcoma Occurring Simultaneously in Both Ovaries. Van Buren Knott.
50.—*Gynecologic Complications of Neurasthenia from a Neurologic Standpoint. John Punton.
51.— Abortion. *Continued.* A. D. Wilkinson.

New Orleans Medical and Surgical Journal, February.

52.—*Litholapaxy. Geo. S. Brown.
53.—*Type of Enteric Fever, not Typhoid. Otto Lerch.
54.— Case of Multiple Neuritis. C. K. Mills.
55.— Treatment of Chronic Non-Suppurative Otitis Media by Use of Pilocarpin. S. MacCuen Smith.

St. Paul Medical Journal, January.

56.— An Amelia Combined with Rachischisis and Hydrocephalus. Arnold Schwyzer.
57.— State Care of Indigent Crippled and Deformed Children. Arthur J. Gillette.
58.— Nutritional Factor in Nervous and Mental Conditions. C. Eugene Riggs.
59.— Pityriasis Rubra, Hebra's Type. John T. Bowen.

Medical Standard (Chicago), February.

60.— Scarlatina: Its Nature, Causes and Treatment. M. P. Hatfield.
61.— Chorea and Allied Diseases. Daniel R. Brower.
62.— Urinary Diagnosis and Treatment. J. W. Wainwright.
63.— Urethral Bougies, Catheters and Sounds. A. P. Heineck.
64.—*Relations of Constitutional to Cutaneous Diseases. Albert E. Carrier.

Medical Herald (St. Joseph, Mo.), January.

65.— Cerebrospinal Meningitis. M. Yate.
66.— Tabes Dorsalis. Wallace E. Deffenbaugh.
67.— Syphilitic Retinitis with Albuminuria. P. I. Leonard.
68.— Chronic Constipation. A. Herring.
69.— Rectal Diseases. Samuel G. Gant.

Medicine (Detroit, Mich.), February.

70.—*Gastrointestinal Infections in Infants. I. A. Abt.
71.—*Topical Application of Iodoform in Treatment of Tubercular Affection of Serous Membrane, with Cases. Zera J. Lusk.
72.— Case of Blastomycetic Dermatitis: Clinically and Histologically an Epithelioma. W. E. Coates.
73.—*Immunization Through Vaccination. D. P. Austin.
74.—*Curability of Epilepsy, and How it May be Accomplished. Wm. P. Spratling.

Chicago Clinic, February.

75.—*Schoenborn-Beele Splint. Edward H. Lee.
76.— Diagnosis of Chronic Gastritis. J. H. Salisbury.
77.—*Syphilitic Dystrophies. John J. Quirk.
78.— A Day's Work. Maud M. Thompson.

Maryland Medical Journal, February.

79.—*Dietetics of Bread and Butter. John C. Hemmeter.
80.— Case of Pancreatic Cyst. Frank Martin.
81.— Poisoning by Euphorbia Marginata or "Snow on the Mountain." Arthur Wegefarth.

Fort Wayne Medical Journal-Magazine, January.

82.— Compound and Comminuted Fracture of Middle and Lower Third of Leg and Ankle. E. H. Griswold.
83.— Valedictory Address, Delivered at the First Annual Commencement of the Hope Hospital Training School for Nurses. Miles F. Porter.

Medical Council (Philadelphia), February.

84.—*Variation of Type in Diphtheria and Scarlet Fever. Henry D. Fulton.
85.— The Eye: How It Sees; Its Defects: and Their Cure with Glasses. A. H. P. Leuf.
86.— Notes from Experience Relative to Pneumonia. J. R. Scott.
87.— Case of Gunshot Wound of the Thorax Involving the Left Lung. T. H. White.
88.— Suggestive Therapeutics, Magnetic Healing and Osteopathy. T. H. Line.
89.— Treatment of Diseases of the Nose, Throat and Ear by the Family Physician. E. B. Gleason.
90.— Surgical Notes. William V. Morgan.

Denver Medical Times, February.

91.— Report of Some Cases in My Practice. M. A. Hughes.
92.— Some Considerations Relative to Diagnosis of Surgical Diseases of the Kidneys. Leonard Freeman.
93.— Acute Yellow Atrophy of the Liver Following Surgical Operation: Report of a Case. Thomas H. Hawkins.

Canadian Journal of Medicine and Surgery (Toronto), February.

94.—*Address in Surgery: Radical Care of Hernia. W. E. Coley.
95.—*Relation of Insanity to Pelvic and Other Lesions. A. T. Hobbs.
96.— Extreme Emaciation in Hysteria, with Notes of a Case. T. Beath.
97.— New Epoch in Hospital Evolution. Ernest Hall.
98.— Smallpox Outbreak in Essex. P. H. Bryce.

Woman's Medical Journal (Toledo, Ohio), January.

99.— Incontinence of Urine in Women, Due to Traumatism. Report of Two Cases. Marie J. Mergler.
100.— Dexiocardia Complicating Chorea: Report of Case. May Michael.
101.— Case of Recurring Quinsy. Treated by Antirheumatics and Thyroid Extract. Mary E. Bates.
102.— Second Case of Recurring Quinsy. Julia S. Kapp.
103.— Operating-Room and Its Accessories Adapted to Perfect Asepsis. Anna Braunwarth.
104.— Submucous Fibroid of Uterus, with Report of Two Cases. Lillian G. Towslee.
105.— Making of a Woman Surgeon. Agnes C. Vietor.

Medical Register (Richmond, Va.), December, 1899.

106.— Recent Investigations Concerning the Hematozoa of Malaria. William Sydney Thayer.
107.— Vaccination by Hypodermic Injection of Virus. Van Telburg Hofman.

108.— Peculiar Case of Abortion. B. L. Taliaferro.
109.— Use of Peroxoles. R. Angus Nichols.

Illinios Medical Journal (Springfield), February.

110.—*Prevalence of Alcoholism and Its Influence on Mortality. Geo. W. Webster.
111.—*Nervous Complications and Medicolegal Relations of Alcoholic Inebriety. D. R. Brower.
112.— Treatment of Goiter. A. I. Bouffleur.
113.—*Operative Treatment of Exophthalmic Goiter. Karl Doepfner.
114.—*Traumatic Rupture of Urethra. E. J. Senn.
115.—*Fatal Perforation of a Uterus Partially Atrophied Postpartum: A Medicolegal Case. C. S. Bacon and Maximilian Herzog.
116.— Sociologic View of Criminal Abortion. W. J. Fernald.
117.— Abstract on Pulmonary Tuberculosis. T. H. Stettler.
118.— General Uveitis. J. Whitefield Smith.

Journal of Mississippi State Medical Association (Biloxi), February.

119.—*Vibration as a Hypnotic and Anesthetic. B. F. Ward.
120.— Intestinal Asepsis in Medicine and Surgery. J. H. Kellogg.

Peoria Medical Journal, February.

121.— Bottini Operation for Enlarged Prostate, with Report of Case. E. M. Sutton.
122.— Influence of Hope as a Factor in the Cure of Disease. J. E. Coleman.
123.— Medical Etiquette. S. O. Hendricks.
124.— Fracture of Clavicle, Resection at Elbow-Joint. Malaria (?) Following Abdominal Section, Mistaken for Sepsis. Large Ovarian Cystoma. J. F. Percy.

Pacific Medical Journal (San Francisco), February.

125.— Some Observations on Continence as a Factor in Health and Disease. P. C. Remondino.
126.— Hermaphroditism. Ernest Hall.
127.— Hydrophobia. F. J. Conlan.

Louisville Monthly Journal of Medicine and Surgery, February.

128.— Auto-Intoxication. D. L. Field.
129.—*Feeding of Patients Suffering from Peritonitis Due to Appendicitis and Other Similar Causes. A. J. Ochsner.
130.—*Use of Electricity in the Treatment of Diseases of Women. Richard T. Yoe.
131.— Necessity of Studying Rare Cases. J. Glahn.
132.— Hysterectomy by Abdominal Route in Pus Cases. J. S. Chenoweth.
133.— Report of Case of Hydrorrhea Gravidarum, Followed by Miscarriage and Retained Placenta. W. B. Gossett.
134.— Complicated Case. C. M. Carter.
135.— Four Interesting Cases. Turner Anderson.

Dominion Medical Monthly (Toronto), January.

136.—*An Eruptive Plague. John Coventry.

St. Louis Clinique, February.

137.— Anemia: Its Cause and Treatment. C. W. Lillie.

Yale Medical Journal (New Haven, Conn.), February.

138.—*Displacements of Pelvic Organs. Frederick Holme Wiggin.
139.—*Caring for the Insane. W. M. Kenna.
140.— Case of Tubal Pregnancy. Myron L. Cooley.
141.—*Treatment of Inguinal Hernia in the Young. J. W. Seaver.

Canadian Practitioner and Review (Toronto), February.

142.— Pregnancy and Labor Complicated by Tumors. Albert A. MacDonald.

Canada Lancet (Toronto), January.

143.— Case of Interstitial Emphysema. Horace C. Wrinch.

Medical Summary (Philadelphia), February.

144.— Ophthalmia Neonatorum, Its Prophylaxis. Frank W. Hilscher.
145.— Facts in Regard to Alcohol. W. P. Howle.
146.— Phthisis. E. W. Ritter.
147.— Medical Fads. G. M. Dewey.
148.— Diphtheria, Its Treatment. S. L. Kilmer.
149.— Modern Therapia in General Practice. W. E. Frazer
150.— Antitoxin. Frank R. Brunner.
151.— Curious Case: A Plea for a Little Enthusiasm. Ben H. Brodnax.
152.— Antisepsis. Wm. Hooker Vail.
153.— Hygiene of Eating. W. Thornton Parker.

International Journal of Surgery (N. Y.), February.

154.—*Some Dangers that Follow in the Wake of Modern Surgery. Robert H. Cowan.
155.—*Regional Minor Surgery. George G. Van Schaick.
156.—*Some Remarks Concerning Suitable Treatment Before, During and After Surgical Operations. J. A. Jackson.
157.— Technic of Surgical Gynecology. Augustin H. Goelet.
158. – Treatment of Fractures. W. L. Estes.
159 — Introductory to Mechanical Diagnosis and Treatment of Urethral Diseases. Ferd C. Valentine.
160.— Excision of Rectum for Prolapsus Caused by Traumatism. G. G. Eitel.
161.— New Operation for Salivary Fistula. G. Frank Lydston.
162.— Physical Fitness of Railway Employees as Viewed from the Operating Department. R. C. Richards.
163.— Physical Fitness of Railway Employees as Viewed from the Surgical Department. G. P. Conn.
164.— Simplicity in Surgery. Willard H. Morse.

Memphis Lancet, February.

165.—*Typhoid Fever with Some of Its Complications and Sequelæ. A. E. Cox.
166.—*Management of the Insane. N. F. Raines.
167.—*Some Obscure and Obstinate Cases of Neuralgia. Henry Posert.
168.— Xanthoma Diabeticorum. Report of Case. M. B. Herman.

Georgia Journal of Medicine and Surgery (Savannah), January.

169.—*Experience in Operations for Typhoid Perforations. Hugh M. Taylor.
170.— Different Phases of Electric Treatment. J. McFadden Gaston.

Medical Times (N. Y.), January.

171.— On the Phenomena of Electricity and Life. J. Mount Bleyer.
172.— Equation of Responsibility. Edwin W. Pyle.
173.— Neuron Theory. Herman Casser.

Kansas City Medical Index-Lancet, February.

174.— Presidential Address: Kansas City Academy of Medicine. Hal Foster.
175.— Cough. J. W. Gaines.
176.– Clinical Report on Cases of Unusual Interest. Thomas H. Manley.
177.— Neurasthenia. John Punton.

Texas Medical News (Austin), February.

178.— Further Observations on Echinococcus Disease, or Bladder Tapeworm. Rudolph Menger.
179.— The Ideal Doctor. N. A. Olive.
180.— Empyema of Pleural Cavity: Report of Four Cases. R. J. Alexander.

AMERICAN.

1. **Intestinal Antiseptics.**—Klebs' paper is to be continued and notice will be deferred.

2. **Recognition of Organic Nervous Diseases.**—Starting with the statement of the importance of the recognition of nervous disorders in their incipient stages before destruction of the nervous elements takes place, Corning passes to the medicolegal importance of such recognition, especially in tabes, multiple sclerosis and paresis. He points out the characteristic symptoms of each. In tabes, the lancinating pains, absence of patellar reflex and immobility of the pupil make the early diagnosis of this disorder certain. No other condition can have these three symptoms. In multiple sclerosis, it is not always possible to make an early diagnosis, but the appearance of intention tremor justifies suspicion, which deepens into certainty with the coming of nystagmus or marked exaggeration of the tendon reflexes. Paresis can not always be early diagnosed, but the symptoms which he insists on as most important are the peculiarities of speech, syllable stumbling, fibrillary tremors of lips and tongue, inequalities of the pupils, dropping of letters and irregularities of writing and clumsiness of gait. These, however, are not always sufficient in medicolegal cases, and he shows how it may be impossible to differentiate cerebral syphilis. Paresis may also exist with other diseases which further complicate the question, and this fact has been utilized by counsel in medicolegal cases, to mystify the jury, the idea being to impress them with the notion that there is enough evidence even without the existence of paresis to show serious organic disease of the nerve-centers and consequent mental impairment. When a contention of this kind is set up, its speciousness is best revealed by insisting that the minimum of symptoms possible to the constitution of the typical group of each disease be produced in evidence. For example, when, as often happens, paresis and ataxia are alleged to be associated, the characteristic cerebral symptoms of the former should be demonstrable, and the spinal symptoms of the latter. True, both are diseases of the general nervous system; but, whereas in paresis the brain is chiefly attacked, in tabes it is the cord which is predominantly involved. This proposition being admitted—and pathologically it is incontrovertible—it follows that the decisive symptoms in paresis are cerebral, in ataxia spinal.

3. **Overstudy.**—Yale contests the opinion that overstudy is a chief cause of deranged health. He thinks that the majority of cases thus credited are due to developmental conditions and faulty hygiene. The physician should never accept overstudy as a cause of deranged health until other physical reasons have been excluded.

4. **Therapeutic Value of Alcohol.**—Castle maintains that the good effects of alcoholic stimulants are largely due to the volatile ethers, and not exclusively to the alcohol. He who thinks he will be able to get as good effects by corresponding proportions of alcohol and water will be disappointed.

5. **Digitalis and Aconite.**—The therapeutic action of digitalis and aconite is noticed by Hawley, who sums up the effects of the former as retardation of the pulse-rate, increasing the force of the heart's action and contraction of the arterioles. Digitalis is indicated in those heart diseases where the organ is unable to perform its normal task. It should not be given in case of compensatory hypertrophy or in aortic stenosis until the power of the heart begins to fail. It may be used with advantage in cardiac dropsy, in the second stage of pneumonia and in typhoid and other exhausting fevers.

It is [illegible] adapted [illegible] mixtures. When it is desired to influence the blood pressure and it is the physiologic antidote of aconite, digitalis or muscarine and is useful in [illegible]. It should never be used with pronounced arterial [illegible], for example, cerebral hemorrhage, not in [illegible] or marked arterial [illegible]. Aconite is the direct [illegible] its therapeutic effect is to lower [illegible] and arterial tension and to reduce elevation of temperature and [illegible] states. If it is a physiologically tested preparation it may be depended on to give as good effects as veratrum viride in pneumonia and puerperal eclampsia. It is of service in the early stages of almost any acute inflammation, and the scarlatina and measles of childhood, but its administration in such cases must not be too prolonged. It may be employed with advantage in tonsillitis, laryngitis, bronchitis, and acute rhinitis. In pericarditis its beneficial action is dependent on its ability to quiet the heart. In severe cases of cardiac hypertrophy it may be given continuously and with benefit, and it has an excellent reputation in dulling sensory excitability in neuralgic conditions. He notices the unsatisfactory effects of many preparations and insists in consequence on the importance of standardizing these drugs.

6. **Phthisis Pulmonalis.**—Evans gives details of treatment of pulmonary tuberculosis, and tables of diet. He pleads for a more active medicinal and hygienic treatment of phthisis.

7. **Antitoxin in Diphtheria.**—Billings discusses the statistics of the antitoxin treatment of diphtheria, and dwells on the value of immunization. His conclusions are: 1. The increased number of cases of diphtheria in New York City in 1899 is probably due, in part, to neglect of a most important prophylactic measure against the disease—i. e., immunization by antitoxin. 2. Immunization furnishes one of the most potent means of preventing the spread of diphtheria and lessening the number of deaths from this disease. 3. It is probable that in some cases the immunizing dose of antitoxin hitherto recommended, 150 units, is insufficient, and that at least 300 units should be used in children and 500 in adults. Owing to improvements in the mode of preparation and the increased concentration of the antitoxic serums now in use no ill effects are to be apprehended.

8. **Skin Manifestations of Influenza.**—Herman briefly notices the appearance of the present epidemic of influenza. The three usually described forms, the respiratory, gastro-intestinal and cerebrospinal, have all been seen. As a rule the disease is mild, but excessively infectious. Skin manifestations are common—something new in the United States, and they simulate those of scarlet fever, measles and herpes.

10. **Acute Appendicitis.**—The improved operation described by Weir is stated, by him, to be a modified McBurney method. He increases the intramuscular space of McBurney by similarly treating the rectus at this lower level. He was at first hampered by the difficulty of dragging the median edge of the divided fascia of the external oblique sufficiently far inward to expose amply enough the anterior sheath of the rectus muscle. For the past six months the procedure has been simplified and made more desirable by tearing off, with the finger-tips or with the end of a blunt scissors, the already denuded fascia of the external oblique muscle from the sheath of the rectus quite up to the median line, where it is held retracted by an assistant. The anterior sheath of the rectus is now divided transversely in a line continuous with the opening made in the peritoneum by the original muscle separation operation. The outer edge of the external rectus muscle is then lifted up with a director or the end of blunt scissors, and carried by a retractor also to the median line or as near as may be desired. On the thin transversalis fascia, with the peritoneum sheath of the rectus, will be seen the epigastric vessels, which should be seized divided and ligatured and sometimes pulled outward, and the sheath and peritoneum cut in a manner similar to the outer sheath. When blunt retractors are now passed into the peritoneal cavity and the abdominal wall put on the stretch, there is a very [illegible] exposure of the whole pelvis and of the right iliac fossa. He says he has never before been able to command these parts so well until exposed by the incision, and particularly is it so if the gravity action is induced by a sand-bag under the right hip or by a Trendelenburg position judiciously used after the removal of infecting inflammatory fluids. He has used this method in twelve cases with great advantage.

12. **Acute Rheumatism.**—Nelson believes that inflammatory rheumatism is an infectious disease, that its natural history points to this, also its complications, and the treatment found so effective proclaims it. In salicylic acid and its compounds, we have an effective means of combating the disease, but if we expect results we must give it in full doses; only grave albuminuria is a contraindication to its use, and possibly that objection is more fancied than real. No doubt the day is not far distant when the complete etiology of the disease will be known, and perhaps then a better mode of treatment will be evolved. Until then we must hold fast to what we have, knowing full well that the present-day treatment, judged by its effects, holds a distinct supremacy over all its predecessors.

14. **Yellow Fever.**—The continuation of Agramonte's paper includes the results of experiments with heart blood in attempts at infection which failed, and the agglutination tests were also negative except in two or three instances. He finds that the bacillus icteroides is agglutinated or its motility arrested by the serum, not only of yellow fever patients occasionally, but also by that of healthy individuals, non-immunes, as well as by that of typhoid fever and other patients and by the normal serum of some of the lower animals. As a rule it is not affected by the action of yellow fever serum. He also gives experimental investigations as to the immunizing power of the serum of yellow fever convalescents against the bacillus icteroides, which were negative, and the paper concludes with reports of clinical experiments with this serum in yellow fever cases in which it seemed to act as a curative agent. Only four cases were reported that were exclusively treated by this method. In the others where it was used other remedies were also employed.

16. **Clinical Instruction.**—Wentworth describes the method of clinical instruction recommended by him, taking nine students in each section, allowing three of them to diagnose the cases and others to discuss them. The sections rotate so that all have equal opportunity. The suggestions are in brief as follows: 1. The section teaching should be under the control of the professor. This would not require a great expenditure of time if the clerical details were performed for him by an assistant or by a secretary. 2. A list of the diseases which the professor wished to have shown to the students could be prepared, and the instructors could arrange to show these diseases during the year. 3. The instructors could keep a record of the diseases which had been shown and the sections that had seen them. These reports could be sent to the professor every week, and would enable him to arrange the teaching so that all of the students could see the same diseases in the course of the year. 4. An effort should be made to show the students different stages and complications of the same disease. 5. The professor could arrange a series of lectures to supplement the section teaching. These would be delivered before the entire class in the amphitheater and the students would be expected to take careful notes for future study. In a large hospital it would often be possible to find a number of cases in different stages of a given disease. These cases would serve as illustrations and would help to impress a distinct picture of the disease on the students' minds. 6. Patients with chronic diseases often remain in a hospital for several weeks. If a given patient were shown to each section in turn it would be possible for the entire class to see the same one in the course of one rotation. 7. The students should be required to pass both a practical and a written examination in auscultation and percussion at the end of the second year, in order to show that they are competent to begin section work.

18. **Oliver's Hemocytometer.**—Scannell describes Oliver's hemocytometer, which is based on the principle that in drawing out a glass tube the sides of the tube become minutely corrugated in the direction of its axis, as can be seen with a small magnifying glass. When a candle or glass flame is looked at through this tube containing water a transverse line of light is seen consisting of closely packed minute images of the flame produced by these corrugations, each ridge acting as a lens. Oliver discovered that if instead of the water as a refracting medium he employed normal blood diluted with some fixing

fluid, such as Hayem's solution or sodium chlorid, the resulting mixture presented a degree of opacity varying according to the amount of dilution. This opacity shuts off the transverse line of light until, by greater dilution, a further point is attained, when it can be seen faintly as a delicate thread of light running transversely across the tube. Repeated observations by Oliver have shown that the development of this by the dilution of the blood is an extremely delicate index of the number of red corpuscles present. The apparatus is described and illustrated and a table of twenty-seven cases given, with comparisons between the results obtained by this and by the Thoma-Zeiss instrument, showing a remarkable correspondence between the two. In many cases the estimations with the Oliver apparatus were repeated at short intervals, and the two readings were identical every time. The details of the methods are given in full.

20. **Malaria and the Mosquito.**—After a thorough review of the literature, Lyon considers it demonstrated that the inoculation of malaria by mosquitoes is thoroughly proven and can not be further questioned. As to whether it can be communicated otherwise, there still remains doubt, but there is no positive evidence and he does not think it looks probable. He calls attention to the fact that in the pupa state the culex floats flat like the anopheles, a fact not mentioned by Ross. In conclusion he mentions that cases of active malaria may be dangerous in inducing the spread of the disease through the mosquito. There should, therefore, be isolation by mosquito-netting and otherwise.

21. **Surgery of the Brain.**—Crile has studied the effect of increased intracranial pressure, and deduces clinical considerations therefrom. He says that whenever, as the result of a hemorrhage, an abscess, a depressed fracture, or other cause of increased intracranial pressure, the respiration, or the circulation or both are modified by such pressure, it is fair to assume that the brain has been subjected to a compression amounting to about 5 per cent. of its volume. He has seen clinical proofs of the effect of increased intracranial pressure, as striking as the experimental. There is scarcely any mistaking the slow full "pressure" pulse or the active inspiratory phase, and finally the whole respiratory action under pressure. The significance of a rapid pulse alternating with a very slow one at frequent intervals, as indicating the breakdown of the cardiac center, is obvious, and there is scarcely any doubt as to the fatal termination. Experimental and clinical evidence are in accord that the respiratory is more sensitive than the cardiac center, and gives an early indication of pressure. In operating on the brain under such circumstances, Crile usually details an assistant to give artificial respiration in case of sudden respiratory failure during the anesthesia, and he has hot water and ice handy to use for their stimulating effect. He believes the cerebellum is a safe field for exploration, and would not hesitate to operate in any portion of the organ. His method of opening the skull is described. He prefers the chisel for making the openings, and then would use the sharp bone forceps for further work. The hemorrhage from the diploe, while not dangerous, obscures the field and should be avoided. He arrests it by a solution of beeswax and olive-oil pressed on the edges, which is harmless and may remain.

22. **Splenic Extract.**—Carpenter suggests the use of splenic extract in typhoid fever, on account of its power to produce leucocytosis. When he has made the diagnosis, he orders a milk diet, and if the temperature is high, 104 to 105, he orders splenic extract, 4 or 5 grains every three hours for the first twenty-four, and at the end of that time the temperature has dropped to 102 or 103; then he gives the extract in doses of 5 grains three times a day. If the hemoglobin is deficient or the extract does not act promptly, he gives a hematinic three times a day in addition. The temperature will oscillate up and down for a few days, each oscillation bringing it lower until, in from four to seven days, it will be normal and remain there. The period of convalescence will depend entirely on the lesions of the disease before the splenic treatment had begun, and these [illegible] on the [illegible]. It will be reduced to a minimum by continuing the hematinic treatment. After the functional activity of the spleen has been once restored by the destruction of the bacilli and their toxins, it is no longer necessary to give the extract. He thinks this treatment will be applicable in other diseases besides typhoid, especially in those in which leucocytosis is absent or ineffective, such as malarial fever, influenza, measles, rötheln and tuberculosis. He would like to try it also in cerebrospinal meningitis and yellow fever. In one case of the former, it was used with apparently wonderful results, but the treatment was not confined to this remedy.

26. **State Care of Consumptives.**—Nammack's paper reviews the arguments for state care of consumptives, and pleads for it.

27.—This paper was editorially considered in The Journal of February 10, p. 370.

28. **Pleural Friction Sounds.**—After noticing the occasional difficulty in distinguishing the pleural friction sound, Abrams describes three methods which he has used and which he thinks enable one to differentiate it from the endopulmonary sounds. They are: 1, the arm maneuver; 2, the decubital maneuver; 3, pressure on the intercostal space. In the arm maneuver the patient suspends respiration after full inspiration, after ordinary breathing or at the end of expiration. Then the arm on the affected side is raised while in extension, either by the patient, if intelligent, or otherwise by the physician, until it reaches the side of the head. The movement described corresponds to the Sylvester method of artificial respiration. During the time the arm extensions are made, the suspected area is auscultated. By the arm maneuver the movement of the parietal against the visceral pleura is opposite in direction to that occurring during the respiratory act, and for this reason the pleuritic sound may often be elicited after the sound has been exhausted in the ordinary act of breathing. It soon exhausts itself, like the pleuritic friction sound elicited in the conventional way. In obtaining the friction sound after this method, care must be exercised lest the patient breathe. The sound thus obtained can only emanate from the pleura, and this fact alone establishes its value in differential diagnosis. The elicitation of the pleuritic friction sound by this method is less constant than its development by forced inspiration. It is heard most often when respiration is suspended after deep inspiration and least often after forced expiration. In the decubital maneuver the patient lies on the affected side for one or two minutes, then is directed to rise quickly and suspend respiration. Auscultate the affected area, at the same time directing the patient to take a deep breath. If pleuritic friction sounds are present they will be greatly intensified or be made to appear, when not detected in the usual manner. One error is likely to suggest itself by this method, and that is the creation of atelectatic crepitation. In almost any individual such crepitation may be induced by the same maneuver. If, however, the lungs have been fully expanded prior to the execution of the decubital maneuver, and the lateral posture is only of short duration, the danger of misinterpretation will be reduced to a minimum. A little experience soon enables one to pick out the characteristics of atelectatic crepitation and make confusion with pleural sounds impossible. This method is based on the fact that the position adopted by the patient approximates the two layers of the pleura, or, to use a homely though suggestive phrase, sticks one layer of the pleura to the other. As to pressure on the intercostal space, to carry this method out successfully, the arm on the side to be auscultated is first raised; this act materially widens the intercostal spaces. In the intercostal space over the region to be auscultated, we place the buttoned rod of the phonendoscope. Experience has taught him that the phonendoscope is not adapted to this method, for the reason that when the patient is instructed to take a deep breath while pressure is exerted with the rod in the intercostal space, adventitious sounds are created with this instrument, which interfere with correct auscultation. To obviate the latter difficulty, and it is a great one, he uses the buttoned rod of the phonendoscope. The button at the end of the rod may be easily moulded after slight heating in a flame, to make it narrower so that it will easily fit into an intercostal space. The latter fact is of especial importance in the case of children, in whom the intercostal spaces are decidedly less wide than in adults.

29. **Babinski's Sign.**—This sign, which consists of extension of the toes on tickling the plantar surface instead of flexion, is [illegible] clinically important and his ob-

[illegible] the classes of [illegible] and [illegible] that it is [illegible] of [illegible] heads.

34. **An American Need.**—This, according to Spiers, is original [illegible] thought [illegible] dependent on others.

35. **Appendicitis.**—According to [illegible], appendicitis is not [illegible], and exclusively a surgical disease. He thinks that a large number of cases are treated medically without mortality. The indications for surgical intervention are: [illegible] recurrent attacks, symptoms of early rupture of the appendix and escape of the intestinal contents, localized abscess, [illegible] symptoms, marked septicemia with localized [illegible], and frequent recurrence. The operation should be done in the interval.

36. **Physiology.**—In this contribution to his series of articles on physiology, Benedict considers reflexes, the sympathetic system, and the spinal cord.

37. **Hip-Joint Disorders.**—Whitman describes the conditions of fracture of the neck of the femur in early life, separation of the epiphysis and coxa vara. The object of his paper, which is supplementary to others which he has recently published, is to place on record another case of separation of the epiphysis, and to point out the essential difference between this class of cases and those of true fracture of the neck. He calls attention to the fact that depression of the neck of the femur, whether simple or traumatic, predisposes to progressive deformity. He believes in the operative treatment early. The fact that forty-eight cases have come under his observation within a few years seems to him to indicate that this deformity is more common than is generally supposed.

38. **Ureteral and Renal Calculi.**—The examination of the kidneys and ureters by the X-rays is treated by Leonard. He says that tissue differentiation which is required can be obtained by employing a low-vacuum tube, equivalent in resistance to 1½ inches of spark in air. The volume and voltage must be great if rapid exposures are to be made. The routine technique employed by him is as follows: All clothing containing opaque foreign bodies is removed from the area to be examined, and, if the breathing is markedly diaphragmatic in type when in the recumbent position, a binder is applied. The plate, protected from moisture and heat, is placed beneath the patient, supported by a heavy board. The latest practice has been to employ a plate that extends from the last dorsal vertebra to below the pubic arch, and sufficiently wide to cover both lumbar regions. Both kidneys and ureters are then examined at the same time. The tube is placed in the median line, above the third lumbar vertebra, and at such a height that its rays pass through the pelvis and cast a symmetric shadow of the pelvic outlet on the plate below. A grounded screen of sheet aluminum, gold leaf or cardboard is always interposed between the tube and patient.

39. **Intussusception.**—After describing the condition anatomically, and its symptoms, Erdmann describes the treatment. Use of air or water pressure is justifiable in cases of less than twenty-four hours' duration, and this should be tried. Should the conscientious attempt at irrigation fail, he favors operation and, when reduction is not possible and haste not imperative, typical resection with end-to-end anastomosis is preferable. He modifies the methods of Grieg Smith, Barker and others by omitting the row of sutures between intussusceptum and intussuscipiens, bringing the healthy gut through the longitudinal section in intussuscipiens, then tying off the mesentery, and finally he cuts off the intussusceptum, completing the operation according to Maunsell, thereby doing a typical resection with end-to-end anastomosis. The author does not deem shortening or plication of the mesentery necessary, as it seems to him that adhesions form in most of these cases, and thereby obviate the necessity of sutures. He reports nine cases, one recovering by injection and one dying after injection without operation. There were seven operations, with three recoveries, and in only one that died was there, as shown later, any slight chance of recovery; 50 per cent. of recoveries were in infants.

44.—See The Journal of February 10, p. 329.

45.—Ibid., January 6, p. 23.

46.—See abstract in The Journal of January 27, p. 232.

48.—Ibid.

49.—Ibid., p. 233.

50. **Gynecologic Complications of Neurasthenia.**—The following are the deductions of Punton's article: 1. Neurasthenia is a generalized affection of the nervous system, and not confined solely to any particular part of it. 2. Its gynecologic treatment should be governed by the same rules as obtain in other general diseases. 3. For its relief surgery is rarely indicated, and should be resorted to only for the relief of demonstrable lesions. 4. When surgery is clearly indicated and resorted to, this is simply but one step in its curative treatment, and should be followed by such other measures as the case demands. 5. Physicians and surgeons of equal competence in their respective departments are less liable to disagree in its diagnosis than others. 6. Promises to cure neurasthenia by surgical operations are rarely warranted. 7. Gynecologic conditions, when present, are true complications of neurasthenia and not essential parts of its clinical entity.

52.—See abstract in The Journal of Dec. 23, 1899, p. 1615.

53. **Type of Enteric Fever.**—The cases reported by Lerch have the typical lesions of typhoid, but we see some symptoms missing and others present not observed in the disease. Diazo-reaction was absent in the urine, the blood-count showed an enormous leucocytosis and Widal's test gave a positive result. The fever chart did not resemble one of typhoid, not even one of an atypical case. He thinks that the disease was due to a specific cause, probably the colon bacillus rather than that of Eberth, though bacteriologic examination was not complete.

64. **Constitutional and Cutaneous Disorders.**—The general outcome of Carrier's paper is that the various internal and general diseases may have their manifestations on the skin, and their presence must be borne in mind in the study of cutaneous troubles. The skin lesions are not always the same from the same cause; they are produced through the circulatory and nervous systems, and neither in their features nor their location are likely to give any direct indication of their etiology. The search for the latter must be made independently, and is of the utmost importance.

70. **Gastrointestinal Infections in Infants.**—Abt discusses the general subject of gastrointestinal infections, and reports a case in which staphylococci in the alimentary canal caused general septic poisoning and death. He says in conclusion: "The opinion is general among bacteriologists and clinicians that: 1. The acute gastrointestinal disorders of children can not be attributed to a specific form of bacteria. 2. The toxic symptoms of gastrointestinal infection depend upon the introduction into the alimentary canal of poisonous substances which are contained in the food. For example, Vaughan isolated a toxic substance, tyrotoxicon, from milk, which was poisonous for man and animals. 3. Bacteria may be introduced from without, or the ordinary saprophytic bacteria which inhabit the intestinal canal may take on a special virulence. 4. The most severe disturbances are caused by the metabolism of bacteria; these micro-organisms by their activity either produce acids or cause decomposition of albuminoid substances; the products act as powerful irritants to the intestines, and by injuring the intestinal wall gain access to the blood and lymphatics, in this way producing the local and constitutional symptoms. 5. There can be no doubt that specific intestinal infection may occur in infants; the case of sepsis of gastrointestinal origin reported above illustrates this point. Typhoid fever, though not frequent in very young children, may also occur."

71. **Iodoform in Tuberculosis.**—The treatment described by Lusk is the use of iodoform externally in cases of tubercular disease. He applied it generally, in what he calls an iodoform poultice, one ounce of iodoform, and six of vaselin spread on a cloth and secured in position by bandages. He does not report any bad effects from the iodoform. In one case he injected iodoform emulsion into a small abscess cavity with similar good results.

73.—See abstract in The Journal of Nov. 18, 1899, p. 1293.

74. **Curability of Epilepsy.**—Spratling describes the methods applied at Craig Colony, and with care he thinks from 7 to 8 per cent. of all patients can be cured. They are largely hygienic and moral, including abstinence from stimulants and overeating, complete change of life, watching against mental strain, etc. The medical treatment apparently is not neglected, but is not dwelt on in the article.

75.—See abstract in The Journal of February 10, p. 363.

77.—Ibid., February 3, p. 294.

79. **Dietetics of Bread and Butter.**—Hemmeter has investigated the economic side of the bakery business, and finds that a very large percentage of profit exists in the production of bread. The increase in the cost between flour and bread is 116.5 per cent. He asks the consumers to say whether it is not economical to purchase the flour and make the bread at home. The combination of bread and butter is a physiologic one and scientific explanation of the synergistic action of the combination of bread and butter is one of the first steps in scientific dietetics. The bread requires little acid for its digestion, and the fat of the butter, in depressing the acid secretion, favors the transformation of the starch into maltose and dextrose, while at the same time it is a stimulant to the secretion of the pancreas.

84. **Diphtheria and Scarlet Fever.**—From the study of the statistics of diphtheria and scarlet fever, Fulton concludes that at the present time the specific germs of these diseases are greatly attenuated in virulency, the mortality at the present being small. Sooner or later, however, we must expect and be prepared for the return of the mortality of other years.

94.—See abstract in The Journal of Sept. 9, 1899, p. 870.

95.—Ibid., Dec. 2, 1899, p. 1425.

110.—Ibid., June 10, 1899, p. 1322.

111.—Ibid.

113.—Ibid., p. 1257.

114.—Ibid., p. 1256.

115.—This paper, which has appeared previously as an original, was abstracted in The Journal of January 6, ¶ 36, p. 35.

119. **Vibration As an Anesthetic.**—Ward reports the case of a negro who, after a day's labor, sat down to take a rest on the cross-tie on a railroad track. He knew nothing until the next morning when he awoke with the sensation following a natural sleep, but found his left arm had been crushed by a passing train. He was not intoxicated, and the author accounts for it in the vibration of the railroad track on his nerve-centers as a hypnotic and anesthetic. He says that during the past twenty years he has collected a number of similar facts, and wishes to call attention to the value of this method of anesthesia. He believes that it might possibly be utilized in surgery, and it has a certain medicolegal bearing in relation to accidents such as he has described.

129.—This paper has appeared elsewhere, and was abstracted in The Journal of February 10, ¶ 116, p. 358.

130.—See abstract in The Journal of February 17, p. 429.

136. **An Eruptive Plague.**—Coventry refers to a mild form of smallpox now epidemic in some parts of this country, and which has appeared also in Canada where they have apparently the same differences of opinion and diagnosis as elsewhere.

138. **Uterine and Ovarian Displacements.**—The chief subjects discussed by Wiggin are backward uterine displacements—for the relief of which he prefers Mackenrodt's uterine vaginal fixation method, which he describes—ovarian prolapse and procidentia. The object of his paper is, he says, to show that these displacements are largely unnecessary and due to preventable causes. Mothers should be told to instruct their daughters as to the importance of a proper mode of life, of the use of proper clothing, of emptying the bladder at proper intervals, of the danger of falls, and of lifting heavy weights. After parturition we should always at once examine our patients for the purpose of finding out whether or not any local damage has been done, and when any is found it should be at once repaired. We should also encourage them to make haste slowly during convalescence, and not to resume ordinary labors till the pelvic organs and parts have had time to regain their natural size and condition. They should be further advised to return within three months after confinement, in order that a careful local examination of the cervix can be made, and more care should be taken than is often done to sterilize the hands, instruments, vagina and cervix before exploring the uterine cavity. Women should be taught that miscarriages, abortions and venereal disease bring their own penalty, and that they are seldom as well after the occurrence of these mishaps as before; even so, much can be done to limit these troubles and lessen their after-effects by their prompt recognition and intelligent treatment.

139. **Care of the Insane.**—Kenna enumerates the chief points to be kept in mind by those who have charge of the insane, as follows: 1, kindness; 2, firmness; 3, watchfulness; 4, method; 5, individualism; 6, discipline; 7, report to the physician. By method he means a systematic plan of management, modified by the special needs of the case—individualism. By discipline and firmness he means the proper control of the patient's vagaries, through kindness and tact. Regular reports to the physician include all the results of observation that may have a possible bearing on the treatment.

141. **Inguinal Hernia in the Young.**—The associate director of the Yale gymnasium, Dr. Seavers, finds the treatment advisable for inguinal hernia, where operation is not indicated or is unavailable, to be as follows: reduction and retention of the hernia by a suitable truss, preferably the simple steel band with a hollow, rubber pad as the support. The patient is advised to keep quiet one or two weeks, to become accustomed to the pressure, etc. Then he lays out a course of exercises of the abdominal muscles. The exercises are to be taken twice daily, and the severity of the movements is gradually increased by the addition of more complicated ones, as well as by giving more resistance to those that are in themselves simple. Great stress is laid on developing an ability to localize muscular contractions in this region. We ordinarily think of the abdominal muscles as only acting in pairs, and only in a general responsiveness to volitional impulses. What can be accomplished in localizing muscular contractions has been shown to us by the *danse du ventre*. He has seen, among young men, an ability in this respect that was quite astonishing. With an increasing strength of the abdominal muscles, the work is intensified and enlarged in scope, until the most trying gymnastic feats are permitted, such as the lay-out on the horizontal bar, and the back and front lever. The movements that may ordinarily be considered purely abdominal in character, such as lying on the back and raising the legs to a perpendicular position, do not meet the needs of such cases, the work, and consequently the development, falling chiefly on the rectus abdominis, and on the psoas and iliacus muscles. In connection with the development of the abdominal wall, he believes we should lay great stress on that of those muscles that deepen the chest, notably the muscles on the back of the neck and the scaleni group in front. The reason for this is obvious when we consider that there should be an effort made not only to strengthen the abdominal wall, but to relieve the pressure on the lower segment of this wall, and this can be done voluntarily, principally by so changing the contour of the thorax as to enlarge the upper part of the abdominal cavity, of which the thorax is the roof. It is an anatomic fact that cases of inguinal hernia on the average have much less depth of chest than men of the same height and weight who are normal. Having proceeded for a period of two or three months with gymnastic exercise, if the progress of the case has been satisfactory in other respects, he replaces the hard rubber pad by one he has made especially for this purpose. It consists of a piece of hard wood or of vulcanized rubber that varies in diameter from 1¼ to 2¼ inches, and has a pressure surface or face that is essentially flat or slightly concave, the corners only being rounded off so as to prevent chafing or irritation of the skin at the margin. This flat pad has the advantage over anything that may be obtained in the instrument store, namely, that it does not protrude into the inguinal ring in the slightest degree, and thus prevent the natural closure of an opening that is abnormally large, while it does compress the inguinal canal, closing it, and preventing the undue stretching of the abdominal wall at this point with hernial protrusion. It is a support, but not a plug. By this treatment he believes the abdominal hole can be closed by natural processes, and he has had good results in 70 per cent. of the cases. When the closing progresses too slowly, he aids it by vigorous local massage of the region of the ring, by the tips of the fingers, or with a blunt-pointed instrument that can be maintained in one position on the skin while it kneads the deeper tissues, as it were, with the skin itself. This procedure often starts up a cell activity that strengthens the tissues about the ring. In conclusion he says that a surgical operation is the quickest and most effective treatment for severe cases. He would recommend the above gymnastics in recent cases or when the ring is not too much dilated, and whenever surgical treatment is impossible.

[illegible]

154. **Dangers of Modern Surgery.**—[illegible] with all the advances of modern times, still certain dangers, too much reliance on [illegible] at the expense of perception and reasoning faculties, and rash exploratory operations, lack of appreciation of the element of time as affecting results, rush of inexperienced [illegible] into the specialty, and neglect of [illegible]. He [illegible] in [illegible], but thinks it [illegible] when something more is needed than mere technical skill, and even more than knowledge, that [illegible] something not to be acquired.

155. **Regional Minor Surgery.**—In this article Van [illegible] surgical affections of the mouth, pharynx, nose and upper air passages.

156. **Surgical Operations.**—Jackson calls attention to the need of preparation of the patient before operation, the elimination of toxins and building up of the system, the thorough evacuation of the intestines and cleansing of the parts in rectal, anal, vaginal and perineal operations; the use of gastric lavage prior to abdominal operations, attention to temperature and external conditions, such as the prevalence of epidemics; to intercurrent unconnected affections of the patient; to age, pregnancy, alcoholic, drug, and dietetic habits, the condition of the internal organs, etc. All these and many more are matters for the consideration of the surgeon before and after operation.

165.—See abstract in THE JOURNAL of Dec. 2, 1899, p. 1421.

166.—Ibid, p. 1419.

167.—Ibid., p. 1421; see also p. 545, this issue.

169.—This paper has appeared elsewhere; see THE JOURNAL of January 27, title 40, p. 221.

FOREIGN.

British Medical Journal, February 10.

Epidemiology and Prophylaxis of Malaria in the Light of Recent Researches. A. CELLI.—The director of the School of Hygiene, University of Rome, Professor Celli, reviews the modern researches in malaria and gives the latest data and conclusions in regard to it. The theory of its mosquito origin is fully adopted. He believes that it occurs through the penetration of the skin by these animals; the question whether it can be produced otherwise is hardly considered as an open one at the present time. He admits the occurrence of individual, but not of racial, immunity, and he thinks the presence of trees favors instead of prevents malaria, and deforestation would be a good thing in some places where it prevails. Much of the liability depends on the condition of the health, etc., and it may therefore be considered to some extent an avoidable disease. The peasants in Italy are especially liable, owing to their poverty and miserable mode of life. The first prophylactic measure is isolation, and that should be secured by leaving the region where the malaria-producing mosquitoes exist. When a substance is found that will prevent their biting, that can be used. Much risk can be avoided by not sleeping in the open air, not leaving the house between sunrise and sunset, protecting the windows and beds by mosquito-nets and wearing masks or veils. For obtaining artificial immunity much is now hoped from methylene blue, and Celli is now experimenting with it. The local predisposing causes can be removed by drainage and dry cultivation, and he speaks especially against the cultivation of rice in infected regions as particularly favorable to malaria by the dampness required for its growth. Cities can be easily protected, even in a malarious district, also villages, if they are built on elevations. Street paving and attention to proper sewerage gives a perfect security. Improvement of the public health and education will also avail much.

Preventive Inoculations Against Bubonic Plague. A. [illegible] method of producing an antiplague serum, which is as follows: They cultivate the plague bacilli in large glass dishes containing a stratum of common agar agar. After some days' development they scrape, with a bone spatula, the colonies which have formed, and dissolve the mass in a 1 per cent. solution of caustic potash, and then add a very dilute solution of either hydrochloric or acetic acid until a slight acid reaction is introduced, when they collect the precipitate in a filter. After carefully washing, the precipitate itself is dried *in vacuo*, and in the presence of sulphuric acid or else immediately redissolved in a .5 per cent. solution of carbonate of soda. The dried substance, which has lost none of its chemical and biologic properties, is easily redissolved in a solution of carbonate of soda when required. The solution of this substance may also be passed through a Chamberland filter for greater guarantee of sterility. The precipitate is composed solely of a nucleoproteid in a state of relative purity. It possesses all the general reaction of nucleoproteids, is soluble in alkalies, insoluble in dilute acids, gives an insoluble product and a peptone on digestion, and on dissociation by sulphuric acid gives nucleinic bases. It is extremely toxic for several animals, and is able to produce the intravascular coagulation of the blood. The authors claim that experiments have shown the efficiency of the substance thus produced, and they criticize Haffkine's lymph on account of its non-standardization and impurities. They sum up their results in the following: "1. The efficiency of our method of preventive inoculation against the plague by means of the nucleo-proteid extracted by us from the plague bacilli has been proved by the experiments made on animals—rats, rabbits, guinea-pigs, monkeys. 2. The immunizing substance used by us is innocuous in the case of man. No troubles of any kind arise from its use, either local or general. 3. If the cultural liquids used in their entirety possess an immunizing power, they owe their power to the nucleoproteid which they contain and we have isolated. 4. The advantages of using an active substance isolated and pure in place of liquids (cultures) which contain this substance, mixed, however, with heterogenous elements of different kinds are at once evident. 5. The advantages which our method of inoculation possesses in comparison with Haffkine's method are the following: *a.* In using Haffkine's liquid, along with the active substance are injected other toxic substances, which produce a reaction harmful to the organism and useless for producing immunity; with the use of pure nucleoproteid prepared by us, all the reaction produced is specific and useful for the production of immunity. *b.* Haffkine's liquor has a very low toxic and immunizing power since it has to undergo heating so that the active substances contained in the cultures, are, to a certain extent, altered; with our method this does not take place, and the active substance retains its highest immunizing power. *c.* Haffkine's liquid easily becomes contaminated, and there is no guarantee of the sterility of each separate bottle, while the active substance used by us is prepared in thoroughly sterilized conditions, and is perfectly preserved in the dry state. *d.* It is impossible to determine an approximate dose of Haffkine's liquid; the nucleoproteid prepared by us can be administered in perfectly well-defined doses. *e.* By the use of our method the religious feelings of the native population of India are in no way offended."

Undescribed Form of Plague Pneumonia. W. C. HOSSACK.—The author describes a form of plague pneumonia which is quite different from the ordinary pneumonic type of the disease. Its onset is insidious, and the change in five to ten days' symptoms may be very little marked, while the physical signs are hardly recognizable. Speech and intelligence may be unaffected, head symptoms are wanting, and death when it comes is apt to be quite unexpected. The pulse is the most important diagnostic point; it is disproportionately quick and feeble. As a rule there are no enlarged glands unless late in the disease, and every case he has seen or heard of has been fatal. These cases all occurred in connection with plague cases, and their relation to them is, he thinks, indisputable.

The Lancet, February 10.

Consanguineous Marriage and Deaf-Mutism.—ALFRED H. HUTH.—The question of intermarriage of the deaf and its consequences is discussed by Huth, who takes up the statistics of Fay and of various asylums in Great Britain, together with Irish census reports. He does not think that a great proportion of deaf-mutes are born from consanguineous marriage; these are the congenital cases, of course, but they show that where there is a family taint of deaf-mutism, more deaf-mutes are liable to be born where there is double inheritance than where this is not the case. By looking at the percentage—7.46—in the Irish census reports—it would seem that on the whole these marriages produce less than their due proportion.

Further Observations on Pernicious Anemia. Seven Cases: A Chronic Infective Disease: Its Relation to

Infection from the Mouth and Stomach: Suggested Serum Treatment. William Hunter.—Hunter's article is concluded in this issue, after having run through two previous numbers. In the former issues he points out the apparent relation of dental decay to this condition, and here, reviewing the etiology, he insists on this point as far more important than pregnancy, loss of blood, wasting discharge of the mouth, etc., which have heretofore been considered the causes. He defines pernicious anemia as a chronic infective disease. The definition he formulates for the disease is: "Pernicious anemia, a chronic infective disease localized to the alimentary tract; caused by a definite infection of certain parts of the mucosa of the alimentary tract, chiefly of the stomach, occasionally also of the mouth and of the intestine. It is characterized by: 1, intermittent destruction of the blood and increasing anemia (and all other pathologic and clinical changes consecutive to these—e. g., anemia, lemon color, urobilinuria, hemorrhages, dyspnea, palpitation, edema), as the result of absorption of poisons into the blood; 2, periodic disturbance of the alimentary tract, chiefly of the stomach and of the intestine, as local effects of the infection on the alimentary canal; and 3, occasional 'toxemic' attacks characterized by fever, sweatings, general nervous symptoms; not infrequently by effects—e. g., numbness, tingling, ataxia, absence of reflexes—denoting deeper nervous changes, such as peripheral neuritis, sclerosis of the cord." Its origin, he believes, is very largely originally from the mouth, but it is not due to the ordinary organisms of the mouth or of dental decay; the infection is probably of a mixed character. It must remain for further observations to determine the nature of the organs concerned. In prophylactic treatment he considers, first, hygiene of the teeth and mouth, and advises the removal of all decayed or decaying teeth; next he would treat the stomach by washing it out by the use of lavage and local antiseptics. He speaks especially of salicylic acid. Local antisepsis of the intestine should also be employed by the use of salol, naphthol, calomel, or mercuric chlorid, and where symptoms point to the colon or rectum, injections containing salicylic acid may also be used. These measures should not replace but supplement the use of arsenic. In conclusion, he mentions serum treatment, and intends to try antistreptococcus serum for this purpose. The paper concludes with the report of seven cases.

The Clinical Journal (London), February 7.

Nasal Reflex Neuroses. Felix Semon.—After remarking that medical progress never developed except by jumps, and noticing the tendency to enthusiastic advocacy of new theories beyond their value, Semon, considering Hack's doctrine of nasal reflex neuroses, states that he has been quickly cured of his initial enthusiasm by experience in this particular line. He does not condemn the whole doctrine of nasal reflex neuroses as fallacious, but is deeply convinced: 1, that the frequency and importance of the influence of the nasal mucous membrane on the nervous phenomena at distant parts of the body, has been grossly exaggerated by the adherents of the doctrine; 2, that we have no real understanding as yet of the mechanism of these reflex processes; 3, that it is most important to determine whether a neurosis really is of nasal origin or not; and 4, whether in cases in which a nasal origin seems to be a likely one, treatment directed to the nose will benefit the patient. He hopes that more reliable indications may soon be laid down for our procedure in cases where nasal reflexes are concerned, as he thinks the present results are very unsatisfactory.

Dublin Journal of Medical Science, February.

Position of Murphy's Button in Modern Surgery. J. S. McArdle.—The author is a strong advocate of the use of Murphy's button for intestinal resection. While admitting that it is not of universal applicability, he thinks that it has done more to advance this department of surgery than any other method of ancient or modern times. For comparison, he says that in the history of gangrenous hernia prior to this appliance, we find that of 76 patients 41 died. Since the first use of the button up to the year 1895 he has been able to [illegible] the results in 18 operations, and of these only 3 patients [illegible]. The remainder of his paper is given to the reports of cases, illustrated by schematic drawings. The [illegible] is to be continued.

Role of Blood-Supply in Mental Pleasure and Pain. W. R. Dawson.—This address, delivered before the Dublin University Biological Association, is of interest from a medicopsychologic point of view. The author sums up the result of his inquiry in the following: 1. The emotional state produced by brain anemia, when gradual in onset, not too profound, and of some duration, is depression. 2. Anemia of rapid onset and of considerable degree tends to produce convulsions and excitement. 3. The characteristic feature of the general circulation in mental depression is high arterial tension, which helps to maintain, if it does not cause, the painful mental state; but there is no conclusive evidence of the condition of the cerebral circulation. 4. In mental depression the blood is impoverished. 5. Under experimental conditions high oxygen tension in the blood supplied to the nerve-cells produces excessive action and possibly exhilaration, but there is no real evidence that such symptoms are ever due to this cause under ordinary circumstances. 6. The characteristic feature of the general circulation in excitement, and probably in exaltation, is low arterial tension, which helps to maintain, if it does not cause, the mental state. Here again there is no direct evidence of the state of the cerebral circulation.

Bulletin de l'Academie de Medecine (Paris), Jan. 16 and 30.

Combined Action of Creosote and Cacodyl. Barbary.—Cacodylate of creosote or of guaiacol has proved very effective in the experience of the author of this communication, who practices at Nice. It combines the good points of creosote or guaiacol and of cacodylic acid, which has recently been highly recommended. He administers the cacodylate of guaiacol in hypodermic injections of .03 to .05 gm.

Galvanization of the Brain. F. Franck.—Application of the galvanic current to the intact skull affects the cerebral circulation by the intermediation of the vasomotor nerves, Franck asserts. The anemia from the spasm of the vessels produced by the galvanic current explains the functional troubles sometimes noted and counterindicates galvanization in epilepsy or for exploratory purposes, the results not justifying the danger incurred.

Vicious Insertion of the Placenta. Champetier de Ribes and Varnier.—In a careful anatomic study of a fatal case of placenta previa the connecting portion was the thickest and most vascular part of the placenta, and not at all atrophied, contrary to what is generally taught.

Mirror Writing. G. Marinesco.—The phenomenon of mirror writing was very marked in the observation described, made on a young man, with hereditary nervous and psychic troubles. Marinesco attributes it, in this case, to a disturbance in the mental viscera associated with a constant deviation in the direction of the movements necessary in writing.

Diagnosis of Dystocia from Fetal Hydrocephalus. Narich.—In order to avoid unnecessary and injurious obstetric maneuvers, it is important to be able to diagnose at once, fetal hydrocephalus with breech presentation and the head caught. Narich states that the hydrocephalic fetus is often club-footed. Applying the branches of an instrument, forceps or cephalotribe, to the fetal head, shows the abnormal size. Puncture of the spinal cavity will allow the escape of the fluid and thus remove the obstacle to delivery.

Apparatus for Mechanical Traction of the Tongue. J. V. Laborde.—Two mechanical appliances have been devised by Laborde for the purpose of resuscitating persons by rhythmic traction of the tongue. One is run by clock-work; the other is an electric contrivance made to connect with an electric light or power installation, or else supplied with a tiny storage battery. "With these contrivances or by manual traction of the tongue, we have at last an absolutely reliable means of determining whether the subject is actually dead, which has been impossible by any other means, until cadaveric putrefaction actually commences." One of the little traction machines can be applied to the tongue, and if no signs of life are evident after three hours, the subject is dead beyond all question, but to relieve all apprehensions of being buried alive, the apparatus might be kept working all night.

Presse Medicale (Paris), January 20, 31 and February 3.

Torsion in Salpingitis. F. Legueu.—After describing several [illegible] salpingitis [illegible] Legueu states that if the torsion does not become strangulated it will remain [illegible]. If strangulation occurs severe peritoneal accidents follow. If abrupt and complete, the subject suddenly experiences an acute pain like a stab, arresting respiration and threatening syncope. Vomiting follows, the pulse becomes small and rapid. In a case described by Delbet this sudden stab of pain attacked the subject in the street, and continued without intermission until operation. The commencing peritonitis develops very rapidly at the contact of the already septic tumor, deprived of its circulation. Fever is not constant and may be tardy, but knowledge of a genital, past history of similar or less acute attacks, metrorrhagia abruptly substituting the menses, calls attention to the pelvic cavity, and if a tumor has been already noted, the increase in its size will be suggestive. A painful tumor independent of the uterus, its distinctness and fluctuation, will indicate its character. The sensitiveness of the stretched wall of the tumor indicates a twisted cyst or salpingitis, which is more frequent than hitherto supposed.

Working Capacity of Tuberculous Subjects After Three Months in a Sanatorium. G. SERSIRON.—Gebhard is physician in chief to the Hanseatic Sickness and Old Age Company in Germany, which has ten sanatoria in different parts of the country for its tuberculous policy-holders. It sent 2169 tuberculous subjects to these sanatoria between 1893 and 1898, at an expense to the company of 644 marks in 1893; 22,400 in 1894; and increasing from 100,817 in 1895 to 190,699 in 1898. This outlay has been compensated by the working capacity of a large number of subjects after an average of three months in the sanatorium. Out of 1231, 29, or 2.5 per cent., afterward worked over a year; 330, or 2.8 per cent., over one, but less than two years; 306, or 26.7 per cent., over two but less than three years; 165 or 14.4 per cent., over three but less than four years; 17 or 1.4 per cent., over four years. Only 107 or 9.3 per cent. were incapable of returning to work, and received their full indemnity; 190 or 16.6 per cent. died; trace of 87 has been lost. Sersiron quotes these facts, compiled not for the gallery but for the officers of the Hanseatic Company, and asserts that a similar percentage of improvement in the 15,000 tuberculous subjects in France would have resulted in a net gain of over $5,000,000, at present lost in the loss of wages. Of the 2169 policy-holders admitted to the sanatoria, 57 worked in tobacco and 60 in other factories; 96 were small storekeepers; 26 machinists; 31 house painters; 34 tailors; 44 locksmiths; 88 cabinet makers; 427 housemaids; 53 saleswomen; 56 dressmakers; 25 cooks, etc.

Semaine Medicale (Paris), January 31 and February 7.

Malignant Endocarditis in Acute Articular Rheumatism. E. BARIÉ.—An observation is described in which repeated chills and hemorrhages from various mucous membranes and under the skin were the predominant features. Another completed its fatal course in less than two weeks, commencing with acute articular rheumatism for five days, when signs of myocarditis and acute dilatation of the heart appeared, the autopsy showing valvular endocarditis and other changes. Barié analyzes the similar cases on record, especially Litten's, and concludes that there must be several factors in the severe character of malignant endocarditis occurring in acute articular rheumatism. In some cases it is due to acute dilatation of the heart, with insufficiency of the myocardium, developing in the course of the endocarditis. In other cases the malignant character is due to actual rheumatismal toxemia induced by the hypertoxicity of the pathogenic microbes or their toxins, or by secondary infections grafted on the initial endocarditis. The soil is another very important element. In observations cited the patients were alcoholic or debilitated from insufficient food. Two other cases commencing the same, terminated in recovery, the patients comparatively robust.

Histologic Lesions in Hydrophobia and Rabies. VAN GEHUCHTEN.—None of the lesions noted by various authors in hydrophobia and rabies are specific, and none of them deserve the importance ascribed to them by their discoverers, neither Marinesco's chromatolysis, nor Golgi's cellular and nuclear lesions, etc. But Van Gehuchten now announces that he has discovered a specific lesion which is peculiar to rabies, and was constantly found in his innumerable tests during the last two years. This is a profound lesion of the spinal and sympathetic ganglia: a neoformation of tissue, probably formed by proliferation of the endothelial cells of the capsules containing the nerve-cells. It slowly invades these capsules and terminates in the destruction of the nerve-cells. The first stage of this neoformation corresponds to the hyperexcitability of muscles, skin and tendons, observed in the course of rabies infection, while the destruction of the nerve elements corresponds to the stage of anesthesia and paralysis. The latter is not due to any lesion of the motor routes, as physiologic experiences have demonstrated. It is exclusively the consequence of the destruction of the peripheral sensory neurons, that is, it is a reflex paralysis. The rabid animal is only paralyzed because it is insensible. These lesions of the cerebrospinal ganglia are so constant and characteristic that they can serve for the diagnosis. Henceforth it will not be necessary to resort to inoculation to determine whether a dog has rabies. All that will be necessary is to cut out a section of a cerebrospinal ganglion; the ganglion invariably most profoundly affected is the plexiform ganglion of the vagus. These lesions are found in both man and animals, although less pronounced in the former than in dogs, cats and rabbits. Degive adds that out of fifteen dogs brought to the veterinary school, suspected of rabies, eleven communicated it to other animals exposed, exactly according to anticipations, as the characteristic lesions had been noted in these eleven and not in the rest.

Diphtheritic Panaris.—Four instances have been reported lately, in which a panaris contained virulent Loeffler bacilli associated with staphylococci and streptococci. All the subjects were medical men or nurses. The lesions were peculiarly obstinate and only healed when left exposed to the light and air. The editorial comments on the danger of contagion from such cases.

Deutsche Medicinische Wochenschrift (Leipsic), Feb. 1 and 8.

Second Report of the German Malaria Expedition. R. KOCH.—The Dutch East Indies have always had the reputation of being hotbeds of malarial infection, and consequently Koch was surprised to find, when he arrived in Java last September, that very few cases were to be found. In Batavia only thirty came under observation in five weeks, and in other places only a few isolated ones came into the hospitals during his stay on the island. The inhabitants attribute this diminution in the number of cases of malarial infection in late years chiefly to the improved quality of the drinking water, but Koch shows that this can not apply to many places, where the water-supply is still bad. He ascribes it principally to the lavish, gratuitous distribution of quinin by the government, among all classes, especially among the natives, and urgently advises all malarial countries to follow this example and distribute quinin free to all the inhabitants. Over four thousand pounds of quinin have thus been given out annually during the past ten years and innumerable malarial parasites must have been thus destroyed. The second point in the report is the announcement of the complete failure of all attempts to inoculate monkeys, most closely resembling man—orang outangs and *hylobates agilis and syndactylus*—with malarial infection. He concludes, from these failures in monkeys, that it is scarcely possible that other animals—farther removed from man in the animal series—can serve as a host for the malarial plasmodium. "Man is therefore the only bearer of this parasite, a fact which is of great importance in the prophylaxis." The absence of cases of malarial infection, even in places that seemed to offer peculiarly favorable conditions for it, suggested an examination of the children, and the discovery was made that it was endemic to an unexpected extent among the youngest children. Parasites were found in the blood of 9.2 per cent. of 86 children of one village located in a swamp; 16 per cent. under 1 year old. At another village in 141 children the parasites were found in 12 per cent.; 15.5 per cent. under 1 year. In a third village, nearly 4000 feet above the sea, 22.8 per cent. of 189 children examined had the parasites in the blood; 41 per cent. under 1 year old. Koch asserts that in the examination of the children we have an absolutely reliable and rapid means of determining the condition of a populace in respect to malaria. These facts in regard to the endemic character of malaria among children in Java indicate that a certain immunity is acquired later in life, which explains one factor of the comparative rarity of cases among the adults. They also explain why the children of European parents fare so poorly in tropical climates, and impose important prophylactic measures. All these villages were surrounded by rice fields, which seem to afford ideal conditions for the propagation of the anopheles, although the expedition did not succeed in finding the larvæ in them, but noticed that wherever they were most extensive, the anopheles was correspondingly numerous. Five varieties of anopheles were noted, but in none of the anopheles or other insects examined were coccidia found in the stomach, or "sickle germs" (Sichelkeime) in the poison glands. They were entirely absent in the anopheles which had sucked blood containing malarial parasites and especially crescents. Mosquitoes were found everywhere throughout the island, except at Tosari and Poespo, both dry, mountain towns, the former over 5000 feet above the sea, and the latter at one-third this altitude. Eighty-two children were examined at Torsari, without the discovery of a single plasmodium, and 35 at Poespo, with the same result. Imported cases of malarial infection occur there occasionally, and recurrences are noted, showing that altitude in itself has no direct action on the plasmodium. But there were no rice fields, no standing water, no mosquitoes, and no malaria, except the few scattering, imported cases, during the year. The results of the expedition thus far have brilliantly confirmed the mosquito theory: no mosquitoes, no malaria. The only kinds of malarial fever noted throughout the island were the familar quartan (8 per cent.), tertian (45 per cent.), and tropical fever, 47 per cent. Hemoglobinuria was noticed in but one case, evidently induced by a preceding subcutaneous injection of quinin. Koch states that the authorities and people in Java were extremely obliging in assisting in his research. In one place 780 children were brought for his inspection. The expedition sailed for German New Guinea the middle of December.

A Case of Pneumathemia and Gas Bubbles in the Organs. P. BERNHARDT.—An idiot, 54 years of age, who had been for years in an asylum, in fair physical health, was affected one morning with fever, profuse diarrhea, retention of urine, and collapse, with death in forty hours. A bacillus, probably the aerogenes capsulatus, was found in the juices and internal organs—except the lungs—and the phenomenon of gas bubbles noted in the internal organs, especially the hypertrophied liver; no abscess; no gangrene. It was evident that the invasion of the body had occurred from the intestines by way of the outlets of the larger abdominal glands. The porous liver showed, in the hardened preparations, that the holes were filled with a glassy, transparent mass, dry, brittle, and structureless. Eosin and picrofuchsin only imparted a pale suggestion of a tint, but iodin stained it yellow. The special feature of this, and the few similar cases on record, is the formation of an inflammable gas simultaneously with and in focal necrosis in the midst of the parenchyma itself, and at its expense, and not merely in preformed vessels.

Diagnosis of Incipient Tuberculosis from the Sputum. L. BRIEGER.—At the Berlin Institute for Infectious Diseases it is customary to examine the sputa not only for the tubercle bacillus but also for other bacteria, especially those of so-called mixed infection. If no tubercle bacilli are found, the investigation is repeated again and again, and after long intervals. In every case the clinical and bacteriologic findings are carefully compared, as otherwise it is impossible to draw a correct diagnosis. In every dubious case after repeated investigations, the tuberculin test is resorted to finally, and extremely numerous experiences with this measure at the Institute have fully established its harmlessness and its reliability. Brieger reports six typical observations in which no tubercle bacilli were found in the sputa although the clinical evidences of advanced tuberculous infection were unmistakable, with and without mixed infection. Mixed infection or single infection with the influenza bacillus is liable to be unrecognized, and yet serious results might follow if a patient with a simple influenzal catarrh were housed for weeks in a tuberculosis sanatorium, not only to himself from tuberculous contagion, but also to the other inmates from his influenza. Brieger considers subjects with advanced phthisis the chief hosts of the influenza bacillus, which they carry and shelter for years. It is also a question whether the "cured cases" which have been only clinically diagnosed may not occasionally have included patients with pure influenza. In his experience a pure influenzal infection may occur as an obstinate apex catarrh without any of the familiar acute severe phenomena.

Massage Under the Hot Air Douche. A. FREY.—An apparatus is described with which hot or cold air can be applied to any part of the body, through a tube. Frey combines it with massage just outside the douched region, and relates two observations—gout and rheumatism—in which extremely beneficial permanent results were attained with half-hour treatments.

New Stomach Douche. M. EINHORN.—The perforated rubber tip of this sound has a large hole at the rounded point, with an aluminum ball inside, which acts as a valve over the hole, closing it when fluid is entering through the tube from the irrigator, and opening it again when this tube is closed and the outflow tube opened for the escape of the fluid through this hole and the perforations.

Muenchener Medicinische Wochenschrift, Jan. 30 and Feb. 6.

Psychiatry of School Doctor Question. W. WEYGANDT.—This communication is an earnest appeal for special psychiatric and psychologic training in the physicians who have oversight of the schools.

Causes of Death in Case of Extensive Burns and Scalds. E. SCHOLZ.—The theory that toxic chemical substances are formed in the skin and absorbed by the blood after burns is shown to be erroneous by the research reported by Scholz. His experiments establish that the heat affects and alters the red corpuscles, and that death is due to the combined action of the physical and chemical products of the destruction of the blood itself. An extensive burn which would kill the animal if the blood were circulating freely is harmless if the blood has previously been expelled from the part. The extreme seriousness of a burn of the peritoneum is also explained by the hyperemia which follows opening the abdomen, and consequent exposure of larger quantities of the blood to the influence of the burn.

Serious Opium Intoxication of a Ten Weeks' Infant. Revival by Faradization of the Phrenici for Ten Hours. A. MODEL.—The infant was very much debilitated from diarrhea, and a toxic mixture was prescribed, containing a few drops of opium. The attendant gave it contrary to directions, and when Model was summoned the infant was apparently a corpse. All attempts to revive it with artificial respiration failed until faradization of the phrenic nerve induced a slight inspiration. It was applied intermittently and alternately to each phrenic nerve, about fifteen times a minute, and induced an inspiration each time but no spontaneous respiration occurred until after ten hours of this incessant work. Not until after six hours was a faint pulse perceptible vanishing again if the faradization was suspended. The previous atrophied condition of the infant and the diarrhea had imposed the gravest prognosis, but the opium and electricity proved a turning-point, and the child afterward developed into health.

Gelatin to Arrest Cholemic Hemorrhage After Operations on Biliary Passages. H. KEHR.—Three cases of threatening hemorrhage in the course of an operation on the choledochus were promptly arrested after injection of a 2 per cent. solution of gelatin, as recommended by Lancereaux, and although, as Kehr observes, this is too small a number of observations for a definite judgment, they certainly suggest attempting this measure in the failure of others. In one case distressing vomiting of blood was arrested at the same time. In another the hemorrhage from the wound began to subside in ten minutes after the injection.

Reaction of Leucocytes to Tincture of Guaiac. K. BRANDENBURG.—The reaction with tincture of guaiac is a convenient test for pus in filtered urine and other excreta. It also produces a blue stain in diluted filtered blood in case of leukemia. The property of pus to take this stain probably depends on the nucleoproteids, which are active even in extreme dilution. Nucleoproteids derived from the liver, spleen and thymus do not possess this staining property. It is probable, Brandenburg adds, that the reaction is due to the cells of the leucocyte—bone marrow group, and therefore this test may prove useful in differentiating them from organ cells and lymphocytes.

St. Petersburger Medicinische Wochenschrift, January 13.

Pyretic Treatment of Typhus Abdominalis. A. KRAMER.—The higher the fever the more favorable the prognosis, according to Kramer. He believes that fever diminishes the vitality and virulence of the bacilli, increases the resistance of the tissues by augmented leucocytosis and renders the soil [illegible] the [illegible]. He reports 102 cases treated with no attempt to combat the fever, and states that by this means the disease was shortened to two weeks in one-fourth of the cases, with three weeks the average and a four weeks' course in [illegible] case. All the febrile phenomena usually entirely disappear by the seventeenth to nineteenth day, and the convalescence is more rapid. He never gives antipyretics in any case, and never resorts to cold baths except in case of pregnant women, nephrotyphus or threatening collapse. His chief reliance is nourishing, easily digested food, and calomel: 0.3 with mag. sulph., at first; then calomel 0.6 for three days; then calomel 0.03 to 0.02 to the fifteenth day; then substituting naphthalini pur. in case of diarrhea, and salol otherwise, and tannigen 0.2 twice a day, during the fourth week. His mortality has been 6 in 102 patients, including one case of perforation and another of intestinal hemorrhage. The shorter duration of the unchecked fever leaves the patients in better condition than a protracted, attenuated fever, such as follows cold bath treatment.

Societies.

COMING MEETINGS.

American Medical Association, Atlantic City, N. J., June 5-8.

Medical Society of the Missouri Valley, Hamburg, Iowa, March 15.

Medical Association of the District of Columbia, Washington, April 5.

Western Ophthalmological, Otological, Laryngological, and Rhinological Association, St. Louis, April 7-9.

Tennessee State Medical Society, Knoxville, April 10.

Florida State Medical Society, Orlando, April 11.

Mississippi State Medical Association, Meridian, April 11-13.

Medical Society of California, San Francisco, April 14-16.

Medical Association of Alabama, Montgomery, April 17.

South Carolina Medical Association, Charleston, April 18.

Medical Association of Georgia, Atlanta, April 18.

Louisiana State Medical Association, New Orleans, April 19-21.

Medical and Chirurgical Faculty of Maryland, Baltimore, April 24.

Texas State Medical Association, Waco, April 24.

Kewanee Medical Society.—This is the name of a new medical organization at Kewanee, Ill., with the following officers: president, W. H. Cole; vice-president, J. C. Smiley; secretary, W. D. Hohmann.

Italian Congress of Laryngology.—Tuberculosis of the upper air-passages and ear is the subject announced for discussion at the Congress of Laryngology, Otology and Rhinology, to be held at Naples in April.

German Congress of Internal Medicine.—The chief subjects announced for discussion at this Congress, which will meet at Wiesbaden, April 8 to 21, are 1, treatment of pneumonia, and 2, endocarditis and its connection with other diseases.

Chicago Surgical Society.—At a meeting held February 20, the following officers were elected: president, John E. Owens; vice-president, D. A. K. Steele; secretary, D. N. Eisendrath; treasurer, S. C. Plummer; council, J. B. Murphy, E. W. Andrews and L. L. McArthur.

York County Medical Society.—At the recent annual meeting of this Society, held in York, Pa., the following officers were elected: president, Wesley C. Stick, Glenville; first vice-president, A. C. Rice, McSherrystown; second vice-president, R. E. Butz, York; secretary, R. A. Harding, York; treasurer, J. F. Klinedinst, York; censors, A. A. Long of York, J. C. Chaunel of Wrightsville, and W. F. Bacon of York.

Union Medical Association of Northeastern Ohio.—At the quarterly meeting of this Association, held in Akron, Ohio, February 14, the following officers were elected: president, [illegible] New Philadelphia, and Geo. S. Peck of Youngstown; recording secretary, J. H. Seiler, Akron; corresponding secretary, D. S. Bowman, Akron; treasurer, H. H. Jacobs, Akron. The next meeting will be in May, in Canton.

Hampden County Medical Association.—The annual meeting of this Association was held in Springfield, Mass., February 15, and the following officers elected: president, J. M. Fay, Northampton; vice-president, W. R. Weiser; secretary and treasurer, I. R. Calkins; censor, W. A. Smith. Dr. J. W. Hannum, of Ludlow, this being the 20th anniversary of the Association, delivered an address in which he reviewed its history from the time of the organization, with five members, to the present day, when it has forty.

Inland Empire Clinical Society of Spokane.—This society is one recently organized in Spokane, Wash., and including a district having about 250 regular practitioners, i. e., those in the country tributary to Spokane—northern Idaho, western Montana, British Columbia and eastern Washington. The following are the officers: president, James Sutherland; vice-president, W. H. Olds; secretary, R. F. Van Heuson. The society will meet monthly for an evening session, and twice each year for a general day and evening session, except such years as the state medical society may hold its annual meeting in Spokane, which is but once in every three years, when it will hold one general session only, in the fall.

Minnesota Academy of Medicine.

St. Paul, Minn., Feb. 7, 1900.

PERFORATING ULCER OF THE DUODENUM.

Dr. J. E. Moore, Minneapolis, presented specimens with reports of cases. His patient was a farmer, 30 years old, who gave a history, extending over several years, of frequent attacks of severe pain in the abdomen. There was no vomiting and no melena. In short, the only symptom was severe pain, sometimes followed by two or three days of discomfort. The patient was never confined to his bed, and had no fever accompanying or following the attack.

On January 10 Dr. Moore was called in consultation with Dr. Crosby. On the previous day the patient had a fall, followed immediately by excruciating pain in the abdomen. Dr. Moore first saw him about twenty-three hours after the accident, in articulo mortis. A diagnosis of rupture of the bowel was made. The patient died three hours later.

A post-mortem was made the next day, by Dr. Crosby, who found a large quantity of bowel contents in the peritoneal cavity, but no blood. In the upper part of the abdomen were extensive adhesions. He removed the specimens, which consisted of the pylorus and part of the duodenum, with considerable difficulty. In the duodenum just outside the pylorus was a round perforation which looked as if it had been punched out. On the duodenal side the edges were beveled and the hardness extended for some distance in every direction. The ulcer was evidently an old one and the adhesions all about were probably due to Nature's effort to prevent the escape of bowel contents. The fall had evidently caused a separation of adhesions and allowed perforation to take place. Dr. Moore suggested that possibly this kind of ulcer or one in this location might elucidate some cases in which surgeons have operated for hemorrhage of the stomach, and failed to find the source of the hemorrhage, and that in such cases in future it would be well to explore the duodenum.

SUCCESSFUL CASE OF PARTIAL EXCISION OF THE STOMACH.

Dr. Moore's second specimen consisted of about an inch of the upper end of the duodenum and about one-third of the stomach, which he had removed for carcinoma about two weeks previously. The patient was a man of 50 years, a millwright, who had enjoyed good health and had been able to work until about six weeks before the operation. He then consulted Dr. Cockburn, Minneapolis, for what he considered dyspepsia. The Doctor made a diagnosis of dilatation of the stomach due to obstruction, probably from carcinoma. The patient did not vomit, but could not eat much on account of a sense of fulness. He suffered some pain and was rapidly losing flesh and strength. The Doctor discovered a movable tumor just to the right of the right rectus muscle and half way between the ribs and the umbilicus. Dr. J. W. Bell was then called in consultation, and confirmed the diagnosis, and the patient was referred to Dr. Moore, who confirmed the diagnosis and advised operation, because the tumor was small and freely movable and the patient was in good condition. He operated three days after he first saw the patient.

The tumor was easily delivered, through a medium incision, and was quickly and easily removed. It extended some distance along the lesser curvature, necessitating the removal of about one-third of the stomach. Owing to the large amount of tissue removed, the suturing was somewhat difficult and a little tedious, the whole operation requiring two hours and ten minutes. A few mesenteric glands, which were slightly enlarged, were removed. The mucous coats were united by a running catgut suture, the outer coats first by a running silk suture, and finally by interrupted silk ones.

The patient left the operating table with a pulse of 84 and in good condition generally. His convalescence was everything that could be desired. He had a normal temperature all the time, except one afternoon, when it was 99. He never vomited, had very little pain, and complained of nothing but thirst. He was given nothing by the mouth for the first two days, but had frequent enemata of salt water and liquid food. His mouth was frequently swabbed with ice water, which added greatly to his comfort. On the third day he was given hot water by the teaspoonful, and the amount was increased quite rapidly as it was found it did not disturb his stomach. On the sixth day he was given liquid beef peptonoids and peptonized milk by spoonfuls. After the eighth day he was allowed milk quite freely, and on the tenth day he was allowed a soft-boiled egg and soft toast. He left the hospital in two weeks and two days in good condition.

The specimen showed the usual appearance of carcinoma. It projected into the stomach, causing mechanical obstruction of the pylorus. There was some ulceration in the stomach side of the obstruction, and it seems strange that there was no hemorrhage nor vomiting.

TRANSVERSE MYELITIS.

Dr. A. W. Dunning, St. Paul, read a clinical report of two cases. The one of transverse myelitis occurred in a colored man, 20 years of age, of excellent family and personal history. He gradually developed the symptoms of a transverse lesion of the spinal cord at about the level of the fifth dorsal segment, and his condition became progressively worse until, about five weeks from the onset, there was complete inability to walk, slight involvement of the sphincters, and anesthesia of the lower extremities and the trunk to the nipple line. There was then a period of three weeks in which the condition remained unchanged, followed by gradual improvement until six months later, when he was able to walk with the aid of canes; the sensory symptoms were greatly improved, and general nutrition was excellent. At this time, however, he suddenly developed a pneumonia and died ten days later. Within the year prior to the onset of the myelitis, the patient suffered from an attack of gonorrhea which had not been cured. Immediately preceding the onset of the myelitis, the patient stated that for two days he had been engaged in work in which he had been thoroughly wet and cold all day. Formerly this of itself would have been deemed sufficient cause for the lesion in the cord, but in the light of the present teaching of pathology we can not have an inflammation in these parts without infection of some sort. The Doctor therefore expressed the belief that in this instance, as there was no other apparent source of infection, it was due to gonorrheal infection, and that the exposure to wet and cold for a protracted period simply served to favor the introduction and development of the infection in the cord.

HEMORRHAGE INTO THE CERVICAL CORD.

His second case was of this condition, in a laboring man, aged 43 years, of excellent family and personal history and habits. He fell a distance of seven feet, striking on the hard ground, on the back of his neck and shoulders, the head being bent forcibly forward. There was immediate and complete paralysis of all four extremities. Sensation was but slightly impaired, but there was some pain in all the extremities, particularly severe in the arms, i. e., segmental in distribution. An accurate diagnosis was possible in this case only after several days, when motor power began to be rapidly restored, and now, three months after the injury, it is nearly restored in all parts except the left arm. This rapid recovery excludes fracture with bone pressure, and the absence of pain and tenderness along the spine with only slightly disturbed sensory functions rules out meningeal hemorrhage.

Dr. C. Eugene Riggs, St. Paul, referred to a case of transverse myelitis in which the cause was unique. The patient was anemic and suggested a tuberculous quality. The examination of the chest, however, was negative. He presented the peculiar feature of the contraction of the flexor muscles of the legs at night. He grew rapidly worse and the later autopsy showed an abscess in the posterior portion of the right lung, which had destroyed a portion of the bodies of the neighboring vertebræ and had invaded the cord. Dr. Riggs also referred to a case of injury to a child, in whom paralysis from the waist-line down was complete, but entire recovery followed.

Dr. Arnold Schwyzer, St. Paul, referred to the possibility of the gonorrheal causation of the case of myelitis reported by Dr. Dunning. He thought the relationship possible, although nothing was known about the localization of such infections in the cord. He said that there was a surgical interest, in cases of spinal injury, attaching to the interference with the tendon reflex, which was sometimes entirely absent as a result of the impairment of motor action and later was exaggerated.

Dr. F. F. Westbrook, of the State University, said that in view of the many forms of gonorrheal infection its causation of a transverse myelitis was quite possible. Many recent studies have shown the migratory character of the gonococcus. The diplococcus intracellularis meningitidis is not possible of differentiation from the gonococcus at the present time, although no relationship between the two has been established. He did not recall any record of finding the gonococcus in the central nervous system.

Dr. R. O. Beard, Minneapolis, replying to the observation of Dr. Schwyzer, suggested that the "tendon reflex" is not a reflex and has nothing to do with the motor condition of the cord. It is well understood to be a matter of trophism. The trophic functions of the cord are as liable to interference, as a result of injury, as the motor functions, while in the course of recovery from such an injury, it might well be that an exaggeration of this function would obtain.

Dr. C. E. Riggs said that the atrophy of the central neurons, which has been shown to occur, as the result of amputation of a part, such as an arm, is an indirect result of the same trophic relationship which Dr. Beard referred to.

Philadelphia Pathological Society.

Feb. 8, 1900.

HEMORRHAGIC PANCREATITIS.

Dr. F. A. Packard reported a case of this and exhibited the specimen. The patient was a man aged 63 years, who, during the few days in which the acute symptoms developed, had complained of severe pain in the region of the epigastrium. The gall-bladder was not palpable. Marked atheroma of the blood-vessels was present. The illness only lasted a few days, and death occurred rather suddenly. The diagnosis of hemorrhagic pancreatitis was confirmed post-mortem.

HEMATOMYELIA.

Dr. J. Hendrie Lloyd reported a case of this affection in a woman of middle life, who had received an injury to the spine from a fall down stairs, followed by symptoms of injury to the third, fourth, and fifth cervical segments. The patellar reflexes were exaggerated. There was complete paralysis of the respiratory muscles, and the patient died on the ninth day. It was noticed that at one time there was a slight return of sensation—thermal and pain—in one leg. Regarding the etiology of this condition, hematomyelia might result from diseased blood-vessels or from trauma, most frequently from the latter. In this patient there was no alteration in the bony structures of the spine, and the spinal membranes were found intact. At first sight the cord looked normal, but microscopic sections showed that there had been an extravasation of blood into the lateral. In the anterior horns it was found that certain cells had undergone hemochromatolysis.

Dr. Charles W. Burr called attention to a probably inaccurate statement made by one writer in regard to absence of knee-jerk in injuries located above the lumbar enlargement. In the cases of tranverse lesions above the lumbar swelling which had lived beyond a month the knee-jerk had returned.

Dr. [illegible] thought this case might be interesting from a medicolegal aspect, and that many obscure cases of so-called [illegible] resulting from traumatism [illegible] on macroscopic examination [illegible] if examined carefully.

TUBERCULOSIS IN A GOAT.

Drs. M. P. Ravenel and C. Y. White read a paper and exhibited specimens of experimental tuberculosis in a goat.

Dr. Ravenel called attention to the teaching that the goat was absolutely refractory to this disease. In Europe certain cases have, however, been reported as having occurred from housing goats with tuberculous cattle. In the one reported by Dr. White and himself tuberculosis was caused by inoculating a pure culture of bovine tubercle bacilli into the right lung. The goat died during the third week. At the autopsy a general infection was found, as shown by microscopic sections from the liver, lungs and spleen, in all of which the bacilli were found distributed in clumps. The diaphragm was adherent to the liver and also showed tubercle bacilli. He has only seen one other similar case. Dr. C. Y. White spoke of the histology of the diseased structures. The alveoli of the lungs were filled with red cells. No typical tubercle were found. The bacilli were distributed through the tissues. Examination of the part where the injection was made revealed no abnormality.

Dr. A. A. Eshner thought that it might be a question as to whether or not this was a true case of tuberculosis.

Dr. Albert Woldert stated that it might be interesting to know what effect the injection into the lung of a pure culture of human tubercle bacilli would have, since the question had been raised relative to the identity of bovine and human tuberculosis.

Dr. M. P. Ravenel, in closing, stated that injection of tubercle bacilli into the blood of the goat was usually followed by negative results. He was not prepared to give a definite answer relative to the identity of human and bovine tuberculosis.

CALVES AND SYPHILIS.

Dr. M. P. Ravenel read a paper on experimental inoculation of calves with syphilitic virus, and said that from time to time the possibility of transmission of syphilis through cattle was raised by the antivaccinationists. Regarding this question he was prepared to say that such was not true. In his experiments he took two young animals, a heifer eight months and a bull fourteen months of age. Both of these were known to be suffering from tuberculosis, a condition which was said to be more apt to be followed by syphilis in the lower animal. The virus was taken from a mucous patch obtained from a person suffering with syphilis. The heifer was inoculated in the region of the udder, and the bull on the leg. The parts healed rapidly, and the only febrile reaction that occurred followed immediately after the inoculation was done, and might have been caused by the excitement of the animals incident to the inoculation. It is known that excitement among these animals is often followed by a rise of several degrees in the temperature. One animal was killed 54 days after having been inoculated, and the autopsy showed no evidence of syphilis. Examination of the nerve tissue by Weigert, Nissl, Marchi, and by osmic acid methods showed no change whatever. The other animal was killed on the 138th day, and examined similarly to the first one and with the same results, that is no change from the normal and no evidences of syphilis.

MALFORMATION OF LIVER.

Drs. H. D. Jump and J. D. Steele read a paper and presented specimens of thrombosis of the coronary artery, contracted kidneys and malformation of the liver. In the latter the lower tip of the left lobe for a distance of about four inches was folded upward and tightly compressed against the middle portion of this lobe of the liver, a condition which might have been brought about by tight lacing.

Dr. J. D. Steele spoke of the appearance of small crystals about the areas of the thrombus. These looked like particles of ice and might be precursors in the process of an atheromatous condition.

Philadelphia County Medical Society.

Jan. [illegible], 1900.

ANTITOXIN IN TETANUS.

Dr. E. Laplace reported a case of tetanus treated by the subdural injection of antitoxin, with exhibition of the patient, a man aged 30 years who after puncturing his foot with a rusty nail developed tetanus on the tenth day. The wound was allowed to heal. There was complete trismus, pain in the back and difficulty in deglutition. On the sixth day of the disease 20 c.c. of antitoxin serum was injected under the dura after trephining on the left side of the skull. No change in the trismus nor pain occurred. On the eighth day 40 c.c. additional was injected under the dura in the same locality. Violent spasms of opisthotonos occurred every half hour, and lasted from ten to fifteen minutes; these were relieved by inhalations of chloroform. Beginning on the tenth day carbolic acid—5 drops in 15 drops of water—was injected hypodermically every three hours; this was continued during six days, making forty-eight injections altogether.

The symptoms began to gradually abate on the twelfth day of the disease, and the patient sat up on the twenty-first. The opisthotonos became less and less frequent and violent, and the jaws relaxed. The injection of 60 c.c. of antitetanic serum under the dura produced a transitory numbness in the opposite side, and headache, but no permanent after-effect. Neither did the forty-eight hypodermic injections of carbolic acid depress the heart or produce albuminuria. The area of puncture on the sole of the foot was excised at the time of the first subdural injections. The combination of the antitoxin and the carbolic acid injections was resorted to on account of the extreme violence of spasms of opisthotonos. The subdural injection method was practiced instead of the extracerebral, for it allows the injection of a larger amount of antitoxin and is attended with less danger.

Dr. J. H. Musser spoke of a case of tetanus in which antitoxin and carbolic acid had been used, but the patient died.

Dr. A. O. J. Kelly thought that much good might have resulted from the use of carbolic acid.

UNUSUAL SURGICAL CASES.

Dr. Orville Horwitz read a paper giving a brief account of a few surgical cases of unusual interest. The first was one in which peculiar disturbances of circulation occurred in one arm, and it was thought there was obstruction in the region of the subclavian. An exploratory incision was made, the subclavian explored thoroughly, as was also the axillary region, but nothing abnormal was found. The wound was closed and the patient made a rapid recovery from all the disturbances, such as marked numbness of the arm, cyanosis of the part, etc. It was hard to account for such results in these cases.

Another case was one of appendicitis with profuse hemorrhage. In removing the appendix, it was found that a very large blood-vessel had been injured. Not knowing at the time which one it was, the vessel was clamped with forceps and was packed with gauze. The forceps were left on for seven days. Recovery followed.

Another case was one in which the saphenous vein had been opened and in this case the forceps had been left on eight days.

Dr. Horwitz also reported a case in which a man, in endeavoring to prevent conception, had inserted into the urethra a long thread of wax. This had subsequently been drawn into the bladder and a suprapubic cystotomy had been done. With a great deal of effort a large number of particles of wax had been removed.

Camden County Medical Society.

Camden, N. J., Feb. 3, 1900.

TREATMENT OF TYPHOID FEVER.

Prof. James C. Wilson, Philadelphia, read a paper entitled "Ten Years' Experience in the Treatment of Typhoid Fever by Systematic Cold Bathing; the Method of Brand." The paper was the result of the work of several of his clinical assistants, with his co-operation and conclusions. Nearly 8000 patients were treated by him at the Jefferson College Hospital, the German Hospital and others; they were civilians and soldiers. He quoted the results of 33,000 cases recorded by the city of Philadelphia through its health board's reports, showing a mortality of over 14 per cent. The maximum mortality was 19 per cent. These were treated in all ways, with and without cold baths. It is believed that deaths from other causes are reported as typhoid fever, viz., appendicitis, perforation of the bowels, pneumonia, etc. In his work, Dr. Wilson employed the Widal test in many cases, with positive results in 94 and negative in 6 per cent. The diazo reaction was reported in 35 cases, or 67 per cent.; relapse occurred in 11 per cent. Many complications were mentioned. Death was due to infection in a large number of cases. The conclusions were that the treatment by cold bathing does not avert nor diminish the danger of hemorrhage or perforation; does not diminish the danger of complications of the respiratory or circulatory system. Apparently there are more relapses. Albuminuria was found present in a large percentage of cases. Each patient must be closely watched and treated as indications arise. The quantity of alcohol to be given varied. Ammonia, as the carbonate, the aromatic spirit, etc., strychnia, the bromids, etc., were used, as also inhalations of oxygen. Ten per cent. of cases were found to need special medication. The bath was used whenever the temperature rose to 101.4 degrees, rather less than Brand advises. It is repeated say thrice daily. Dr. W., after considerable experience, found this best. The temperature is taken by the axilla or the mouth, preferably the former. Often after it was apparently unnecessary to use the bath, patients asked for it as giving them so much comfort. This was granted, even when the temperature did not appear above the normal. He usually gave three plunges daily, then every second day. In severe cases the patient was lifted into the bath by the attendants, but in milder ones was permitted to walk to it, with the nurse close by his side; he was thus encouraged to help himself. Any contraindication would prevent this. The Professor regretted that a statement had been made in an authoritative manner that this "practice was indefensible, even though no bad results followed." Opinion and authority, which are the strength of the law, are the weakness of medicine, which is an art based on carefully observed facts. The practice of permitting patients to walk to the bath with aid close at hand, the distance being about six meters, has now been practiced at the German hospital for more than three years. The figures of Professor Wilson prove that this practice needs no defense. They constitute the argument from experience. The more striking phenomena in drug treatments, "always inadequate," are the evidences of passive visceral treatments, as bronchitis, bronchopneumonia, and hypostatic congestions. Others are due to the toxins, which are evinced by somnolence, muttering delirium, intestinal paresis, etc. Enforced continuous repose of person from the active pursuits of life has undoubtedly added to the pathologic process a secondary disturbance of nutrition, due to disease of function. The few steps to and from the bath bring rhythmic periods into play, since the bath is given every third hour or thereabouts, and the muscles of the body are thus brought into play without risk or effort; they are made to act. On this point he was especially emphatic.

Philadelphia Obstetrical Society.

Feb. 1, 1900.

EXTRAUTERINE PREGNANCY.

Dr. Charles P. Noble referred to the rather unique experiing a tumor which, originating from the vault of the pharynx and the posterior border of the vomer, had encroached on the tuberosity of the superior maxilla and the soft palate on the left side. The continued febrile temperature, the progressive emaciation of the boy, together with his clubbed finger-tips, suggested the diagnosis of tuberculous granuloma. Hemorrhage close without drainage. His results have been favorable.

Dr. George N. Boyd said that, about one year ago, he had under treatment at one time three cases of extrauterine pregnancy, and for many months afterward did not see a single case. He wished to know the temperature range in the cases operated on by Dr. Noble.

Dr. Wm. E. Parke spoke of one of the patients referred to by Dr. Noble, and stated that she had been readmitted to the Kensington Hospital for Women twice during the same year for extrauterine pregnancy.

Dr. J. G. Clarke spoke of the question of hemorrhage. He believes that, from anatomic considerations, greater hemorrhage will be found in those in whom the rupture occurs at the fimbriated extremity, than when it is a dorsal one, since the blood vessels in the former region are terminal in character. If the rupture occurs near the uterus, the uterine artery or its branches may be affected, and this would also give rise to profound bleeding. He referred to one case reported by one writer in this country in which two lithopedia were found in the same Fallopian tube.

Dr. Wilmer Kruzen spoke of a patient operated on by Dr. E. E. Montgomery, at the Jefferson Medical College, in whom the sac was firmly adherent to the vermiform appendix. In another operated on and the appendage removed, normal pregnancy occurred subsequently.

Dr. C. P. Noble stated that, as a rule, these patients do not have fever after operation. He has in several instances known of normal pregnancy occurring after operation for extrauterine pregnancy.

WHEN DOUCHE THE UTERUS.

Dr. Edward P. Davis read a paper: "When Shall the Uterus Be Douched and How Shall It Be Done?" He believes there are only two conditions which indicate douching after labor, viz.: infection and hemorrhage. As to the production of infection in these cases, it may be brought about by trying to sterilize the instruments in domestic utensils. The passage of a douche-tube through the vaginal canal may also give rise to infection. In this condition the uterus is in a relaxed condition, and the indications are to get rid of the material which brings it about. He has made use of a long curved glass tube with a groove on the convex surface, and with the openings on the sides. Through this some sterile fluid, such as warm normal saline solution was thrown by means of a fountain syringe. The detritus can be removed by a long-handled, dull curette, or by one made in the shape of a Volkmann spoon. The latter he has found very serviceable. In most cases he thought an anesthetic contraindicated. He exhibited a shallow rectal spray to hold the necessary instruments, which could be carried in the bottom of an obstetric bag. One question was whether or not to remove old clots. The former teaching has been that they should be removed. He has limited curettement after labor to the removal of portions of membrane and infected matter. These can be removed by the douche curette as advised. In many cases he believes that an anesthetic will produce profound hemorrhage if the uterus is curetted after labor. After curettement the uterine cavity should be firmly packed with iodoform gauze.

Dr. W. E. Parke spoke of the danger from poisoning in douches of bichlorid. He has seen it occur when the strength was 1 to 2000.

Dr. C. P. Noble said he had seen only one case of bichlorid poisoning and that occurred from a solution of 1 to 1000. In removing detritus he generally uses the finger tip, and as a rule prefers that the patient be anesthetized.

Orleans Parish Medical Society.

New Orleans, La., Jan. 27, 1900.

TUMOR OF PHARYNX.

Dr. Gordon King exhibited a boy, of 12 years, presenting a tumor which, originating from the vault of the pharynx and the posterior border of the vomer, had encroached on the tuberosity of the superior maxilla and the soft palate on the left side. The continued febrile temperature, the progressive emaciation of the boy, together with his clubbed finger-tips, suggested the diagnosis of tuberculous granuloma. Hemorrhage was readily provoked by palpation.

Dr. O. Joachim thought it might be a granuloma of syphilitic origin, and suggested that treatment be given on this theory.

SMALLPOX.

Dr. Isadore Dyer spoke on the diagnosis of smallpox based on the study of the skin lesions.

Dr. Q. Kohnke discussed the prevention under the heads of vaccination, isolation, disinfection.

Dr. L. Sexton went over the treatment of the disease.

Dr. L. G. LeBeuf traced the history of the disease from the earliest times down to the epoch-making discovery of Jenner.

Resolutions were adopted declaring the strong opposition of the members to the Gallinger bill, and urging senators from Louisiana to use their best endeavors to defeat the bill.

THE JOURNAL OF THE
AMERICAN MEDICAL ASSOCIATION.
61 MARKET STREET, - CHICAGO.

SATURDAY, MARCH 3, 1900

VARIATION AMONG PATHOGENIC BACTERIA.

In variations among higher forms of animal and vegetable life morphology is given a prominent part. Slight changes in form are of great importance in the unicellular organisms, and suffice to widely separate individuals; when variations can not be expressed in morphologic terms we resort to functional characteristics; it may be that morphologic distinctions exist that elude observation; it is also possible that environment may change physiologic activities without morphologic alterations.

As pointed out by Theobald Smith,[1] in his paper on "Variation of Pathogenic Bacteria," read at the first meeting of the Society of American Bacteriologists at New Haven, Dec. 27, 1899, the changes in the physiologic actions of bacteria induced by modification of the culture-medium have attracted much attention because of their importance in infectious diseases. Neglect of variability has resulted in the establishment on inadequate grounds of numerous species and, on the other hand, the concession to bacteria of limitless variability tends to reduce the etiologic importance of pathogenic organisms, which then, according to some, become merely the liberating impulse of diseases the essential cause of which is in the individual (Hüppe). The minuteness of bacteria and our ignorance of sexual reproduction, if it exists, prohibit the use of some of the methods used in the study of higher organisms, and Smith, in speaking of the means of inquiry into variability among bacteria, emphasizes that such studies must be comparative and experimental, comparative because a bacterium in becoming parasitic adapts itself to various hosts, and experimental in order to fill the gaps left by observation and to test in a small way the processes and methods of Nature.

The existence of closely related forms is well established. Varieties exist in the following species: bacillus of rabbit septicemia, bacilli of diphtheria, swine-pest, tuberculosis, the pyocyaneus bacillus, the cholera vibrio, etc. The varieties of the bacillus of rabbit septicemia (hemorrhagic septicemia), which causes diseases in many domestic animals, have many common characteristics, such as the short, rod-like form, the small size, and absence of motility as well as common physiologic traits; variability is shown especially by the differences in virulence for the same animal, such as the rabbit, one race being extremely virulent, others producing but local suppuration. In larger animals variation is even more conspicuous; a variety causing disease in swine may be harmless to cattle.

In calling attention to the numerous races of colon bacilli, Smith regards it as probable that in different regions different original stocks of colon bacilli have adopted parasitic existence under similar conditions. He includes, in the colon group, bacillus icteroides.

The bacilli of mammalian tuberculosis manifest at least three types of virulence, high (bovine)) medium (horse), and low (human). These conclusions are based on personal investigations by Smith. Much work remains to be done in this field. The fact that cultures of tubercle bacilli from man but very rarely exhibit the virulence of the bovine form has created the problem whether the bovine bacilli rapidly lose virulence in the human body or whether tuberculosis is not transmitted from cattle to man except in those cases in which the bovine organism is actually found. This is a matter of great practical importance.

Slight variations in both morphologic and physiologic characters are now recognized in the diphtheria bacillus. Evidence is accumulating that different bacilli produce different poisons, the toxins of different bacilli combining chemically with antitoxin according to different formulæ.

A great many experiments have been made to secure artificial modification of bacteria. Beginning with Davaine, the French have been especially active in this line of study. The numerous methods used by Pasteur for modifying virulence will be recalled. By growing tubercle bacilli in collodion sacs inserted into the body of animals, Nocard claims to have given mammalian tubercle bacilli the characters of the avian form; Smith cautions against the utilization of experimental data of this sort by health officers because the success of a single experimenter may result from an unusual combination of circumstances. We should not be in too great a hurry to regard theoretic probabilities as practical ones. The final and rather definite relationship established through continued association of parasite and of host furnishes us with fairly constant types of disease. The physiologic and morphologic differences among bacterial species determine the kind of pathologic process each may start, and there are fixed limitations beyond which a given species can not go. In the case of attenuated cultures it may be possible to bring them back to the original maximum virulence. The increased virulence often secured by repeated passages of bacteria through a series of animals is in many cases an adaptation of the bacteria to the host employed, the bacteria employed being taken from other species.

The evolution of parasitic from saprophytic bacteria is an interesting subject. All pathogenic forms are descended from saprophytes, by complex and variable mechanisms; in the transformation intermediate forms appear, some of which may persist; some functions are gradually lost and new functions of pathogenic power are taken on. Thus the pathogenic varieties of the color groups show loss of fermentative and proteolytic characters. The discovery of acid-proof bacilli in feces of animals and on grasses has given rise to speculation as to the evolution of the tubercle bacillus from these saprophytic forms. Imagination should not be allowed to shorten the time required to evolve the present tubercle bacillus; our knowledge of the complex relationship between host and parasite is as yet entirely too rudimentary to allow any inferences as to the time required for the adaptation of free-living forms. Recent experiments showing the development of pathogenic powers by rapid and successive passages of vulgar saprophytes through animals are highly instructive, and further work should be done along such lines. There must be many adverse conditions to permanent, natural, parasitic adaptation; otherwise new disease germs ought to appear constantly, in view of the enormous number of bacteria everywhere present. Adaptation seems to be reserved for a rather small number endowed with special qualities, such as toxin production and a plastic constitution. By adaptation to various hosts Nature produces many different diseases with few species of bacteria.

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[1] Jour. of the Boston Soc. of Med. Sci., 1900, iv, 95.

ACUTE AND CHRONIC RHEUMATISM IN CHILDHOOD.

Although articular rheumatism is less common in childhood than in later life, its complications are often of great gravity if not of greater frequency, and its clinical features present certain points of difference at the two periods. Some of these and other points of interest are brought out in a study made by Lachmanski[1] of the cases of acute articular rheumatism observed at the Emperor and Empress Frederick Children's Hospital, in Berlin, from August, 1890, to December, 1898, 73 in number, and excluding cases in which the articular lesions appeared as complications of measles, scarlet fever, smallpox, epidemic cerebrospinal meningitis, diphtheria, erysipelas, acute infectious osteomyelitis, and pyemia. There were observed, besides, 23 cases of endocarditis and pericarditis and 13 of chorea in the sequence of polyarthritis.

Girls and boys were attacked in about equal number. Cases occurred in each year between the second and the fourteenth, although they were much more numerous in the latter than in the first half of childhood. Cases were observed in all months of the year, although the greatest number occurred in the autumn months, the next greatest in the winter, the summer, and the spring months successively.

Attempts were not made to isolate a hypothetic, specific etiologic agent. Exposure to cold was stated to be a contributing factor in only 4 cases, and heredity in 5. In 10 there was a hereditary predisposition to tuberculosis, and 2 patients were actually tuberculous. Psychoses were present in the family history in 3 cases, and tabes dorsalis in 2. In 3 a history of preceding sore throat was obtained; in 2 follicular tonsilitis was found, in 11 slight redness of the pharynx, and in 3 tonsillitis in the interval between the disappearance and the recurrence of the articular affection.

In some cases the attack of acute rheumatism set in insidiously, with malaise, languor, impaired appetite, disturbed sleep, and with headache, a sense of weight, sharp pain throughout the whole body. In a few instances bleeding from the nose occurred. In one a punctate eruption was present. The onset was not rarely attended with symptoms of digestive derangement, vomiting, abdominal pain, diarrhea. The symptoms of the prodromal stage sometimes simulated those of typhoid fever. The disease was found distinctly milder, as compared with its occurrence in adults, and marked improvement speedily followed administration of salicylates. In some instances the symptoms of gastro-intestinal derangement were pronounced. The pallor was often striking, and almost constant, even if the nutrition generally was not impaired. This has been thought to be due to destruction of red blood-corpuscles. The tendency to sweating was only observed occasionally.

In one-half of the cases the joints exhibited no external alterations, neither swelling nor redness. Tenderness was, however, generally marked. In the remaining cases appreciable inflammatory manifestations were present, though rarely profound. Redness was observed in 15 cases, articular effusions with fluctuation in 8. The average duration of the articular symptoms was five days. In the majority of cases there was a marked tendency to relapse. In 6 one joint alone was involved. The knee-joint was most commonly attacked, and then the ankle-joint, less commonly the wrist, the shoulder, the hip, the elbow, the vertebral column, the fingers, the toes, the lower jaw, the pelvis, the sternoclavicular and the costosternal articulation. The joints on the right side of the body were more commonly affected than those on the left.

Relapse occurred in seventeen cases, in one for the fourth time. The type of fever was not distinctive. The elevation of temperature was generally not high nor persistent.

In 21 cases the heart remained uninvolved; in 13 slight transitory cardiac disturbance was observed, and in 39, or 53.4 per cent., there occurred distinct endocarditis or endopericarditis—the latter in 14 cases, or 19.1 per cent. In 3 cases the disease of the heart preceded the articular manifestations; in the remaining cases it appeared between the first and the sixteenth day; not rarely it appeared during the second or third relapse. The condition of the heart was quite independent of the severity of the articular involvement. At times the endocardial complication made its advent insidiously, and at other times with most profound constitutional manifestations. Chorea was observed in 7 of the patients while among 55 others with chorea a previous history of rheumatism was obtained in 13. In 4 an alternation of chorea with polyarthritis and endocarditis was observed. Pleurisy was noted in 9, usually in association with pericarditis, and pneumonia in 1. One case was complicated by trigeminal neuralgia, and 2 by sciatic neuralgia. Bronchitis was observed in a few. Catarrhal jaundice

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[1] Archiv f. Kinderheilkunde, Bd. xxxviii, H. 1, 2, p. 104.

[illegible] in 3, and hypostatic jaundice in 1. In 1 [illegible] miliary [illegible] nodules were found on the pericardium.

Among the 78 cases there were 7 deaths, 1 due to associated general tuberculosis, and the remaining 6 to disease of the heart. Salicylic acid in the form of sodium salicylate yielded brilliant therapeutic results, from 15 to 45 grains being given daily in solution, although no preventive or curative effect on the cardiac condition was noted, and no prophylactic influence on the tendency to relapse. An ointment of ichthyol was systematically applied to the affected joints.

In addition to the case of acute articular rheumatism, three cases of chronic rheumatism were observed, and one of rheumatoid arthritis.

THE TREATMENT OF PNEUMONIA.

Pneumonia is one of the most serious diseases with which the physician has to deal, and although its etiology has been established on a substantial basis, and its morbid anatomy and symptomatology are well understood, we are still without a well-defined and generally accepted plan of treatment. This is all the more to be regretted, as the mortality is at times discouragingly high. As the disease is an acute infectious process, with especial localization in the lungs, though attended with constitutional intoxication, and we are as yet without specific remedies, the treatment must be essentially symptomatic, and indications should be met as they arise. It is probably within the bounds of safety to state that the management of the patient is the most important therapeutic measure, including a properly temperatured and well-ventilated room, a comfortable bed, and attentive and intelligent nursing and feeding. Water for drinking purposes should be supplied generously, and the action of the kidneys, skin, and bowels should be maintained for the purposes of assuming vicariously, as fully as possible, the functions of the incapacitated lungs.

As the distinctive lesion is an inflammatory process localized to the lungs, and the constitutional phenomena must be considered as resulting from the absorption of the toxic products of the local lesion, some good may be expected from local applications, and this has been borne out by the results of experience. Dry cupping in the weak, wet cupping or even general bleeding in the stronger, the application of ice-bags in sthenic patients or of hot poultices in asthenic ones, or the application of a cotton jacket, are severally useful measures.

Of drugs, many have been employed, and of the differences of opinion that have existed and still prevail evidence is afforded by a series of communications on the subject of pneumonia in the *Practitioner* for January and February. Sir William Broadbent considers antipyretics, such as antifebrin, antipyrin, and phenacetin, given continuously, as not only useless, but injurious, although he believes that a single dose at the outset may cut short an attack, and an occasional dose early in the disease may relieve headache and secure sleep. Stimulants, he thinks, are rarely necessary, though often useful. They should be reserved, however, until a frequent, small, short, weak or faltering pulse, dry tongue, restlessness or delirium indicates their use. Morphin may be given hypodermically when sleeplessness is persistent and distressing, and particularly if delirium be present. "In a large proportion of cases it can not be said that the regular administration of medicines of any kind is necessary." Inhalation of oxygen is credited with striking, though usually fugitive, apparent benefit in the presence of lividity of the countenance and blueness of the lips, and it is thought possible that, with strychnin and stimulants, it may carry a patient through a dangerous stage of the disease. Sir William Gardiner expresses the opinion that every kind of active treatment in pneumonia, followed as a routine, is bad in principle, and that the true treatment consists in the adoption of means for temporary relief. He considers opium a dangerous remedy in pneumonia, and especially so, even in moderate doses, at about the period when the crisis may be expected. Sir Samuel Wilks also has no word of commendation for the use of antipyretics, nor for that of digitalis to slow the action of the heart. Antimony, in the form of tartar emetic, he has used constantly for many years, but of opium he speaks in terms of highest praise. His favorite treatment consists in the administration of a saline and of 5 grains of Dover's powder every four hours, with ammonium carbonate when bronchial complications are present. Sir Hermann Weber cites the results of the employment, successively, of bleeding and potassium nitrate, with or without small doses of antimony; of large doses of quinin; of sodium salicylate; and of nursing alone; but the results differed so little as not to permit a decision that any one plan was superior to the other.

THE ANTIVIVISECTION BILL.

The Committee of the District of Columbia heard arguments for and against the Antivivisection bill on Wednesday, February 21. Among the physicians present to speak against the measure were W. W. Keen, Hobart A. Hare, Wm. Osler, Mary Putnam Jacobi, Howard Kelly, Bowditch and Surgeon-General Sternberg. Strong arguments were made against the bill, and, it is to be hoped, with success so far as convincing the Committee of the inadvisability of such legislation is concerned. We understand that similar legislation is being attempted by the antivivisectionists in Massachusetts, and possibly in other states, and it would be advisable for the profession in each to be on the alert. Those who have fought the proposed legislation in Washington deserve the thanks of the profession, for the work done by these gentlemen has not been without considerable self-sacrifice on their part.

FOOD ADULTERATION.

During the year 1898 the State Board of Health of Massachusetts, as shown in its report, made a large number of analyses of foods, some of the results of which are of interest. It found that the use of antiseptics in milk is decidedly on the increase, weak solutions of formaldehyde being apparently the favorite. In one sample of the antiseptic used the directions given would make a proportion of 1 to 22000 of formaldehyde in milk, which, while perhaps not actively toxic, is decidedly open to the suspicion of being unwholesome—1 to 50,000 is the proportion suggested as proper or safe by Rideal, who rather defends the use of such preservatives. If this is done in Massachusetts, other states less well defended by state boards of health will not be likely to suffer any less. Of other food articles, the official analyst found adulteration most frequently in vinegar (53.2 per cent.), chocolate (47.2 per cent.), condensed milks (37.5 per cent.), canned goods (37.6 per cent.), and certain spices. It would be a safeguard well worth the expense if similar work was done in all the states, and it is reasonably certain that a worse condition of affairs would be found in many of them.

ACUTE NONSYPHILITIC MALIGNANT PEMPHIGUS OF THE NEWBORN.

Bloch[1] reports a group of cases of acute non-syphilitic pemphigus of the newborn, and expresses the opinion that this disease may appear in two forms, a benign and a malignant. The latter variety, which terminates fatally in the majority of cases, depends on septicemic infection, the streptococcus pyogenes being the exciting factor, although the portal of infection is not obvious. From a differential diagnostic point of view extensive scalds, foliaceous pemphigus and exfoliative dermatitis must be taken into consideration. Many cases of malignant pemphigus are erroneously described as instances of foliaceous pemphigus. Many cases of so-called exfoliative dermatitis are really instances of acute malignant pemphigus of the newborn. Pemphigus can by no means be considered as one of the innocent diseases of infancy. Its great transmissibility, particularly through midwives, should require legal notification. In treatment, ointments—1 per cent. salicylated ointment—may be employed in the benign cases. In the malignant cases recovery has followed only the combined employment of decoctions of oak-bark and drying powders—zinc and talcum.

CURABILITY OF GONORRHEA.

At the last meeting of the American Medical Association a committee was appointed, by the Section on State Medicine, to investigate and report on the question of the curability of gonorrhea and the best methods of treatment, etc. The Committee, of which Dr. L. B. Tuckerman of Cleveland is chairman, has sent out circulars to specialists in genito-urinary diseases and others asking their opinions on the various questions relative to the subject, the curability of gonorrhea, the safety of marriage after having had this disease, the methods of treatment and tests of recovery. The replies to these questions, which are so framed as to cover the subject thoroughly, will, it is hoped, be full and exhaustive, so that there can be deduced from them the most authoritative body of doctrine, so to speak, in regard to these important questions. Their importance, when one considers the effects now attributed to gonorrhea, and their social as well as medical bearings can hardly be overestimated. A full report on this subject, which we trust will result from the inquiry, will be one of the important contributions at the coming meeting of the Association.

GONORRHEA AND DRUNKENNESS.

A correspondent of the *Medical Press and Circular*[1] claims that a lively attack of gonorrhea is one of the best cures for habitual excessive indulgence in alcoholic liquors. The writer says he has seen a number of cases "in which the drunkard's progress has been summarily checked by an intercurrent attack of gonorrhea, with the most satisfactory results in respect to his after-life," and he suggests this as a treatment in refractory cases in lieu of the inebriate asylum. The naïveté of this proposition is amusing, presuming, as is natural, that the writer means to suggest the application of the remedy in the usual way. It is not difficult to imagine that a very decided irritation after the manner mentioned might have a pronounced moral effect on some individuals, but there have been enough cases, in the experience of physicians, that show the uselessness of any general adoption of such a remedy. The moral effect might easily be produced by the use of less immoral measures, judiciously employed, were there any prospect of benefit from them. The notion of any specific effect of the specific disease will hardly hold, but the suggestion is noteworthy for its absurdity, if nothing more.

A RURAL EPIDEMIC OUTBREAK OF TUBERCULOSIS.

On account of the simplicity of the conditions in rural communities, the spread of infectious diseases is more readily followed in the country than in the cities. Ricochon[2] had occasion to observe, in his own practice in the country, a small focus of tuberculosis that appeared in the family of a farmer and spread to several persons in close relation with the affected family. The father and three daughters succumbed to pulmonary tuberculosis. Two neighbor women, one an aunt of the girls, also became tuberculous and died. These two women visited the patients frequently during their illness. Five deaths from tuberculosis then occurred in the family of the aunt and the son of the other neighbor woman also acquired tuberculosis of the lungs. Ricochon would explain the more than usually energetic tuberculosis witnessed on the score of an exalted virulence of the tubercle bacillus. The presence of conditions that especially favor infection is not wholly excluded, however. As emphasized by Ricochon, it is the duty of the practitioner to strongly advise those that seem predisposed to the disease to keep entirely away from cases of tuberculosis or, when that is not feasible, to use all possible means of defense, such as separate bed-rooms, disinfection of the nasopharynx, much out-door life, etc.

FLEAS AND PLAGUE TRANSMISSION.

The latest Public Health Reports of the U. S. Marine-Hospital Service contain a translation of an article by Dr. Bruno Galli-Valerio, from the *Centralblatt fur Bacteriologie*, in which the author combats the views that the plague can be communicated to the human species through the intermediary of fleas. It is well known that the common human flea of Europe (Pulex irritans) is largely replaced in this country by the dog and cat fleas, which are also inclined to bite man, though perhaps not so persistently dwellers on his person. *A priori* it would seem possible that the rat and mice flea might also be a human pest, but according to Dr Galli Valerio this is not the case. He is as vulnerable to flea bites as others, but the rat flea immedately deserts him when placed on his body, and he is convinced that man is not at all to its taste. This is a comforting conclusion, as it is not always possible to avoid fleas, and if they were able to communicate the plague the difficulties of the problem of its isolation would be seriously enhanced. That he is correct is the more probable from the fact that these difficulties have not been so generally realized. If plague, however, is transmissble through cats and dogs, there is not the same security from their parasites, and that is a matter for serious consideration if there is any positive evidence of their carrying the disease. The mousing and ratting propensities of cats and dogs would make them especially liable to infection if they are subject to it, and their domesticity and docility would materially increase the danger. The fact that this particular peril has not been emphasized in the reports from the plague centers is a good indication as far as it goes, but it would be more satisfactory could we know that it has absolutely no existence.

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[1] Archiv f. Kinderheilkunde, Bd. xxviii, H. 1, 2, p. 61.

[1] Feb. 10, 1900.

[2] Rev. d'Hyg. 1899, xx, 129.

THE CULTIVATION OF THE TYPHOID BACILLUS FROM ROSE SPOTS.

Recent researches show that the roseola of typhoid fever is of a specific character and can be distinguished from other forms of roseola by bacteriologic examination. Thus Neufeld[1] grew the typhoid bacillus from rose spots in 3 out of 14 cases. He diluted the blood with a rather large amount of bouillon, otherwise the bacteria would have been destroyed by the bactericidal action of the serum. In 7 of 8 cases, the existence of typhoid was diagnosed from cultures from rose spots, on an average of six days before Widal's reaction could be obtained. Curschmann obtained cultures of typhoid bacilli from rose spots in 14 out of 20 cases. Mark W. Richardson[2] isolated typhoid bacilli from rose spots in 5 of 6 cases, the diagnosis thus made from the spots exceeded in quickness Widal's test by six days, on an average. At the same time as the rose spot thus acquires a specific character, it also furnishes another method of diagnosis of the disease; if utilized early this new method may prove of decided value on account of its nature when cultures are obtained. There is room here for good work by examination of the rose spots in large series of cases.

SOME COMPLICATIONS OF EPILEPSY.

The dangers and accidents of the epileptic attack are by no means inconsiderable, and they have been directly responsible for death in not an insignificant number of cases. The fall consequent on loss of consciousness may result in fractures of bones, in severe contusions, in burns, in drowning, and in other serious injuries from moving machinery or vehicles. The violence of the muscular spasm may cause acute dilatation of the heart, rupture of an aneurysm or of the heart, or of other muscular structures, as the diaphragm, or of the liver, extreme cyanosis, or even asphyxia, luxation of the lower jaw and other bones, severe laceration of the tongue, lips and cheeks, and rarely fracture and hernia. Some of these are favored by preceding morbid conditions of the part affected, acquired or congenital. To these untoward results of the epileptic muscular spasm Féré[1] adds another, namely, muscular hernia, and he reports a typical case in which symmetrical tumors as large as almonds appeared on the antero-external aspect of the legs in the sequence of an epileptic attack. These were found to consist of muscular tissues that had escaped through openings in the aponeurotic structures. Voluntary movement and attempts at reduction were painful, and the latter could be effected only when the patient was placed in the recumbent posture, with relaxation of the muscles. Further investigation disclosed the presence of a similar condition in other epileptics. On examination of 204 insane patients, muscular hernia was found in 31—15.25 per cent. The peculiarity is generally unattended with symptoms.

DEATH OF KEELEY.

One of the most striking physiologic phenomena of the last decade of the nineteenth century has been the rise and culmination of the Keeley gold cure for inebriety. Started in a small way, but nursed with care by energetic and capable business promoters, and especially built up by a quasi-hypnotic propaganda, it has been one of the great financial successes of the day. The death, just announced, of its originator, in Los Angeles, recalls the days when his name filled the papers and the little town of Dwight, Ill., was the Mecca of the "jagridden," where the "shots" and the "dope" were the chief regulators and events of life. The craze, for such it was, has long passed its meridian altitude, but the original gold cure is still fostered as a business enterprise, though its numerous offshoots and branches have largely disappeared. That it did some good need not be denied; the moral effect of association and of mutual helpfulness was utilized to the utmost limit and the wholesale medication with strychnia and other tonics, with a little apomorphia or other nauseant now and then, aided to some extent. Some few undoubtedly made a start toward a permanent cure, but relapses were far more frequent. If it is true, as reported, that the late Dr. Keeley was a convert to "Christian Science," and was accustomed to advise his patients to resort to it after leaving him, his mental idiosyncrasies must have been very pronounced. It is hard to see how he could have consistently believed in "Christian Science" and in his material medication at the same time, though he might from his experiences with alcoholism have come to adopt the Eddyite doctrine that disease is simply sin. At any rate, his financial success was great, and he will probably be quoted for a time as one of the world's successful men. His career is of interest here only as it is associated with the so-called cure that bears his name, and its associated phenomena.

PERSONAL INJURY LITIGATION.

This form of litigation has grown to enormous proportions in the United States, and especially so in our larger cities. It is stated, by those conversant with the matter, that a very large proportion of the suits brought in the city of Chicago grow out of personal injuries. This class of litigation does not form a majority of the suits brought, but it is said that more than one-half of the time of the courts is devoted to the trial of these cases. Almost every case of this kind involves an extended legal struggle. The questions of the liability of the employer, of negligence of the employee, or the possible contributory negligence of a fellow-servant, as well as the nature and extent of the injuries, furnish a subject for controversy. The burden on manufacturers, of defending this class of litigation, has become so great that the majority of them have joined the various casualty companies, which insure against losses of this character, up to a certain amount. The casualty companies have well-organized claim departments with which they are prepared to contest this class of cases to the limit. The expense for legal fees and employment of lawyers is very great, both for the plaintiff and defendant. The former, if he recovers, finds the greater portion that he has received going for this purpose. The evils of this sort of litigation some years ago reached such proportions that England passed what was known as the "Workman's Compensation Act." This recognizes what is known as "inevitable accident." By this is understood that certain employments are hazardous, and a certain liability attaches to the employer, which is limited by the extent and duration of the injury and also by the amount of wages that the man receives. That some such act is needed in this country is apparent, if the number of courts is to be kept within reasonable limits. A modification and limitation of the laws relating to employers' liability and to those concerning common carriers would be in favor of both plaintiff and defendant in such cases. It would secure to injured persons a sum usually in excess of what is now obtained after prolonged and vexatious litigation, and would relieve employers and common carriers of an expensive burden.

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[1] Zeit. f. Hyg. u. Infektionskr., 1899, xxx.

[2] Jour. Boston Society of Med. Sciences, 1900, iv, 110.

[1] Revue de Chirurgie, January 10, p. 50.

CLUB PRACTICE AND THE REMEDY.

The "battle of the clubs" is begun in at least one Eastern point, the Springfield (Mass.) physicians having rebelled against being utilized to their disadvantage and having agreed to do no more benefit society business. The local benefit societies are employing the usual epithets and accusations, and talk of a "doctors' trust" and the "injustice to the poor" that will result from such action. It is proposed to boycott the local profession and call in outsiders, and talk of "punishing the doctors" is indulged in by correspondents of the local press. The societies claim that they can import doctors from the outside if the resident physicians refuse to serve them, and that they are already receiving offers of services. They also claim that they furnish young physicians with their start in practice, and while these say they are underpaid and that the work is too much for the remuneration, there is never any lack of candidates for the position of society physician. All this shows the necessity of more thorough and general organization of the medical profession. It is evident enough that mere local efforts alone will not suffice; physicians throughout the state will have to co-operate. If they do, their victory in the end is assured, there are few who would care to be permanently condemned to the work and pay of a benefit society or club physician as things are at present, and a co-operation of all physicians loyal to each other and the honor of the profession would in a perfectly legitimate way discourage those who might try to shove themselves into a practice at the expense of their professional brethren. In time also even benefit society subscribers would appreciate the fact that they were the losers in the game. The need of associated action in Massachusetts is probably the greater, as there have been steps taken there, it is said, to exploit our profession in a wholesale way, as already noticed in The Journal. It is to be hoped that anything of the kind, wherever it may be, will be speedily "nipped in the bud."

RELATIVE CHARACTERISTICS OF THE AORTIC AND PULMONARY SECOND SOUNDS.

Those physicians who are at all skilful in methods of physical diagnosis are wont, whenever they come to a case of cardiac or pulmonary disease requiring examination, to listen carefully at the second right costal cartilage for the purpose of determining the character of what is known as the aortic second sound, and in conditions of cardiac and pulmonary diseases which interfere with the circulation between the right and left heart, they are in the habit of studying the quality of the pulmonary second sound, for which they usually listen at the second left costal cartilage. As a matter of fact, the pulmonary second sound is usually better heard in the neighborhood of the third left costal cartilage than the second, although, on the other hand, the aortic sound is usually best heard at the second right costal cartilage. This fact is largely dependent on the relative position of the valves and vessels to the anterior chest wall.

Some weeks ago, at a meeting of the Section of Medicine of the College of Physicians of Philadelphia, the question was brought up by Dr. Stengel, as to whether the pulmonary sound was not, in health, more distinct and accentuated than the aortic second sound. In the discussion which followed his remarks, the physicians who spoke, with singular unanimity, expressed their personal belief that in health the aortic sound was usually most clearly heard, and while a distinction must be made between loudness and accentuation, it seemed to be the universal opinion that both of these characteristics were not marked over the aortic area. Our attention has, once more, been called to this matter, by a recent paper on the "Relative Intensity of the Second Sound at the Base of the Heart."[1] After reading this, we confess we feel very much at sea because, while it begins by quoting many authors who believe that the aortic sound is louder than the pulmonary, it then cites a number of cases which would seem to prove that the pulmonary sound is really the loudest, and finally ends with the conclusion that in health the aortic sound is usually heard most clearly, although in children it is almost always the case that the pulmonary sound can be heard better than the aortic. Of course, in the presence of arteriosclerotic changes in the blood-vessels, with an increase in the arterial tension, whether these changes are due to advanced years, or to early degenerative alterations, the aortic sound becomes distinctly more marked if there is a condition of heightened arterial tension.

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[1] Med. Record, N. Y., January 13; The Journal, January 27, p. 225.

IS IT THE PLAGUE?

"Is the Plague in England?" is the rather striking caption of an editorial paragraph in one of our British contemporaries. It appears that six or eight months ago a disease, presumably new, made its appearance in one of the leading seaports, Southampton, among the dogs, and was so fatal and infectious that in a short time the town was nearly cleared of its canine population. From this source the disorder has since spread to many other parts of England, and veterinary surgeons are everywhere on the alert in regard to its occurrence. The symptoms are not described, but the fatality, infectiousness and its apparent introduction into the country by way of one of the great seaports have suggested to a correspondent the query that heads the article. So far as reported the disorder has been confined to dogs, and it would be interesting to know if it is the dog plague that has been described in Austria as closely resembling the disease of mankind. Our contemporary discredits its identity with the genuine bubonic plague, as it thinks that if it were the same it would have been communicated to man before this. The writer says: "It would be of interest to learn from the veterinary profession what are the facts about this canine zymotic, and whether any scientific investigation has been made as to its nature, both clinically and bacteriologically." We know that rats are the carriers of the pestilence, and that monkeys are very sensitive to it, but we have not as yet as full information in regard to some of our other domestic parasites and pets.

INTERMITTENT CLAUDICATION.

This portentous name was originally devised for a condition observed in apparently healthy horses, and characterized by interference with locomotion after a period of activity, in association with pain, tremor, and excessive perspiration. The symptoms disappear after a period of rest, but recur under the conditions named. The disorder was found to depend on obstruction of the blood-vessels supplying the affected members. Subsequently a similar disturbance was found in man, and it presented the same pathologic lesions. It is, however, not confined to the hind legs in horses, or the inferior extremities in man. On post-mortem examination arteriosclerosis seems to be the essential underlying factor, and the etiologic elements include all of those influences capable of causing degenerative changes in the blood-vessels. The disorder must be differentiated from sciatic neuritis, alcoholic neuritis, tabes dorsalis, multiple sclerosis, rheumatism, and Raynaud's disease. To the small number of cases recorded Grassman[1] adds the report of another occurring in a man 60 years old, with a history of syphilis and of venereal and alcoholic excess, and of excessive use of tobacco, and who besides rode horse-back considerably. The symptoms consisted in severe pain in the legs, disappearing during rest, and associated with paresthesia, circulatory disturbances in the peripheral vessels, slight trophic changes, marked arteriosclerosis, following thrombosis of the left leg. A year and a half previously there had been a transitory attack of pain in the left side, of undetermined origin, followed by swelling of the knee, and repeated after an interval of several months. At one time it was thought that amputation would be necessary, but under treatment with rest, elevation, and moist applications, improvement took place. About one year after the appearance of the difficulty on the left side, a similar condition manifested itself on the right side. Potassium iodid was now administered and electric applications made, again with improvement. Inasmuch as the disorder does not invariably cause lameness or limping, Grassmann suggests the substitution, for "intermittent claudication," of the designation "intermittent arteriosclerotic muscular paralysis."

CARE OF THE INSANE AND THE EPILEPTIC ON COLONY FARMS.

Insanity and epilepsy represent two forms of disease in the treatment of which permanent and assured success can not always be obtained from the mere administration of drugs. In both there is often an obstinate tendency to chronicity, or to recurrence, incapacitating the patient from the pursuit of his usual or of any responsible avocation. There is perhaps no more healthful stimulus than judicious mental and physical activity for both the well and the sick, and there can be no doubt that a great advance will have been made when dependents of all classes are given opportunity for the exercise of their several faculties. This mode of procedure has not alone an important therapeutic value, but also a not inconsiderable and direct economic one. The best results from the application of this principle have thus far been obtained in the treatment of the insane and the epileptic, and it is worthy of adoption on a larger scale and for other conditions as well. In a recent communication on the colony system of caring for the insane, Ostrander[1] gives an interesting account of the operations of the plan at the Michigan Asylum for the Insane for a period of thirteen years. A tract of land of 256 acres, about 2½ miles from the main building, was first secured for the purposes of a dairy farm, and a cottage constructed for the accommodation of 45 male patients and the necessary assistants. After a time, a second tract of land of 357 acres was secured, and on this there have been erected three houses for women with a capacity of 35, 75, and 81 patients respectively; one tract for one with a capacity of 72, and a physician's residence. The women are occupied in dressmaking, cultivating flowers and picking fruit and vegetables, the men in raising stock, poultry, vegetables, general farm products, fruits and celery. As a result of observation of the work during a period of six years, Ostrander has reached the conclusion that the colony system offers an economic and ready method of extending the old and constructing new asylums. Its cottage features offer a home for all who can appreciate it, including about 50 or 60 per cent. of the entire asylum population. The industrial features of the system offer occupations that are healthful to the body, stimulating to the mind and so remunerative as to materially reduce the expense of maintenance. It is adapted to the disturbed as well as to the quiet cases. It offers a rational plan for the treatment of the able-bodied epileptic insane. The feasibility of the plan of self-government of 25 or 30 per cent. of the asylum population offers sufficient promise to warrant its trial. The capacity of each cottage should be limited to twenty patients. Any excess of this number tends to destroy the home feeling and to breed discontent. The dormitory plan of constructing cottages is pernicious and should be abandoned. It is preferable to have the entire institution on one tract of land, which should consist of not less than an acre to each patient. It is impracticable to operate a colony at a greater distance than three miles from the parent institution.

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[1] Deutsches Archiv f. Klin. Med., 1899, Bd lxvii, p. 500.

[1] American Journal of Insanity, lvi, 3, p. 443.

Medical News.

FIRE RECENTLY destroyed the industrial building of the hospital for the insane, at Mt. Pleasant, Iowa.

COMMENCEMENT exercises of Central Tennessee College, Nashville, were held February 21, with thirty-eight graduates from the medical department.

WARRANTS are reported to have been issued for the arrest of a number of Denver physicians, for failing to report births in accordance with the city ordinance.

THE REPORT of the superintendent of schools, Terre Haute, Ind., shows that 835 pupils have been excluded on account of non-compliance with the vaccination order.

ACCORDING to the *British Medical Journal,* Dr. Lennox Browne has resigned from the active staff of the Central London Throat and Ear Hospital, and has accepted a position on the consulting staff of that institution.

THE FRIENDS of Prof. O. Petersen presented him with 500 roubles on his silver professional anniversary recently. He added 1500 roubles to this sum and gave it for support of physicians coming to St. Petersburg for post-graduate studies.

DR. LEWELLYS F. BARKER, associate professor of anatomy and assistant pathologist at the Johns Hopkins Hospital, Baltimore, Md., has accepted the position of professor of anatomy in the University of Chicago and Rush Medical College.

PRESS reports state that the King of Sweden has ordered that 200,000 copies of von Post's prize pamphlet on prevention and cure of tuberculosis be distributed to factory employees. A like distribution has already been made to school boards, officials and physicians.

A PARTY of nearly four hundred pilgrims from Marseilles, *en route* for Rome, were recently stopped at the Italian frontier and not allowed to proceed without being vaccinated, as smallpox prevails to some extent at Marseilles. The party refused vaccination and returned home.

THE BOARD of Trustees of the University of Pennsylvania now has entire control of the *University Medical Magazine,* Philadelphia, which in the future will be published under its auspices and with its support. Heretofore the magazine has been in the hands of a stock company, over which the University had no control. Dr. Charles H. Frazier has been chosen editor.

LAST YEAR'S "sick nursing exhibition" at Berlin proved so popular among the general public that a large surplus remains in the treasury. It is proposed to apply this sum toward establishing a permanent museum of appliances for the care of the sick. A similar exhibition is to open in connection with the Congress of Balneology in March, and the Anti-Tuberculosis Congress at Naples in April.

THE QUESTION of the validity of the new medical registration law in Michigan is now having consideration in the courts, and on February 20 the supreme court issued an order directing the State Board of Medical Registration to show cause, on March 6, why it should not be mandamused to issue a certificate of registration to a certain graduate of the "Independent Medical College of Chicago"—diploma mill.

MEDICAL SERVICE AT THE PARIS EXPOSITION.—Gilles de la Tourette has been placed in charge of the emergency medical service at the forthcoming Paris Exposition, for which he is peculiarly fitted by his familiarity with six of the leading modern languages, in which he gives consultations almost daily without discrimination. The *Figaro* states further, that there are to be four or five stations, with eight physicians, two or three internes and as many nurses and an ambulance at each post. Two physicians are to superintend the removal of the patient to hospital or residence and continue their medical care as long as it may be necessary.

INDIGENCE IN PORTO RICO.—Copies of the consolidated report of the Board of Charities of Porto Rico, for the weeks ending January 27 and February 4, have been received. It appears from these that out of a population of 956,779, there were over 80,000 indigent or needing assistance, nearly 4000 sick, and that from 400,000 to 600,000 rations were issued weekly. About 9000 men were working for rations. Much of the poverty and sickness is probably due to the still-felt ravages of the hurricane last year, and some to the unsettled state of business in the island. It is to be hoped that the needed legislation will speedily be done to help in remedying matters. The island Board of Charities, of which Major John Van R. Hoff, U. S. A., Medical Corps, is president, is evidently doing good work.

MARYLAND MEDICAL LEGISLATION.—The "Christian Scientists" are working hard against the medical practice bill, mentioned in last week's JOURNAL (p. 504), and a number of this sect were in Annapolis, the 20th ult., to contest the bill. They objected to the definition of "practitioners of medicine," viz., those who "attempt to heal," and contended that this would prevent prayers being offered for the recovery of the sick, would bar medical progress and curtail religious liberty. They acknowledged that they make no attempt to discriminate between diseases, that they do not believe in infectious diseases and do believe that "Christian Scientists" can not contract such diseases. Drs. Earle, Brush, and Fulton appeared as advocates of the bill, and pointed out that "Christian Science," so-called, is a menace to health, that its advocates treat patients for remuneration, and that they should come under general regulations.

NO "MEDICAL SERVICE BY THE MONTH."—According to the press dispatches, the united opposition from eleven physicians of Rochester, N. Y., has resulted in the failure of the American Medical Service Society of New York to secure a foothold in Rochester. The object of this Society, which was incorporated at Albany a few months ago and immediately began operations in New York City and Brooklyn, is to furnish its "members" with medical service at so much a month. The Society charges $1 a month, and in return promises the "best medical and surgical service of any of the members of its staff, day or night," and in case of death agrees to defray all funeral expenses, not exceeding $100. There is also a sick-benefit for certain specified diseases, but not to exceed $5 a week. The agent secured the signatures of eleven Rochester physicians, who were to make up the staff for that city, but on looking more carefully into the [illegible], they held a meeting and [illegible] with [illegible]

ANKYLOSTOMIASIS IN PORTO RICO.—We have received, through the courtesy of the Surgeon-General of the U. S. Army, a copy of Circular No. 5 of the Superior Board of Health of Porto Rico. It is a small pamphlet of 40 pages, printed in double columns, English in the one, Spanish in the other. Although entitled "Anæmia, Its Causes, Prevention and Treatment," it relates specially to that form of anemia which is produced by the presence of the ankylostomum duodenale in the human system. The parasite is described, as are also the ways by which it enters the body, the symptoms and pathologic conditions caused by it, the method of treating the affected individual and of remedying the conditions which have led to its general prevalence. Manson's book on tropical diseases, and other works on the subject, have been used freely in the compilation of the circular, and credit is given to Lieut. Bailey K. Ashford, assistant-surgeon, U. S. A., for directing attention to the Ankylostomum as the probable cause of much of the anemia which is so prevalent in the island. Dr. Ashford found the worm in nineteen out of twenty cases examined at the provisional hospital at Ponce, and forwarded his specimens to the Army Medical Museum, Washington, D. C. The circular gives precise directions to the Porto Rican physicians for the detection of the ova and the worms, with illustrations showing the differences between the ova of Trichocephalus dispar, Ascaris lumbricoides and Ankylostomum. In treating the cases three or four 10 to 30 grain doses of thymol are to be given at intervals of an hour. Parenthetically it may be remarked that the Spanish column directs "10 á 30 gramos," which is a typographic error of some importance. Good diet, fresh meat, iron and arsenic are recommended for use during convalescence. This circular will undoubtedly be productive of good results.

NEW YORK.

IN THE legislature an attempt is being made to establish a reformatory asylum under state management, for the habitual users of alcoholic and narcotic drugs.

SMALLPOX AT NEW ROCHELLE.

Two or three cases of smallpox appeared in New Rochelle and, in order that they might be effectually isolated, the Health Commissioner leased a tract of land in a sparsely settled district about three miles from that city, and ordered the erection of a temporary isolation pavilion. This so enraged the farmers in the immediate vicinity that they drove away their neighbor who leased the land, and then proceeded to arm themselves with muskets and missiles of various kinds, and drive away the health commissioners and their workmen. Two negroes contracted the disease while on a visit in Mount Vernon, and, owing to timely notice from that city, they were located and promptly vaccinated. Health Officer George A. Peck, New Rochelle, says that there has been no justification for the smallpox scare there, as these negroes only have varioloid.

SUPERVISION OF GERRY SOCIETY.

The afternoon of February 21 was devoted, by the Judiciary Committee of both houses of the legislature, to a hearing on the bills intended to bring the Gerry Society for the Prevention of Cruelty to Children under the supervision of the State Board of Charities. It is asserted that if the recent decision noted in these columns, exempting the Gerry Society from supervision of the Board, is to stand, it means that 663 other institutions, representing 52,000 persons, will be similarly placed beyond the reach of the Board. The State Board of Charities declares that its sole object in initiating such legislation is to aid in the maintenance of the state's charitable work at the highest point of efficiency and economy. The Board of Managers of the State Charities Aid Association favors the passage of the bill but objects to the use of the word "supervision," claiming that the function of the State Board of Charities should be only to visit and inspect.

REPORT OF BOARD OF CHARITIES.

The annual report of the New York State Board of Charities has just been presented to the legislature. The Board reports, among other things, that several bills regarding the establishment of state sanitoria for consumptives having been referred to it by the legislature, a special committee was appointed to investigate. The committee reported as in favor of the general principle of establishing one or two such sanatoria as object lessons, and strongly urged such legislation as would lead to the creation of a large number of municipal hospitals for the same purpose, believing that by such combined action on the part of the state and local authorities the most good could be accomplished.

The following enumeration is interesting, as showing the great scope of the charitable work coming under the purview of this Board; aged and friendless, 7392; almshouse inmates, exclusive of those mentioned hereafter, 11,251; blind in almshouses, 341; blind in other institutions, 414; deaf in almshouses, 94; deaf in other institutions, 1548; dependent children, 31,218; disabled soldiers and sailors, 1611; epileptics in almshouses, 316; epileptics in Craig Colony, 378; hospital patients, 8223; idiotic and feeble-minded in almshouses, 1153; the same in state institutions 1303; juvenile offenders, 3501; reformatory inmates, women and girls, 1863; total, 70,611.

The report goes on to say that the appointment of inspectors has admitted of a searching system of inspections, and has resulted in a better tone in the institutions throughout the state. It is recommended that the civil-service rules be made to cover the almshouses of the state. The Kings County Hospital is condemned as having entirely inadequate accommodations, and antiquated and unsanitary plumbing. The dispensary law is reported to be working satisfactorily, and to have already wrought certain much-needed reforms.

New York City.

THE STEAMER *Taormina* has arrived from Santos, with one case of yellow fever on board. Another of the crew died from this disease on the voyage. The vessel has a cargo of 34,100 bags of coffee.

THE JURY impaneled to inquire into the circumstances of the death of the woman who was knocked down by an ambulance of the New York Hospital, previously mentioned in THE JOURNAL, returned a verdict censuring the driver for not exercising sufficient care, and one censuring the surgeon for making such a superficial examination of the woman before sending her to the hospital ward.

TENEMENT HOUSE EXHIBITION.

This was held here during the past week, under the auspices of the Charity Organization Society. It was opened by an address by Governor Roosevelt. Other addresses were delivered by well-known speakers, and some of the important topics touched on were: "The Tenements and Poverty;" "The Tenements and Tuberculosis;" "The Need of Baths in Tenement Districts;" "The Duty of the City to the Tenement Dweller;" "Improving Tenements by Personal Influence;" and "The Tenement-House Problem, and the Way Out." The exhibition itself included models, plans, photographs, maps, charts, and tables of statistics. The photographs showed some of the old rookeries so long known to the Board of Health as dens of death. They gave a glimpse into the gloom of the rear-house and the air-shaft. In one room were displayed six most interesting *papier maché* models, four representing various blocks of modern model tenements, and the other two being representative of the worst type of tenements still in actual existence.

DISTRICT OF COLUMBIA.

HEALTH OF THE DISTRICT.

The report of the health officer, for the week ended February 17, gives the total number of deaths as 98, of which number 55 were white and 43 colored, the death-rate being 17.72 per 1000. There were 55 cases of diphtheria, 107 of scarlet fever and 1 of smallpox under treatment at the close of the week.

IN CONGRESS.

Mr. McCleary has introduced a bill (H. R. No. 8666) which provides for the reimbursement of officers and men of the army and navy for medical expenses incurred during leave or furlough. Mr. Babcock has introduced one (H. R. No. 8305) which creates a commission for the condemnation of unsanitary buildings in the District of Columbia. The latter provides for a commission with jurisdiction and authority to examine into the sanitary condition of all buildings in the District, occupied or intended to be occupied by human beings, and if they find the same unfit for such occupation, by reason of their insanitary condition, to condemn them and require the occupants to vacate within thirty days from the order of condemnation. General regulations and penalties for violation are provided.

Senate confirmations.—On February 21, the following appointments and promotions were confirmed by the U. S. Senate: Drs. Jos. A. Murphy of Pennsylvania, and Jno. T. Kennedy of Connecticut, to be assistant-surgeons in the U. S. Navy; Surgeon Ezra Z. Derr to be medical inspector, and Dr. Jno. C. Wise, medical inspector, to be a medical director in the navy; Past Assistant Surgeon Rand P. Crandall to be a surgeon in the navy.

Washington.

THE FOLLOWING have been appointed to consider and formulate regulations for the establishment of a war college for the army: Brig.-Gen. William Luglow, Col. Henry C. Hasbrook, and Lieut.-Col. William H. Carter.

PHYSICIANS, as follows, have been appointed to constitute a medical and surgical consulting board to the Washington Asylum Hospital: W. W. Johnston, J. T. Johnson, G. L. Magruder, H. L. E. Johnson, S. S. Burnett, W. C. Bowen, W. P. Carr, F. T. Chamberlain and H. C. Dye.

IN THE future, regular clinical instruction in nervous and mental diseases will be held at St. Elizabeth's Hospital, for the instruction of the senior classes of the Columbian and the Georgetown medical schools. Heretofore there has been no systematic clinical teaching at this institution.

THE FRIENDS of Surgeon and Brigadier-General F. C. Ainsworth, U. S. A., will be pleased to learn that he is recovering from his present serious illness. Dr. Ainsworth had a violent attack of la grippe, with a serious relapse. For some days it was feared recovery was impossible.

SURGEON-GENERAL STERNBERG recently lectured before the National Geographic Society, on the bubonic plague. He went thoroughly into the subject of the germ origin, its history, development and destruction, the prevalence of epidemics of past centuries, the large mortality and the present history and treatment of the disease. There were illustrations by lantern pictures.

ILLINOIS.

THE ILLINOIS State Board of Health has issued a circular to the local health authorities of the state, calling attention to the prevalence of smallpox, and urging wholesale vaccination of all communities.

Chicago.

A TOTAL of 4657 pupils have been examined by the medical inspectors of schools, of whom 293 were excluded.

THE LABORATORY of the Alexian Brothers' Hospital was recently damaged by fire, to the extent of $100.

DR. A. C. KLEBS delivered a lecture on the "Nature and Prevention of Consumption," at the Academy of Sciences, February 23.

THE HEALTH department has issued a pamphlet on the management of contagious diseases, which is to be distributed to all physicians having such cases in their care.

THE MONTHLY dinner of the Physicians' Club was held the evening of February 26. Addresses were made by Drs. F. S. Johnson, E. J. Gardiner, J. B. Herrick and W. E. Quine.

THE SUM of $1500 was added to the fund for the erection of the tuberculosis hospital, during the past week. This brings the total to $15,000.

AN AMATEUR theatrical for the benefit of the Passavant Memorial Hospital was held at the residence of Potter Palmer, February 23. The sum of $2500 was realized.

DR. L. HARRISON METTLER delivered an illustrated lecture on "How Men Live—Respiration, Circulation and Digestion," February 24, this lecture being one of a series on popular subjects, being given under the auspices of a local newspaper.

DURING THE week ended February 24, there were 536 deaths reported to the Health Department, which is 9 less than the corresponding week of 1899, and 32 in excess of the preceding week.

DR. W. E. QUINE is the chairman of the committee of the Methodist Social Union, which secured for Chicago the honor of being the meeting place of the General Conference of the Methodist Episcopal Church, to convene here May 24 and continue until the end of that month.

FOR THE week ending February 20, the Visiting Nurse Association cared for 240 patients and made 1280 visits. The Association has its headquarters in the Masonic Temple, and any one unable to pay for a nurse can obtain one free upon application.

HOSPITAL NAME CHANGED.

The directors of St. Luke's Hospital have changed the name of that institution to St. Luke's Free Hospital. This change was necessary in order to obtain a mortgage of $50,000 on the property. The directors state that the hospital has been steadily running behind, because of its liberality in treating patients free of charge. The debts amount to more than $30,000.

PENNSYLVANIA.

THE COUNTY Commissioners have decided to erect an infirmary at the Montgomery County Almshouse, to cost about $10,000.

Philadelphia.

DR. THOMAS G. MORTON gave an address before the High School for Girls, February 23.

DR. WILLIAM F. CRAIG has been appointed examining physician to the William Cramp School.

AN ENTERTAINMENT was recently given by the combined musical clubs of the University, for the benefit of the University Hospital.

THE LADIES of St. Mary's Hospital are holding a bazaar for the benefit of that institution, to raise funds to build an annex for use until the new edifice is erected.

BY THE will of Elizabeth Baker, who died some time ago, $5000 each has been left to Dr. George Fales Baker to be distributed to two public hospitals, which he may designate.

AN APPEAL is to be made, by The Social Purity Alliance, to Mayor Ashbridge, that the law passed in 1889 relative to prohibiting the sale of cigarettes to persons under the age of 18 be rigidly enforced.

DR. BENJAMIN LEE, Secretary of the State Board of Health, delivered a lecture in Media, Pa., on February 21, on "School Sanitation." He expressed his approval, in strong terms, of the use of the individual drinking cup, and is in favor of the abolition of the water bucket.

THE GERMANTOWN School Board is determined to prevent an epidemic of typhoid fever among the school children, and recently gave instruction to the janitor to cut off the water-supply of the schools. They are also directed to wash off all desks and benches at least once a month, with some disinfecting material.

A VERY successful book sale was recently held for the benefit of the Germantown Hospital. One copy of "Richard Carvel," containing the autograph of the author, sold for $115, while a life of Admiral Dewey brought nearly that amount, and a volume of Sir Alfred Austin's poems brought almost a fabulous price.

TYPHOID FEVER.

As noted in last week's issue, it now seems more apparent than ever that history is about to repeat itself in regard to typhoid fever, which became epidemic in this city toward the latter part of 1898. The cause is supposed to be the same, namely, pollution of the Schuylkill River from the contents of a sewer in the neighborhood of the Queenlane reservoir. On the 21st ult., twenty-one new cases of typhoid fever were reported, since which time no report has been made public.

MARYLAND.

[illegible]

Commission from an unpaid honorary body to one receiving compensation. It also proposes an increase of the secretary's salary from [illegible] to [illegible]. (For other measures see this and previous columns.)

Baltimore.

Prof. Ira Remsen will deliver the address at the opening of the new chemical laboratory of the State University of Kansas next fall.

The alumni of the University of Pennsylvania, in Baltimore, of whom there are about fifty, mostly graduates in medicine, have organized an association and elected Dr. Howard A. Kelly as their first president.

The Alumni Association of the College of Physicians and Surgeons gave a smoker and musical the 21st ult. Dr. Lewellys F. Barker delivered an address on "Tropical Diseases and the Bubonic Plague," with stereopticon views obtained in the East.

The nineteenth college day of the Woman's Medical College was celebrated on February 24, and addresses were delivered by Drs. Thomas A. Ashby, Edward J. Bernstein, Hiram Woods, Jr., and Marie E. Malwitzer. An oyster supper and dance were given on the 21st, in aid of the hospital extension fund.

MISSOURI.

St. Louis.

The trustees and faculty of the Barnes Medical College gave a formal dinner to the Board of Trustees of the new Centenary Hospital, February 20.

A special hospital for consumptives is being built on Carondelet Heights, on the river front south of St. Louis. A large tract of land has been purchased by The Sisters of St. Mary, and one building is completed. An extensive addition will be made in the spring.

OHIO.

Cincinnati.

Dr. Thomas W. Graydon has undergone an operation for appendicitis.

Dr. James T. Whittaker has been critically ill for the past eight months.

The report of the Health Department for the week ended February 24 shows that there were but 39 cases and 13 deaths from infectious and contagious diseases, as against 155 cases and 28 deaths for the corresponding period of last year.

CANADA.

The graduates of medicine of McGill, in British Columbia, held their annual reunion on the 21st inst.

There are still 31 cases of smallpox in the eastern part of the Province of Quebec; 473 cases have been reported since October last, and no deaths.

Dr. Arthur Simard, Quebec, has been appointed a member of the Provincial Board of Health of that Province.

A Winnipeg "cancer doctor," who was recently fined $50 and costs, has had his conviction quashed by a higher judge. The Medical Association of Winnipeg had the matter in hand.

Dr. Cotton, a member of the legislative assembly of Quebec, has been appointed on the Protestant Committee of the Council of Public Instruction in that Province.

Registration of births in Westmount, a suburb of Montreal, is to be strictly enforced. Last week a practitioner there was fined $1 and costs for negligence in this respect.

The smallpox outbreak in Essex County, Ont., is now at an end; that in West Toronto Junction is fully controlled, all the cases having recovered and no new ones reported.

In Ottawa this week, a prominent physician pronounced a young infant of three months dead. Animation was noticed when the undertaker was called in; the physician was summoned but refused to attend as he knew the child was dead. Three other physicians subsequently revived the infant.

FOR THE CONSUMPTIVE POOR.

Dr. E. J. Barrick, Toronto, has issued a circular to the profession in this city and vicinity, calling for a large deputation to wait on the provincial parliament, now in session here, to induce them to take steps in connection with the establishment and maintenance of sanatoria throughout the province. They are to be asked to adopt regulations for aiding in the establishment of rural sanatoria for the consumptive poor, similar to what is now done in connection with the building of houses of refuge for the poor; to grant the same *per diem* allowance for the consumptive poor treated in the above sanatoria as is now given for the care and treatment of the poor in existing hospitals, with the addition of extending the time for which such patients are to receive aid.

THE VICTORIAN ORDER IN MONTREAL.

The annual meeting of the local branch of the Victorian Order of Nurses was held in Montreal on February 19. In March, this branch will have completed its second year; and it seems apparent that in Montreal as in Toronto and other Canadian cities where this organization has established branches, it has not met with the general approbation it was expected to obtain. It has been in fact growing very slowly in public favor. It is stated, however, that there has been some improvement, to the extent that many physicians who strenuously offered opposition to its inauguration, are now supporting it. Since March, 1899, there have been 319 calls; the total number of visits made was 5565, making an average of something over seventeen visits per case. Most of these visits have been free, the remainder paying from 5 to 50 cents a visit. The Hon. Senator Drummond was elected president, Dr. Craik, vice-president, and Dr. J. George Adami, secretary.

MCGILL'S LOYALTY.

Lord Strathcona, the present Canadian High Commissioner in England, is also the Chancellor of McGill University, and his magnificently practical exhibition of loyalty in equipping between five and six hundred Canadians for active service in South Africa at his own expense, has created a determination in the professors and students at McGill to do their share for Queen and country. Many other students are now enlisted in the Canadian contingents, and the medicos are well represented. A mass meeting of the professors of the several faculties and the students was held the early part of the week, to give public expression to the esteem and regard entertained for their chancellor, and further to elicit subscriptions toward the national patriotic fund now in course of collection throughout the Dominion. The response was extremely gratifying.

MONTREAL GENERAL HOSPITAL.

The income for the quarter ending January 31, was $20,967.79, a decrease of $2,764.44 as compared with the corresponding quarter of 1899. The expenditure for that time amounted to $20,962.46. During the quarter 638 patients were treated to a conclusion in the wards of the hospital. Of these, 47 died, a death-rate of 7.37 per cent. The average number treated in the wards daily throughout the quarter was 160, and the average time of retention, 23.5 days. In the out-door work there were 9381 consultations in all departments, an increase of 870 over the corresponding period of 1899.

Correspondence.

Remarkable Instance of the Hereditary Transmission of a Congenital Deformity.

Cincinnati, Ohio, Feb. 20, 1900.

To the Editor:—Mr. Archdall Reed, at the last meeting of the British Medical Association, read a paper, in which occurs this sentence: "Though the whole plant and animal kingdom have been ransacked, no single instance of the transmission of characteristics has yet been proved." This paper was crticised by an editorial in The Journal of Nov. 18, 1899, p. 1296, in which you referred to Brown-Séquard's and Westphal's experiments in traumatic epilepsy in guinea-pigs and the shorter and occasionally absent prepuce in Jewish boys, etc., which is taken *cum grano salis* by Lawrence Irwell, M.A., B.C.L., who takes up the question against you, in the *Medical News* of Feb. 17, 1900. It is not my purpose to enter the controversy, but I wish to give a little historical sketch of a family of biped dogs that has been under my observation for about six years. These dogs are familiar to thousands of people in Cincinnati and vicinity. I presented one of the mounted puppies to the museum of the Cincinnati Natural History Society, where it can be seen at any time. These dogs are the property of C. W. Zinn, Dreman Ave., Cincinnati. He bought the original pair, "John" and "Mary," from a stranger, about seven years ago. The latter claimed that they were full brother and sister, from perfectly normal dogs. They were of a mongrel breed, with a slight admixture of shepherd, and both were perfectly normal, with the curious, complete absence of the forelegs. The shoulder-blades seemed natural, but the chest was smooth and rounded, and at the point where the foreleg should have protruded through the skin was a small rounded tubercle one-half inch in diameter, very like the cuticle on the bottom of the dog's foot. This tubercle was entirely hidden from view by the hair curling over it, in a very natural way. There was no evidence that the deformity was artificially produced. The dogs' locomotion was peculiar—walking upright, running quite rapidly by kangaroo leaps. The owner was careful to inbreed them, and there have resulted twenty-eight puppies; most have died quite young, only six or eight reaching maturity. Of the 28, 25 were perfectly devoid of forelegs, 2 had abortive stumps one inch long, and 1 had a complete foreleg with a deformed foot. It has been claimed that the owner mutilated these puppies when quite young, but the owner has shown two litters to me before they were all dry, after birth, and there was no sign of mutilation. I give this piece of natural history for what it is worth, as an affirmative answer to the question: "Are acquired characteristics ever hereditary?"

2974 Colerain Ave. W. E. SHAW, M.D.

Association News.

Official Headquarters at the Atlantic City Meeting.—Dr. Philip Marvel, Chairman of the Committee of Arrangements, announces the following hotels as headquarters:

AMERICAN MEDICAL ASSOCIATION, Hotel Dennis.

HEADQUARTERS FOR THE SECTIONS.

Practice of Medicine, Hotel Traymore.
Obstetrics and Diseases of Women, Hotel Garden.
Surgery and Anatomy, Hotel Windsor.
Ophthalmology, Haddon Hall.
Laryngology and Otology, Hotel Seaside.
Diseases of Children, Hotel St. Charles.
Neurology and Medical Jurisprudence, Hotel Brighton.
Stomatology, Hotel Senate.
Cutaneous Medicine and Surgery, Hotel Rudolph
State Medicine, Hotel Pennhurst.

HEADQUARTERS FOR OTHER SOCIETIES.

American Academy of Medicine, Hotel Shelburne.
New Jersey State Medical Society, Hotel Chalfonte

Section on Practice of Medicine.—The preliminary program of this section, for the Atlantic City meeting of the AMERICAN MEDICAL ASSOCIATION, is as follows:

Symposium on Malaria: Papers by Drs. Osler, Thayer and Lazear of Baltimore, Md., exhibition of microscopic sections and some dissections of mosquitoes, by Albert Woldert, Philadelphia, Pa.; "Acute Intermittent Malarial Fever and Its Counterfeits," by Cunningham Wilson, Birmingham, Ala.; "My Experience with Some of the Pernicious Forms of Malaria," by M. Goltman, Memphis, Tenn.; "Clinical Observations on Malaria as Seen in the Mississippi Delta," by Frank A. Jones, Memphis, Tenn.; "Malaria Hemoglobinuria," by William Britt Burns, Deckerville, Ark.

Discussion on Diabetes Mellitus: "Symptomatology and Diagnosis of Diabetes," by James B. Herrick, Chicago; "Diabetes and Tuberculosis," Herbert U. Williams, Buffalo, N. Y.; "Cutaneous Complications of Diabetes," M. B. Hartzell, Philadelphia.

Discussion on Rheumatic Diseases: "Etiology and Pathology of Acute Rheumatism," by David Riesman, Philadelphia; "Pseudo-Rheumatic Affections," by Robert B. Preble, Chicago; "Pathogenesis and Clinical Features of Arthritis Deformans," by A. O. J. Kelly, Philadelphia; "Chorea and Rheumatism," by Charles W. Burr, Philadelphia; "The Heart in Rheumatism," by DeLancey Rochester, Buffalo, N. Y.

Other papers promised are: "The Hospital Clinical Laboratory," by C. N. B. Camac, New York City; "Bacteriologic Examination of Exudates in the Throat, by the General Practitioner," by Mr. Howard Fussell, Philadelphia; "Graves' Disease," by W. B. Geikie, Toronto, Canada; "Exophthalmic Goiter," by Oliver T. Osborne, New Haven, Conn.; "Etiology of Tropical Dysentery," by Simon Flexner, Philadelphia; "Pulmonary Tuberculosis," by Chase P. Ambler; Asheville, N. C.; "Silver Injection Treatment of Pulmonary Consumption," by Thomas J. Mays, Philadelphia; "Comparative Importance of Valve and Muscle Lesions in Disease of the Heart," by Solomon Solis-Cohen, Philadelphia; paper—title not given—by Arthur R. Edwards, Chicago; "Cause of Yellow Fever," by Eugene Wasdin, U. S. Marine-Hospital Service; "Rational Therapeutics of So-Called Uric Acid Lesions, with Some Original Investigations," by Alfred C. Croftan, Pasadena, Cal.; "Modern Treatment of the Acute Melancholias," by J. J. Kindred, Astoria, N. Y.; "Hydrophobia," by Charles W. Dulles, Philadelphia.

In order to have the final program arranged early, others who intend to read papers before the Section are requested to send in their titles as soon as possible, to one of the following: THOS. B. FUTCHER, Secretary, Johns Hopkins Hospital, Baltimore Md.; GEORGE DOCK, Chairman, Ann Arbor, Mich.

Deaths and Obituaries.

JOEL R. GORE, M.D., one of the oldest practicing physicians of Chicago, died February 24, of pneumonia, after an illness of five days. He was born at Wilkesbarre, Pa., 89 years ago, and was graduated from Geneva Medical College, New York. He came to Chicago in 1856; in 1858 was elected county commissioner and served two terms. He was surgeon in an Illinois regiment during the Civil War, and was Cook County physician during 1873, 1874 and 1875, and a member of the committee of physicians to locate the Cook County Hospital. He was the oldest member of Geo. H. Thomas Post, No. 9, G. A. R., a Mason, and Son of the Revolution.

EBENEZER MACFARLAN, M.D., New York University, 1845, died at the Home for Incurables, New York City, February 25. He was an eye and ear specialist of an early date, as well as a life examiner for many years in an insurance company. For a long time an invalid, in his day he was respected as an authority of more than average ability.

ERNEST V. SANGREE, M.D., professor of bacteriology and pathology in the University of Illinois, died in Harrisburg, Pa., from cerebrospinal meningitis, February 23. He was a graduate of the Medico-Chirurgical College, Philadelphia, and at one time demonstrator of histology and microscopy there. He was 36 years old.

THEODORE S. CASE, M.D., Kansas City, Mo., who was born in Georgia in 1832, died February 16. He saw service during the Civil War, and at its close was appointed quartermaster of Missouri, with the rank of colonel. In 1832 he was appointed postmaster of Kansas City, and reappointed to that position four years later.

THOMAS COLESCOTT, M.D., Brookville, Ind., died February 19, aged 86 years. He was a graduate of the Cincinnati Medical College, class of 1836, and during the Civil War was superintendent of the military hospital service in and about Louisville, Ky.

WATT FOSTER, M.D., aged 31 years, died of tuberculosis, in Los Angeles, Cal., February 16. He was a graduate of the Medico-Chirurgical College, Philadelphia, and practiced in Pittsburg until about six months ago, when he was obliged to seek another climate.

SIDNEY L. MORGAN, M.D., Hartford, Conn., a graduate of the Long Island College Hospital, New York, and formerly superintendent of the South Dakota Hospital for the Insane, Yankton, died February 20, at the age of 28 years.

HENRY B. MOORE, M.D., Jefferson, 1886, who died at Colorado Springs, Col., February 20, at the age of 28 years. eight years ago for his health. He became a practitioner at his new home, and was also chief surgeon of the Colorado Midland Railroad.

SAMUEL E. FORMAN, M.D., College of Physicians and Sur-

[illegible] N. Y., died at his home in Jersey City, N. J., from renal disease, February 1[illegible], aged 6[illegible]. In 18[illegible] he was house physician at [illegible] Hospital, New York City, subsequently serving as an assistant-surgeon, U. S. N., from Sept. 6, 1861, to Oct. 5, 1864, when he resigned.

[illegible], M.D., N. Y. University, 187[illegible], died at his home in Brooklyn, N. Y., from pneumonia, February 23, aged about 55 years. He was coroner of Kings County in 1893, 1894 and 189[illegible].

Wm. H. H. Hastings, M.D., Harvard, 1876, died at his home in Boston, February 16, aged 60. He began his connection with the Boston Dispensary in 1869, and became its superintendent seven years afterward, remaining such until his death.

William W. Lamb, M.D., died in Philadelphia during the past week, aged 59 years. In 1864 he was appointed assistant-surgeon in the Eighth New Jersey Volunteer Regiment, and from 1872 to 1890 was surgeon of the Third Regiment, N. P. G. He was a graduate of the Long Island Medical College.

L. J. Abbott, M.D., for four years superintendent of the Nebraska State Hospital for the Insane at Lincoln, died at his home in South Omaha, February 22.

E. J. Tanner, M.D., Chicago, died February 19, of typhoid fever. The Doctor was 36 years old, and was a graduate of the University of Michigan and Rush Medical College.

Henry Lee Norris, M.D., Edinburg, Scotland, 1872, of West Hoboken, N. J., died February 23, in his 50th year.

We also note the following deaths:

D. C. Cole, M.D., Wellington, Kan., February 14, aged 78 years.

Jos. L. Cooper, M.D., New Castle, Pa., February 20, aged 39 years.

Thomas Hatchard, M.D., Huron, S. D., February 15, in the Soldiers' Home at Milwaukee, Wis.

Samuel P. Hood M.D., Knoxville, Tenn., February 17, aged 66 years.

Richard Huff, M.D., Knobnoster, Mo., February 17, aged 72 years.

D. Powell Johnson, M.D., Muscatine, Iowa, February 14, aged [illegible] years.

W. W. Johnson, M.D., Hawthorne, Fla., February 14.

C. W. Kyle, M.D., Sherwood, Ohio, February 16.

I. B. Lathrop, M.D., Springville, Pa., February 20.

J. R. McColm, M.D., DuBois, Neb., of smallpox contracted from attendance on a patient.

H. K. Myers, M.D., Edinburg, Ind., February 16.

H. Nicholas, M.D., North Bay, N. Y., February 10.

Thomas W. Primm, M.D., Lincoln, Ill., February 20, aged 62 years.

J. F. Schwinkey, M.D., Gratz, Pa., February 19, aged 67 years.

Robert Smead, M.D., Altona, Ill., February, 18, aged 61 years.

John M. Stokes, M.D., Sumner, Ill., February 10, aged 38 years.

Samuel Kennedy, M.D., New York University, 1869, in New York City, February 25.

William E. Winsley ,M.D., New York University, 1877, in New York City, February 25.

Book Notices.

[illegible] of the General Diseases of the Eye. By Edward Jackson, A.M., M.D., Emeritus Professor of Diseases of the Eye in the Philadelphia Policlinic, etc. With 178 figures (mostly drawn by the author), two colored plates, index and table of contents. Price $2.50. Philadelphia: W. B. Saunders. 1900.

We have here one of the few works on the general subject of ophthalmology whose author has not forgotten the promise of his preface. We particularly refer to these sentences: "This book is intended to meet the needs of the general practitioner of medicine and the beginner in ophthalmology," and "For practitioners in other departments of medicine and surgery the most important phase of ophthalmology is that of the [illegible] general diseases," and there follows Chapter XX, devoted to this subject, a bibliography that is intended to serve as a further introduction to the complete study of ophthalmology as it is related to diseases of organs other than the eye. It is worthy of note that Dr. Jackson has not, in imitation of other writers, made his text-book a work of refraction *plus* a few scattered observations on ocular pathology. As he is probably our best known authority on this subject, it must have been a temptation not to show the general practitioner how to "fit glasses" with ease and dexterity. If there is a department of ophthalmic surgery requiring long-continued study, extensive practice and the exercise of much judgment, it is that which deals with anomalies of accommodation and refraction and, in our opinion, should be regarded as a part of *advanced* rather than of elementary ophthalmology—as the work of the specialist and not of the general student. Dr. Jackson has devoted the proper proportion of space to it. Injuries of the eye and its appendages are of great importance to the general practitioner and we wish the author had seen fit to allow more than twenty out of the total number of 604 pages to their consideration, as they are really of greater moment to him than the chapter on diseases of the retina, that fills twenty-five pages. There is the usual failure in the matter of colored illustrations, and the purely diagrammatic plates that stand for fundus changes and frontispieces are no better and no worse than those with which most of our ophthalmic text-books are adorned. On the other hand, the black and white drawings are not only good and well reproduced, but they have all the charm of originality. The price of the book is low, and it should have a large circulation.

American Year Book of Medicine and Surgery. A Yearly Digest of Scientific Progress and Authoritative Opinion in all Branches of Medicine and Surgery. Drawn from Journals, Monographs, and Text-Books of the Leading American and Foreign Authors and Investigators, Collected and Arranged with Critical Editorial Comments, under the general editorial charge of George M. Gould, M.D. 2 vols. Cloth, $3 net; Half Morocco, $3.75 net, per vol. Philadelphia: W. B. Saunders. 1900.

The Year-Book comes out this time in two volumes, which is a decided improvement on the original plan. The whole subject covered is divided into two general classes, Surgery and Medicine, a volume being devoted to each general subject. In the one on Surgery are the following: General Surgery, edited by W. W. Keen and J. Chalmers DaCosta; Obstetrics, by Barton Cooke Hirst and W. A. Newman Dorland; Gynecology, by J. M. Baldy and W. A. Newman Dorland; Orthopedic Surgery, by Virgil P. Gibney and J. Hilton Waterman; Ophthalmology, by Howard F. Hansell and Wendell Reber; Otology, by Charles H. Burnett; Diseases of the Nose and Larynx, by E. Fletcher Ingals and Henry G. Ohls; and Anatomy, by C. A. Hamann. In the volume devoted to Medicine, the first and principal subject is General Medicine, of which Alfred Stengel and D. L. Edsall are the editors. Pediatrics is edited by Louis Starr and Alfred Hand; Pathology, by David Riesman; Nervous and Mental Diseases, by Archibald Church; Cutaneous Diseases and Syphilis, by Louis A. Duhring and Milton B. Hartzell; Materia Medica and Therapeutics, by Reynold W. Wilcox and A. A. Stevens; Physiology, by G. N. Stewart; Legal Medicine, by Wyatt Johnston; Public Hygiene and Preventive Medicine, by Samuel W. Abbott; Physiologic Chemistry, by Walter Jones and Reid Hunt. The volume on Surgery contains 656 pages; that on Medicine about 100 less. Each book is complete in itself, and each is accompanied by a full index. When we say that the work is fully up to the standard of former issues, all that is necessary has been said. It covers the ground thoroughly, and the separation of the work into two volumes will prove a decided advantage. The price, also, is lower than heretofore. The volumes are sold separately, which will be an added convenience, as many will be interested only in Surgery, while others will care only for the subjects in the volume on Medicine. The work is to be commended as one of reference and as a compilation of the latest knowledge on all the subjects in medical science.

Mental Affections. An Introduction to the Study of Insanity. By John MacPherson, M.D., F.R.C.P.E. London: Macmillan & Co., Ltd. New York: The Macmillan Co. 1899.

An examination of this work, which consists of lectures delivered at the Royal College of Medicine, Edinburgh, leaves on the whole a very favorable impression. The author writes like a philosophic thinker and an alienist of experience. While he introduces no special novelties and his arrangement and classification are largely the old familiar ones, the treatment of the various subjects is generally sensible and modern. The author does not apparently incline to fully accept some views that are probably likely to prevail in régard to the acute insanities, but in this he is still with the majority of those writing on this subject, and on the whole his work is more modern in this respect than are some others of recent date. It can be safely recommended as a valuable, introductory text-book on its subject, which is one of the most difficult of all on which to produce a perfectly satisfactory work. One minor criticism may be offered in the lack of any more serious ones. The footnote reference to Italian literature, on page 263, does the authors injustice in referring to them by their given rather than their family names.

Diseases of Children. A Manual for Students and Practitioners. By George M. Tuttle, M.D., Attending Physician to St. Luke's Hospital; Martha Parson's Hospital for Children, Etc., St. Louis, Mo. Illustrated with Five Plates in Colors and Monochrome. Cloth. Pp. 386. Philadelphia and New York: Lea Brothers & Co. 1899.

This volume of Lea's Series of Pocket Text-Books presents its subject in handy form for the student and practitioner. The several chapters consider "The Infant at Birth," its development, the child's examination, diseases of the new-born, infant feeding, digestive diseases, nutritional disorders, affections of the circulatory and respiratory systems, also of the genito-urinary and nervous, and diseases of the lymph-nodes, skin, ear and bones. There is also a chapter on infectious diseases.

Water and Water-Supplies. By John C. Thresh, D.Sc. (London), M.D. (Victoria), D.P.H. (Cambridge), Medical Officer of Health of the Essex County Council. Second Revised Edition. Price, $2. Philadelphia: P. Blakiston's Son & Co. 1900.

This volume, which is in its way one of the standards among popular works on its subjects, is written more especially to meet conditions in Great Britain, but what it says is for the the most part equally applicable to this country. We have nothing of late date exactly similar, so its reproduction here should be welcomed. Even the chapter on the English law relating to water-supplies is likely to be of service as giving the results of experience as embodied in the law, and the book is practically a complete statement, in brief compass, of the main facts regarding water-supplies, except perhaps in the matter of some of the later acquired data of water bacteriology. In this last respect the work is not full or possibly quite up to date. Some supplementary reading in other quarters is needed for the fullest information in these matters, but as a whole the work is a very useful addition to American sanitary literature.

Text Book on Materia Medica, Therapeutics and Pharmacology. By George Frank Butler, Ph.G., M.D., Professor of Materia Medica and Clinical Medicine in the College of Physicians and Surgeons, Medical Department of the University of Illinois. Third Edition, Thoroughly Revised. Philadelphia: W. B. Saunders. 1899.

It is hardly necessary to express approval of a work that has reached its third edition within three years. In the present case, however, the author has taken special pains to make a thorough revision of the last edition, and so far as we can discover he has brought the work very completely up to the latest state of our knowledge of its subject. A notable omission, however, is that of the recent data in regard to certain tropical diseases, and especially the plague, although this is possibly excusable in view of the recent development of the facts. The book deserves a continuation of the favor it has already received.

Practical Text Book of Midwifery, for Nurses and Students. By Robert Jardine, M.D., Edinburgh, M.R.C.S., Eng., F.F.P. & S., Glasgow. Physician to the Glasgow Maternity Hospital, Glasgow. Price, $1.50. New York: The Macmillan Co. Edinburgh: William F. Clay. 1899.

This book being based on the lectures delivered by the author to the nurses of the Glasgow Maternity Hospital, is necessarily of an elementary nature. Nevertheless, the student, and even the general practitioner, will find much of value in its pages. As the author is an earnest advocate of asepsis rather than antisepsis, he lays down strict rules for the observance of the former. The various antiseptics employed in surgery and the methods of using them are also given.

Kirkes' Handbook of Physiology. By W. D. Halliburton, M.D., F.R.S., Professor of Physiology, King's College, London. Fifteenth Edition. With Upwards of 650 Illustrations, Including some Colored Plates. Philadelphia: P. Blakiston's Son & Co. 1899.

Having already noticed the Morant-Baker Coleman edition of Kirkes' Physiology, we have again brought to The Journal's attention this briefer and smaller production. The books, though both bearing the same name, are not the same, the present one being quite different in text and compass from the others. (See page 509 last week's number). It has a decided advantage as a text-book, in that it describes the various organs, tissues and functions in a more simple, clear, and concise manner, is amply illustrated and, though smaller, is less in price than the other and larger work. This compensates for the less full and elaborate treatment of some of the subjects by the editors than in the other edition.

A Text-Book of Pharmacology and Therapeutics, or the action of Drugs in Health and Disease. By Arthur R. Cushny, M.A., M.D., Aberd. Professor of Materia Medica and Therapeutics in the University of Michigan; formerly Thompson Fellow in the University of Aberdeen and Assistant in the Pharmacological Institute of the University of Strassburg. Philadelphia and New York: Lea Brothers & Co. 1899.

This work fills a peculiar place among therapeutic text-books, giving, as it does, especial attention to the physiologic and experimental aspects of its subjects. It therefore supplements the usual text-books, and thus makes a place for itself. The author has only attempted to include the preparations of the United States and British Pharmacopeias, and such others as seemed at the time of sufficient importance. The book is destined to be recognized as a standard.

Miscellany.

Prehistoric Trephining.—Dr. Nitsche has recently published, in the *Revista del Museo de La Plata*, an interesting illustrated study of three prehistoric skulls in the museum, "one perforated, one lesioned and one trephined."

Preservation of Rubber Articles.—Professor Krolikowski publishes, in a Polish paper, the results of extensive tests which show that the best method of keeping rubber articles is in a 1 per cent. solution of formol or zinc chlorid or a concentrated solution of boric acid. Red rubber keeps better than black, he asserts, other conditions equal. Rubber articles, he adds, should never be left exposed to the air or the action of cold.

Transportable Dark Chambers for Ophthalmoscopy.—Ten folding strips of steel are covered with black cloth and screwed firmly when extended, forming a dark chamber about 70 cm. long, which fits over the head and rests on the shoulders of the examiner and subject. Each wears a band around the forehead, fitted with an incandescent lamp and reflector on each side, fed by a small storage-battery. Bondi describes the contrivance in full in the *Wiener Med. Presse*, No. 4.

Autopsy Specimens.—The *Semaine Médicale* of February 7 calls the attention of the profession in all countries, to a recent decree of Dr. Napias, the chief of the general "public assistance" department in Paris, "in order that the decree may be appreciated as it deserves." It forbids, in the hospitals and morgues, the removal of any portion of the body after death, for exhibition at medical societies or for any other purpose. The decree is formulated in the interests of the family on the one hand, to preserve the reclaimed body from mutilation, and on the other to keep the cadaver intact for the regularly inscribed students of anatomy, if unclaimed. The autopsy must be limited to opening and examining the cadaver, without mutilation. In very rare special cases permission will be allowed, on presentation of facts in detail, if they justify the demand for use of the preparation.

The Sander Prize.—Following are the rules for competition for the gold medal, of the value of $100, dedicated by Enno Sander of St. Louis, for the best paper on "Military Surgery," presented at the annual meeting of the Association of Military Surgeons of the United States. 1. Competition to be open to all members of the Association. 2. Each competitor shall send three copies of his essay in a sealed envelope, to the secretary, Lieut.-Col. Chas. Adams, Central Music Hall, Chicago, on or before April 15, 1900. The essay must be strictly anonymous, but the author shall adopt some *nom de plume* and sign the same to the essay, followed by a figure corresponding with the number of pages of the manuscript. A sealed envelope bearing the *nom de plume* on the outside, and enclosing full name and address shall accompany the essay. This envelope is to be opened in the meeting of the Association after the decision of the Committee on the Prize Essay has been received. 3. The Committee will designate the essay worthy of the prize, and also, in their order of merit, those deserving of honorable mention. Should the Committee deem proper, it may recommend neither prize nor honorable mention. 4. The successful paper shall be published in the Transactions of the Association.

Conference on Malarial Fever in Rome.—The *British Medical Journal* of February 10 details an interesting conversation which recently took place between a distinguished party of visitors from England and Prof. Battista Grassi of Rome, in regard to the etiology of malarial fever. The party was composed of Dr. Patrick Manson and Mr. Cantlin of the London School of Tropical Medicine, Sir Lauder Brunton of London, and Prof. Clifford Allbutt of Cambridge, and Dr. G. A. Gibson of Edinburgh. They found Professor Grassi working in his laboratory, and it was a matter of some surprise that so much work had been accomplished in regard to the rôle ployed by the mosquito in the propagation of malarial fever with such a small supply of laboratory facilities at hand. With only a modest equipment he has been able to study the different phases in the complete development of the malarial parasites in the body of the mosquito. In regard to the choice of the Anopheles, as the special host of the malarial parasite, it was suggested by Professor Grassi that this might be due to the rapidity with which the blood was digested by this genus of mosquito, i. e., twenty hours sooner than in Culex. To the question: "Can a man contract malaria without being bitten by the mosquito?" an emphatic "no" was given, and asked how he accounts for the prevalence of malaria which is reported to follow on the turning up of fresh soil in malarial countries, he said: "When you dig the ground, you make holes in which water is collected, and there Anopheles breed. Where man goes there Anopheles goes," or, in other words, "no man, no malaria; no mosquitoes, no malaria." In the series of investigations made, he, at the beginning, sacrificed everything else, and for eighteen months labored for sixteen hours a day on questions concerning mosquitoes and malarial fever. At a future date a summary of the work will be given describing the methods necessary for work in the study of this subject, together with the anatomy of the mosquito.

Climate and Diseases of South Africa.—Kolle has returned from South Africa, where he has been introducing serotherapy to check the ravages of the cattle plague, as Koch's bile method of immunization proved too expensive and the immunity lasted only three to five months. Kolle states that neither he nor Koch has received a penny from the British government for their research and services, as they neglected to make a contract beforehand. He asserts that South Africa can be considered almost the healthiest country in the world, and that the climate in the northern portion is actually ideal. The alternation of elevated plateaux and plains affords every variety of climatic conditions, from tropical to temperate, and the size of the families testifies to the healthfulness of the land. Twelve children in a Boer family are common and twenty-four are not uncommon. Tuberculosis is practically unknown, but the defective water-supply is responsible for many cases of typhoid fever, which is frequently malignant. Malaria also prevails in the southern portion, both tertian and tropical. There are scarcely any rats in the country, and cholera, plague and yellow fever are soon stamped out when imported. Leprosy seems to be becoming endemic, and now numbers 8 to 10,000 victims. The blacks are all alcohol poisoned, and scurvy, syphilis and pneumonia are frequent and very severe among them, but the chief mortality is among the infants, the result of artificial feeding. Kolle's address before the Berlin Medical Society, on his return, is reported in the *Deutsche Med. Woch.* of February 1, and gives the particulars of the cattle diseases, which are numerous and fatal.

Present Status of Organ Therapy.—Boeri observed, in his address at the Italian Congres of Int. Med., that the progress of organ therapy during the past year has been mainly in the study of the effect on the blood-pressure of the internal secretion of the glands. (*Gaz. degli Osp.*, Nov. 5, 1899.) The fact that the suprarenals raise the blood-pressure has been abundantly confirmed, and the same has been recognized in respect to the tonsils and kidney. Lancereaux and Paulisco ascribe great efficacy to iodothyrin in the treatment of sclerodermia, chronic rheumatism and arteriosclerosis. The suprarenal capsule has been found useful in exophthalmic goiter, in hematemesis and laryngitis. In the latter affection great benefit has been derived from painting the vocal cords with extract of the suprarenal capsule, probably owing to the vasoconstriction induced. No progress has been made with liver therapy, but Moussu found the parotid gland extract effective in Basedow's disease. Ovarian therapy gained ground in the treatment of chlorosis, amenorrhea, exophthalmic goiter and even in epilepsy. Lebreton substitutes the corpus luteum for the ovary in treating the accidents of the menopause. The greatest advance has been in the restrictions of ovarian therapy that have succeeded the first enthusiasm. Forlanini and others have signalized the dangers of thyroid treatment on account of its cardiovascular action. Layral has also called attention to the inconveniences of "nephrina," and Parker and White, in England, have affirmed the inefficiency of thymus treatment in exophthalmic goiter. Rendu has reported the sudden death of an "Addisonian" under treatment with suprarenal extract. De Renzi also reports unfavorable results from suprarenal capsule in Addison's disease. [The *Yale Med. Jour.* for February contains a communication from B. Moore stating that very small amounts of suprarenal extract—1 to 10 millionths of a gram per kilogram of the body weight of the animal—cause a marked fall of blood-pressure instead of the rise noted with larger amounts. The importance of the internal secretions of the various glands has been especially emphasized by Kahane (*Cbl. f. Allg. Path.*, x, 23). He ascribes to them the vascular alterations which have been hitherto attributed to the influence of the vasomotor nerves. He believes that the nerves are concerned to a certain extent, but the internal secretions of the glands supply the primary excitation to the nerves.—Ed.]

Pupilary Disorders of Insane.—The *Am. Jour. of Insanity*, January, notices a paper by Neff, based on an examination of the pupils of 300 patients. All pupils were examined as to the relation of size, viz., the presence of regularity; in reference to reaction of light stimulus; and in reference to the reflex accommodation. Irregularity was detected in 27—9 per cent.—of the patients; in 14 the right pupil was larger, the left being more dilated in 13. The phenomenon was distributed among the psychoses as follows: it was found in 14 cases of terminal dementia; local eye disease could account for its presence in 6 cases; it occurred in 9 of paretic dementia; it was associated with immobility in 7, and with the Argyll-Robertson pupil in 2 cases; it was also found in 1 of periodical insanity, and in 3 classed as organic dementia. In the former, apparently, the condition had no bearing on the form of insanity; in the latter instance the phenomenon in 2 was due to local eye disease, and associated in 1 with pupilary immobility. Bilateral myosis was present in 7 cases—3.6 per cent. It was found in 2 of terminal dementia, probably due to senile changes, and in 4 of paretic dementia, combined with the Argyll-Robertson in 2, and with complete immobility in 2. Extreme bilateral dilatation, or mydriasis, was found in 2 cases, in both associated with an optic atrophy in organic brain disease. The natural inference is that irregularity *per se* is of little importance, and verifies the observation that pupilary symptoms in insanity are only important when they have developed during the disease, and other local causes can be excluded. The presence of irregularity in 9 cases of paretic dementia—42,7 per cent. of all paretics examined—combined with immobility and reflex iridoplegia, is a matter of interest. Of all cases examined, 67 per cent.—208 patients—showed an active or normal response to light. It was distributed among the insanities as follows: In 4 cases of acute melancholia, 3 of chronic melancholia, 6 of periodic insanity, 11 of epileptic insanity, 10 of chronic alcoholic insanity, 20 of primary delusional insanity, 2 of secondary delusional insanity, 137 of terminal dementia, 2 of chronic dementia, and in 12 cases of imbecility. In 77 cases—25.6 per cent.—the pupilary reaction was sluggish. With the exception of 6 cases this was bilateral. It was distributed among the insanities as follows: In chronic melancholia, 3 cases; periodic insanity, 9; epileptic insanity, 4; chronic alcoholic, and primary delusional insanity, each 5; secondary delusional insanity, 1; terminal dementia, 43; chronic dementia, 5, and imbecility, 2 cases. The Argyll-Robertson pupil was found in 8 patients—2.6 per cent. All of these were victims of general paralysis, and furnished 33 per cent. of all paretics examined. Immobility of pupils was found in 13—4.3 per cent. of all those examined. Ten were paretics, and 3 were cases of cerebrospinal syphilis. Both the active and sluggish pupil are therefore quite well distributed among the various forms of insanity. With the exception of 5 patients with chronic alcoholic insanity, and 5 with chronic dementia, it could not be positively said that the sluggish pupil had any direct bearing on the form of mental disease. Errors of accommodation were manifested principally by sluggishness. A sluggish reflex to light, especially in cases where presbyopia existed, was accompanied by a similar accommodative error. Excluding the cases of immobility of pupil, a total bilateral absence of reflex to accommodation—cycloplegia—was not observed. In other words, the ability for accommodation was in many cases closely related to refractive errors observed in degrees of presbyopia. The following local eye diseases were detected: conjunctivitis in 15 patients, arcus senilis in 45, keratitis in 3, iritis in 5, cataract in 4, and pterygium in 15.

Queries and Minor Notes.

TO PARIS.

OTTAWA, ILL., Feb. 27, 1900.

To the Editor.—In view of the fact that accommodations on the *City of Rome*, which has been chartered for our "Physicians' Party," were being taken so rapidly I thought it advisable to have a number of berths reserved for a short time. Those wishing to avail themselves of this additional opportunity will do well to make application at once.

J. W. PETTIT, M.D.

EVOLUTION OF SEXUAL INSTINCT.

WILMINGTON, DEL., Feb. 25, 1900.

To the Editor.—In the miscellany of THE JOURNAL of February 24 is a synopsis of Féré's new work on evolution of sexual instinct. Can you tell me where I can get it, and also the price?

J. W. B.

ANSWER: Féré's work is entitled "L'Instinct Sexuel, Evolution et Disparition," and is published by Felix Alcan, Paris. There has been no English translation as yet, as far as is known to us. The book can be obtained from any importing bookseller.

The Public Service.

ARMY CHANGES.

Movements of Army Medical Officers under orders from the Adjutant General's Office, Washington, D. C., Feb. 9 to 15, 1900, inclusive.

George W. Adair, major and surgeon, U. S. A., member of a board convened at Fort Sheridan, Ill., to examine candidates for admission to the U. S. Military Academy, West Point, N. Y.

Aaron H. Appel, major and surgeon, U. S. A., member of a board at Jackson Barracks, La., to examine candidates for cadet appointments.

William H. Arthur, major and surgeon, U. S. A., from the hospital ship *Missouri* to duty in the Department of California.

James T. Arwine, acting asst.-surgeon, from Fort McIntosh, Tex., to Vancouver Barracks, Wash., for temporary duty until he is enabled to proceed to Fort St. Michaels, Alaska, under instructions from the commanding general of the Department of Alaska.

Bailey K. Ashford, lieutenant and asst.-surgeon, U. S. A., previous orders directing him to proceed to the Philippine Islands revoked; on the expiration of his present leave he will report for temporary duty at Washington Barracks, D. C.

John M. Banister, major and surgeon, U. S. A., member of a board at West Point, N. Y., for the examination of candidates for entrance to the military academy.

Howard W. Beale, acting asst.-surgeon, from the transport *McClellan*, at New York City, to duty in the Department of California.

Alfred E. Bradley, captain and asst.-surgeon, U. S. A., member of a board at Fort Snelling, Minn., to examine cadet appointees.

Emilio F. Cabado, acting asst.-surgeon, now at Fort Wingate, N. M., is relieved from further duty in the Department of Santiago and Puerto Principe, and will report to the chief surgeon Department of the Colorado for instructions.

George L. Cable, acting asst.-surgeon, from Fostoria, Ohio, to duty at Fort McIntosh, Tex.

Robert E. Coldwell, acting asst.-surgeon, from the Department of Puerto Rico to San Francisco, Cal., for assignment to a transport.

Elmer A. Dean, lieutenant and asst.-surgeon, U. S. A., member of a board at San Francisco, Cal., to examine cadet appointees.

Benjamin J. Edger, lieutenant and asst.-surgeon, U. S. A., member of an examining board at West Point, N. Y.

Richard M. Fletcher, Jr., acting asst.-surgeon, member of an examining board at Fort Harrison, Mont.

Arthur M. Fraser, acting asst.-surgeon, now at New York City, to temporary duty on the transport *McClellan*.

Robert J. Gibson, major and surgeon, U. S. A., from duty in the Department of California to command the hospital ship *Missouri*.

Harry M. Hallock, captain and asst.-surgeon, U. S. A., member of an examining board at Fort McPherson, Ga.

Albert Hartsuff, lieutenant-colonel, deputy surgeon-general U. S. A., member of an examining board at Fort Sheridan, Ill.

Philip F. Harvey, major and surgeon, U. S. A., member of an examining board at San Francisco, Cal.

Charles L. Heizmann, major and surgeon, U. S. A., member of an examining board at Fort Sam Houston, Tex.

James M. Kennedy, captain and asst.-surgeon, U. S. A., to proceed in the first available transport from the Department of California to Manila, P. I., for duty in the Department of the Pacific and Eighth Army Corps.

George E. Means, acting asst.-surgeon, leave of absence extended.

George J. Newgarden, captain and asst.-surgeon, U. S. A., member of an examining board at Fort McHenry, Md.

George Newlove, acting asst.-surgeon, member of an examining board at Fort Leavenworth, Kansas.

William O. Owen, captain and asst.-surgeon, U. S. A., member of an examining board at Fort Thomas, Ky.

Benjamin F. Pope, lieutenant-colonel, deputy surgeon-general, U. S. A., relieved from previous orders which appointed him a member of a board in Manila, P. I., to examine candidates for appointment in the Medical Corps of the Army of the Pacific and Eighth Army Corps.

James Reagles, acting asst.-surgeon, from Vancouver Barracks, Wash., to Fort Stevens, Ore.

Charles Richard, major and surgeon, U. S. A., member of an examining board at Fort Leavenworth, Kansas.

George A. Skinner, lieutenant and asst.-surgeon, U. S. A., from Fort Stevens, Ore., to duty in the Department of California.

Harry C. Smith, acting asst.-surgeon, from Hughesville, Mo., to the Department of California.

William L. Stevens, acting asst.-surgeon, from Orange, Va., to the Department of California.

Charles Wilcox, captain and asst.-surgeon, U. S. A., member of an examining board at Fort Sam Houston, Texas.

Joseph P. Wright, colonel and asst. surgeon-general, U. S. A., member of an examining board at Fort Snelling, Minn.

NAVY CHANGES.

Changes in the Medical Corps of the Navy for the week ending Feb. 17, 1900.

Medical Inspector M. H. Simons, commissioned medical inspector from Sept. 24, 1899.

Medical Inspector H. Wells, commissioned medical inspector from Jan. 15, 1900.

Medical Inspector T. H. Streets, detached from the *Philadelphia* as fleet surgeon, on reporting of relief, and ordered to the New York navy yard.

P. A. Surgeon J. C. Rosenbleuth, ordered to the naval recruiting rendezvous, New Orleans, La.

Surgeon H. N. T. Harris, commissioned surgeon from Oct. 21, 1899.

Asst.-Surgeon Karl Ohensorg, appointed from Jan. 27, 1900.

P. A. Surgeon G. L. Barber, ordered to the *Kearsarge*, Feb. 20, 1900.

Asst.-Surgeon D. G. Beebe, detached from the *Petrel* and ordered to Port Isabella.

MARINE-HOSPITAL CHANGES.

Official list of the changes of station and duties of commissioned and non-commissioned officers of the U. S. Marine-Hospital Service for the 7 days ending Feb. 15, 1900.

Surgeon H. R. Carter, upon expiration of leave of absence to report at Washington, D. C., for special temporary duty.

Surgeon A. H. Glennan, to proceed to Mobile, Ala., as inspector of unserviceable property; to proceed to Searcy, Ark., for special temporary duty.

Surgeon W. P. McIntosh, to proceed to Pensacola, Fla., for special temporary duty.

P. A. Surgeon M. J. Rosenau, to proceed to Philadelphia, Pa., for special temporary duty.

P. A. Surgeon H. S. Cumming, granted leave of absence for 14 days from February 12.

Asst.-Surgeon S. R. Tabb, granted extension of leave of absence for 14 days on account of sickness.

Acting Asst.-Surgon Hugh Burford, granted leave of absence for two weeks from February 15.

Acting Asst.-Surgeon J. M. Keyes, granted leave of absence for sixty days from January 15.

Acting Asst.-Surgeon J. A. Moncure, relieved from duty at Gulf quarantine and directed to proceed to South Atlantic quarantine station for duty and assignment to quarters.

HEALTH REPORTS.

The following cases of smallpox, yellow fever, cholera and plague have been reported to the Surgeon-General, U. S. Marine-Hospital Service, during the week ended Feb. 24, 1900.

SMALLPOX—UNITED STATES.

Arkansas: Jefferson County, Feb. 3, 56 cases; Mena, Feb. 10 to 17, 7 cases, 1 death.

Florida: Jacksonville, Feb. 10 to 17, 3 cases.

Illinois: [illegible], Feb. 10 to 17, 6 cases; Danville, Feb. 3 to [illegible] cases.

Idaho: Eastern towns, Feb. 9, prevalent.

Indiana: Evansville, Feb. 10 to 17, 3 cases.

Kansas: W[illegible], Feb. 10 to 17, [illegible] cases.

Kentucky: Louisville, Feb. 15, 2 cases.

Louisiana: New Orleans, Feb. 10 to 17, 62 cases, 31 deaths; Shreveport, Jan. 27 to Feb. 3, 14 cases.

Minnesota: Minneapolis, Jan. 27 to Feb. 3, 36 cases; Feb. 3 to 17, 18 cases.

Mississippi: Greenwood, Jan. 27 to Feb. 10, 216 cases, 6 deaths.

Montana: Butte, Feb. 7, 150 cases.

Oregon: Eastern towns, prevalent.

New York: New York, Feb. 10 to 17, 1 case.

Ohio: [illegible], Feb. 9 to 16, 4 cases; Cleveland, Feb. 10 to 17, 27 cases; Youngstown, Feb. 10 to 17, 1 case.

Tennessee: Nashville, Feb. 10 to 17, 1 case.

Utah: Salt Lake City, Feb. 10 to 17, 3 cases.

Virginia: Martinsville, Feb. 7, 1 case; Portsmouth, Feb. 10 to 17, 6 cases; Richmond, Jan. 1 to 31, 21 cases.

Washington: Spokane, Feb. 10 to 17, 6 cases.

SMALLPOX—FOREIGN.

Austria: Prague, Jan. 20 to 27, 1 case.

Belgium: Antwerp, Jan. 27 to Feb. 3, 7 cases.

Brazil: Rio de Janeiro, Dec. 15 to Jan. 12, 102 deaths.

Canada: Amherstburg, Feb. 10 to 17, 1 case; Quebec, Feb. 3 to 9, 4 cases; New Brunswick, Feb. 10, prevalent.

Nova Scotia: Feb. 10 to 17, prevalent.

Egypt: Cairo, Jan. 16 to 21, 4 cases.

England: Leeds, Feb. 3 to 10, 1 death; London, Jan. 20 to Feb. 3, 45 cases.

France: Lyons, Feb. 20 to 27, 1 death; Nice, Jan. 20 to Feb. 3, 5 cases, 2 deaths; Paris, Jan. 27 to Feb. 3, 2 deaths.

Germany: Königsburg, Jan. 20 to 27, 3 cases.

Gibraltar: Jan. 22 to 28, 2 cases.

Greece: Athens, Jan. 27 to Feb. 3, 2 cases.

India: Calcutta, Jan. 6 to 13, 9 deaths; Kurrachee, Jan. 6 to 21, 12 cases, 1 death; Madras, Jan. 13 to 19, 1 death.

Mexico: Ciudad Porfirio Diaz, Feb. 10 to 17, 5 cases, 3 deaths; Vera Cruz, Feb. 10 to 17, 5 deaths.

Russia: Moscow, Jan. 20 to 27, 2 cases; Odessa, Jan. 27 to Feb. 3, 10 cases, 2 deaths; St. Petersburg, Jan. 20 to 27, 26 cases, 6 deaths; Warsaw, Jan. 25 to Feb. 1, 5 deaths.

Spain: Corunna, Dec. 9 to Feb. 3, 5 cases, 4 deaths.

Straits Settlements: Singapore, Dec. 31 to Jan. 6, 3 deaths.

Switzerland: Geneva, Jan. 21 to 28, 6 cases.

Turkey: Smyrna, Jan. 29 to Feb. 4, 1 death.

YELLOW FEVER.

Brazil: Rio de Janeiro, Dec. 15 to Jan. 12, 25 cases, 30 deaths.

Cuba: Havana, Feb. 7 to 14, 2 cases.

Mexico: Vera Cruz, Feb. 10 to 17, 2 deaths; Curacao, Feb. 3 to 10, 1 case.

CHOLERA.

India: Calcutta, Jan. 6 to 13, 30 deaths.

PLAGUE.

Brazil: Rio de Janeiro, Jan. 20, 1 case; San Paulo, Jan. 20, 1 case.

India: Calcutta, Jan. 6 to 13, 45 deaths; Kurrachee, Jan. 16 to 21, 21 cases, 13 deaths.

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The Journal of the
American Medical Association

Vol. XXXIV CHICAGO, ILLINOIS, MARCH 10, 1900. No. 10.

Original Articles.

SOME POINTS IN THE DIAGNOSIS OF TRAUMATIC INJURIES OF THE CENTRAL NERVOUS SYSTEM.*

BY J. T. ESKRIDGE, M.D.
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DENVER, COLO.

In as brief a space as possible I shall endeavor to consider some differential points in the diagnosis of various affections of the central nervous system, laying especial stress on such as result from traumatism. I shall include in these the psychic effects of shock and suggestion.

The first point to which to call attention is found in a short paper written by me and read by title, as I was not present, at the Fourth Annual Meeting of the Academy of Railway Surgeons, held at Chicago, in October, 1897. In this I pointed out that damages were occasionally recovered from corporations for the effects of disease that had existed many years before the occurrence of the accident in which the plaintiff testified, under oath, he had received the injuries for which he was claiming damages[1]. In the first case, a brief abstract of which occurs in the paper to which reference has been made, a man, two years after having been thrown out of his berth in a Pullman sleeping-car, obtained a large sum of money from a railroad for wasting of the right leg below the knee. Some time after the claim was paid, it was ascertained that the man had suffered from poliomyelitis in childhood, and that the muscular defect dated back many years prior to the occurrence of the accident in which he claimed to have been permanently injured.

The second case occurred in the person of a traveling salesman, who was severely shaken up in a railroad accident, July 30, 1892. One or two years subsequently he sued the railroad and was awarded $7000, on account of paralysis agitans, from which he suffered at the time the suit was brought. The history of the man showed that in 1880 he was thrown from a carriage and six years later, or in 1886, the right hand and arm began to be affected by a rhythmic tremor, which was fine, most pronounced after exhaustion, but momentarily disappeared on moving the arm. This was a case of paralysis agitans dating from 1886, instead of from 1892, the date of the accident.

How are we to determine whether the occurrences of certain diseases date from the time of the accident in which a person alleges he was injured, or whether the lesion had its origin years prior to the accident? The only absolutely safe rule in these cases is for the railroad surgeon, oculist, physician and neurologist to make a careful and systematic examination of the injured as soon after the occurrence of the accident as possible. Persons who are severely injured are very anxious to receive the best possible medical attention soon after the occurrence of the accident, and at these times they are very communicative and are eager to give the attending physician or surgeon all the information that they can concerning their personal history. In the first case to which reference has been made in this paper, the presence of muscular atrophy and reaction of degeneration, a few days after the occurrence of the accident, when the railroad surgeon was first consulted, would have been conclusive proof that the muscular defect antedated, by months or years, the injury to the leg. In the second case, the peculiar position in which the body and limbs are held in paralysis agitans would have enabled the medical examiner to make a diagnosis.

A carefully gleaned history at the time of the accident will often reveal the fact that the subject had been hysteric, neurasthenic, or a sufferer from intrapelvic trouble prior to the injury from which all the patient's suffering may be dated subsequently to the accident, or at the time the suit for damages is instituted. Having satisfied ourselves that the symptoms of the alleged injuries have been developed subsequently to the accident, the next points to be determined are: Is the person suffering from any demonstrable organic lesions of the central nervous system? Is the disease neurasthenia, hysteria, or is it feigned?

The time at my disposal for the consideration of these important questions is far too limited to enable me to give more than a mere outline of the methods which I pursue in the investigation of these cases

Is the patient suffering from any demonstrable organic lesion of the central nervous system? This, as a rule, is not difficult to determine if a thorough and systematic examination is made of all the organs of the body, but especially of the entire nervous system, followed by other examinations, when the first has failed to define the meaning and importance of all the symptoms.

In our examinations, we must bear in mind that a person may be suffering from an organic lesion of the nervous system, and at the same time manifest symptoms of hysteria and neurasthenia. Together with these symptoms, others may be present that are evidently feigned. Because a person feigns we must not denounce him as an impostor. In examining persons suffering from real or imaginary diseases of the central nervous system, the last affections to be thought of are hysteria and neurasthenia. Not until exhaustive examination, or examinations, have failed to reveal a single positive sign of organic disease, should we make the diagnosis of hysteria or neurasthenia. It must be remembered and constantly borne in mind in our examinations of the cases under discussion, that the presence of one positive sign of organic trouble is of more importance in enabling us to make a diagnosis of an organic lesion than the presence of a multitude of symptoms, functional in character, in justifying us in excluding organic disease. There is an array of symptoms which strongly point to the presence of organic disease, but which may entirely be due to hysteria. On the other hand, there is another group of symptoms which often appear hysteric in character that in reality are due to organic lesion of the central nervous system. These affections I shall not attempt to discuss until I come to consider the differential diagnosis between hysteria and certain organic diseases.

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* Read before the American Academy of Railway Surgeons, Omaha, Neb., Oct. 12-13, 1899.

[1] The Journal, April 23, 1897.

TRAUMATIC NEURASTHENIA.

Unfortunately we are all too familiar with nerve exhaustion, nerve fatigue, commonly known as neurasthenia. The traumatic and non-traumatic forms are the most frequent nervous affections the general surgeon and practitioner of medicine, the gynecologist and neurologist have to meet. It is probable that nearly one-fourth of the traumatic nervous affections are neurasthenic in character. If I were asked for one symptom that is found more frequently in traumatic neurasthenia than in the non-traumatic form, I should answer, "lumbago." This symptom may be found in both etiologic forms of neurasthenia, and we often meet with the traumatic form in which it is absent. It must be borne in mind that neurasthenia may be present in hysteria, may be associated with any organic disease, and develop as a result of the profound functional disturbances to which the various organs of the body are subject.

It is unnecessary for me to go into a detailed description of neurasthenia. This affection is attended by a sense of exhaustion and lack of reserve force, but not by abolition of power, sensory and motor, such as we find in hysteria. There is a lessened power of physical and mental endurance. The patient may temporarily show a considerable amount of muscular power, but this is soon exhausted and may be followed by hours or days of increased fatigue. Every outlay in energy is paid for on the part of the patient by hours of suffering and exhaustion. Lack of mental endurance is shown by the fatigue that follows reading or any other mental effort. There is a mental and physical irritability, annoying to the patient, and often exasperating to the physician. There is frequently a sense of great physical and mental depression, often attended with doubt, hesitancy and great apprehensiveness. Sometimes the depression is so great as to make the physician suspect a psychosis, such as melancholia; indeed, it is not infrequently difficult to draw the line between melancholia and neurasthenia with great mental depression. Emotional manifestations, such as shedding tears, and outbursts of laughter, are not infrequent. Most authorities agree that insomnia is one of the most troublesome symptoms of neurasthenia. Pain and hyperesthesia are common symptoms. The pain is most prominent in and around the spinal column, in the neck and in the head, but it may be complained of in almost any portion of the body. Pressure over the painful regions of the spine or areas of hyperesthesia is usually attended by increase of the pulse-rate. In non-traumatic cases the pain is usually most severe in the upper portions of the spine and in the back of the head. In the traumatic ones, the lumbar region is usually the seat of the greatest pain and tenderness. Paresthesia, such as burning, "pins and needles" sensation, crawling, is not infrequent in neurasthenia. While hyperesthesia is common, anesthesia does not occur. If the latter symptom is present the case is looked on as one of hysteria. Central vision is usually normal, but the peripheral fields soon become exhausted, when the fields appear narrowed. Asthenopia is usually present. Auditory hyperesthesia is a common symptom. The motor symptoms consist of lessened power and lack of endurance for muscular effort continued any length of time beyond a few moments. There is neither paralysis nor contracture such as is found in hysteria. The deep reflexes are increased, the superficial normal, lessened or increased. The trophic changes usually relate to those attendant on general malnutrition. There is nothing in the respiratory changes that is of much diagnostic value. The pulse-rate, on the other hand, is of great importance. This is, as a rule, considerably increased, and is often greatly accelerated on the slightest exertion, or the least excitement. Knapp says: "One of the most striking features of traumatic neurasthenia is in the rapidity of the pulse. In twenty-five cases it ranged from 72 to 140, the average being 95, and in only three cases did it fall below 80."[2]

The principal diagnostic symptoms of neurasthenia are the following: Exhaustion, without complete loss of power; insufficient reserve force to enable the patient to recuperate rapidly after he has been compelled to exert himself, either mentally or physically; intense self-consciousness and a habit of introspection. The patient is cognizant of the perverted function of nearly every organ in the body. Numerous subjective sensory disturbances, mental depression, and apprehensiveness, undue emotional manifestations, irritability and rebellious insomnia are often present. Pain and tenderness over the back; in the traumatic cases it is most intense over the lumbar region; in the non-traumatic, pain and tenderness are most pronounced in the upper region of the spine, at the base of the brain, or at the junction of the spine and skull. There is hyperesthesia and paresthesia, without anesthesia; muscular weakness and fatigue, without paralysis or contracture; narrowing of the fields of vision after exhaustion of any kind, especially after the retina has become exhausted from repeated examinations of the visual fields. Auditory hyperesthesia exists and increased deep reflexes. The accelerated pulse-rate is greatly influenced by exercise, pressure over the tender spots, exhaustion, irritation or excitement. Vasomotor disturbances, such as profuse perspiration over the entire body, or over a portion of it, are not uncommon. It is rare to find a case of neurasthenia unattended by more or less disorder of the digestive organs.

TRAUMATIC HYSTERIA.

Hysteria and neurasthenia are closely allied diseases. In fact the pathology of each is strikingly similar. In the study of their symptomatology it is impossible to say where neurasthenia ends and hysteria begins. It is probable that the latter is generally preceded by a more pronounced neurotic taint than the former. In other words, heredity plays a more important part in the causation of hysteria than it does in neurasthenia. The neurasthenic is commonly hysteric and the hysteric almost invariably presents some symptoms of neurasthenia. The latter not infrequently passes into hysteria, but typical hysteria never passes into neurasthenia. Hysteria denotes greater disturbance of cerebral function and more evidence of cellular degeneration of the cerebral cortex than does neurasthenia. It is probable that neither case can exist long without some cell changes taking place in the cerebral cortex.

What is the difference between traumatic and non-traumatic hysteria? So far as my limited experience enables me to answer this question, I should say that in the former the character of the accident, or rather the location of the injury sustained, or supposed to have been sustained, by the subject determines to a greater or less extent the location of the pain of which most complaint is made, the seat of the paralysis, contracture or anesthesia.

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[2] Nervous Diseases by American Authors. Edited by Dercum, vol. v, 136.

For diagnostic purposes, if we take the symptoms of neurasthenia, a short abstract of which is given in this paper, and add to them the stigmata of hysteria, such as hemianesthesia, spots of anesthesia, the tender points, the various and varying forms of paralysis, contracture and "crossed amblyopia," with contracted fields of vision, we would have a typical case of hysteria. It must not be forgotten that it is exceedingly rare, in this country, at least, to meet with a case of hysteria in which all the stigmata or ear-marks of the disease, are present. Especially is this so in regard to the paroxysms of hysteria. The latter are not classed among the stigmata of the disease, but among the general phenomena of only a certain group of cases.

The following are some of the principal diagnostic points of the stigmata of hysteria[3].

HYSTERIC ANESTHESIA.

1. In hemianesthesia the loss of sensation is often profound, extending from the crown of the head to the sole of the foot—this is rare in organic disease, but does occur in certain lesions.

2. The reflex action of the skin over the anesthetic areas is normal or nearly so—not so in organic disease.

3. The pupils dilate when the skin of the neck of the anesthetic side is irritated—in organic disease with anesthesia of the skin over the neck, the pupils do not dilate when the skin is irritated.

4. The fingers of the anesthetic hand can still be used, without the aid of sight, in the performance of fine and dexterous movements—if the hand is anesthetic from an organic lesion, delicate movements of the fingers can not be accomplished without the aid of sight.

5. When the arm or leg is affected, the anesthesia may cease abruptly at the wrist, or ankle, at the elbow or knee, at the hip or shoulder or between the joints. This is known by the names of the glove and stocking anesthesia—this is only found in a few organic lesions.

6. The ovarian tenderness is often greater on the anesthetic side. The other tender spots on this side persist, notwithstanding that analgesia over all other portions of this side is profound—this is contrary to what we find in organic disease of the nervous system.

7. The loss of sensation may extend up to, or just beyond, the median line in front, but may not reach the median line in the back. In some cases the loss of sensation does not extend up to the median line either anteriorly or posteriorly—in organic disease the anesthesia follows the course of the distribution of the nerve-supply.

8. The anesthesia may come on suddenly, as from traumatism; it may develop or increase after a hysteric paroxysm; it may increase during the examination, especially if a suggestion to that effect is made, and it often increases at the menstrual period; it is frequently changeable from day to day, and may be transferred from one side to the other, especially by the use of suggestion, or by the application of magnets—the opposite holds good in anesthesia from organic lesions.

9. The anesthetic area ends abruptly—the same thing is found in some cases of syringomyelia.

10. In hemianesthesia there frequently is a condition of "crossed amblyopia," the eye most affected being on the side on which sensation is lost—I have never met with this combination of symptoms from organic disease of the brain.

HYSTERIC HYPERESTHESIA.

1. The areas of increased sensitiveness are often ill-defined, changeable and may be bordered by areas of anesthesia—this is not found in organic disease.

2. Deep-seated tenderness, or the hysterogenic zones are most pronounced on the anesthetic side—not so in organic disease.

3. When the pain and tenderness are superficial, deep and steady pressure, especially over the spine or abdomen, may give a sense of relief, after the excitement caused by the contact of the hand has passed away—rarely true in organic disease.

4. The painful joints may show no local changes, nor any other evidences of organic disease, and the patient is very averse to the slightest movement of the affected joint.

POINTS IN DIAGNOSIS OF HYSTERIC EYE AFFECTIONS.

1. If vision is lost or greatly lessened, the patient acts as though she does not see, yet by the proper tests it may be demonstrated that she does see—not so in organic affections.

2. In "crossed amblyopia" the worst eye is on the side corresponding to that on which anesthesia is situated, with or without paralysis or contracture, but the face is not affected by any disturbance of its motor power—contrary to what is found in organic disease.

3. In homonymous hemianopsia both corneæ are anesthetic—such a condition of symptoms does not occur from organic brain lesions.

4. In dyschromatopsia blue may disappear before red.

5. In achromatopsia everything appears gray.

DIAGNOSTIC POINTS AMONG MOTOR PHENOMENA OF HYSTERIA.

1. In aphonia, etherization of the patient, or faradization of the throat will cause her to speak. Talking during sleep may occur, and singing is possible in many cases. The aphonia may come on suddenly from emotional disturbances, or from traumatism. Paralysis of the vocal cords is always bilateral in hysteria; unilateral paralysis of these cords is always due to organic disease. The aphonia usually disappears suddenly.

2. In hemiplegia the face is not paralyzed, although it is often anesthetic on the side corresponding to that of the hemiplegia—it is probable that in a few cases the face is paralyzed in hysteria, but the general rule as above stated holds good; we must be careful not to mistake spasm of the muscles of one side of the face for paralysis of the other side.

3. The leg is dragged or shuffled, the foot is not swung outward in bringing it forward, and the toes do not catch on the ground or floor, as is the case in hemiplegia from organic brain disease.

4. The nutrition and electric conditions of the muscles are well preserved.

5. The deep reflexes may be normal and the plantar absent on both sides. If the former are increased, as is often the case, the difference between the two sides is not great. Absence of the plantar reflexes on one side rarely occurs in hysteria. Typical ankle-clonus which persists for several seconds rarely occurs. In organic disease producing hemiplegia both knee-jerks are often increased, but it is greatly in excess on the hemiplegia side.

6. On testing the strength of the flexor muscles, best

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[3] Eskridge on "Hysteria", Sajous' Annual and Analytical Cycloped. of Prac. Med., vol. iii.

observed in the latter, there is abnormal contraction of the extensor muscles. (Gowers.)

7. The flexor contracture of the hand is not lessened by forcibly flexing the wrist, as occurs in organic disease in which contracture has resulted.

8. Ptosis of hysteria is not due to paralysis of the levator muscle, but to spasm of the orbicularis, and the spasm is increased on requesting the patient to look up. If the ptosis is bilateral the head is thrown backward on trying to look upward. If the head is held by some one the patient attempts to look upward, both orbiculares contract. (Gowers.)

9. The ataxic gait is exaggerated beyond that of organic disease, and has the same psychic character as the muscular movements of the hysteric convulsions.

10. Astasia-abasia, inability to stand or walk, although the legs are moved well while the patient is lying in bed, is always presumptive evidence of hysteria.

11. The tremor of hysteria usually ceases during repose if the patient thinks that she is not watched, but it sometimes continues while the patient is sitting or lying. Voluntary motion increases the tremor. If the patient is requested to touch a small object with a finger of one hand, little difficulty is experienced in doing this, but after the finger has been in contact with the object a short time, irregular jerky movements of the arm begin, differing from the tremor of disseminated sclerosis, in which great effort is frequently required in bringing the finger in contact with the object, but this accomplished, the tremor ceases immediately. (Buzzard).

It is probably safe to say that paralytic incontinence of urine and feces, rarely, if ever, occurs, except possibly during the apparent semiconscious condition, following a severe paroxysm in which convulsions have been prominent. Therefore the presence of incontinence of either the bladder or bowel should excite suspicion of organic disease.

POINTS IN DIFFERENTIAL DIAGNOSIS OF HYSTERIA.

In the vast majority of instances the diagnosis of hysteria is comparatively easy if one is familiar with all the "ear-marks" of the disease. Much precision and certainty is lost to that physician who regards hysteria as a protean disease, without constant and characteristic symptoms. While it is true that on superficial observation the symptoms of hysteria at times may appear to mimic those of nearly every organic lesion of the nervous system, viscera, and joints, yet, by a careful study of it, especially of the stigmata, their onset, course and duration, it will be discovered that hysteria is a definite and distinct disease with its own laws and clean-cut symptoms, and that the mimicry is but so in appearance. It must never be lost sight of that hysteria and organic disease may be associated. The two diseases may exist in the same person at the same time. Indeed, in one who is strongly predisposed to hysteria the development of organic disease will give rise to this affection. In such cases it is important to bear in mind that the pronounced and more obtrusive symptoms of hysteria may, and frequently do, overshadow, if they do not entirely obscure, the indicative symptoms of organic disease. A failure to recognize this fact is, I am quite confident, to blame for many mistakes and not a few blunders that I have encountered in the practice of some excellent physicians.

The first duty of the physician on meeting with a case that seems to be hysteric in character is to determine, if possible, by repeated, thorough and systematic examinations, whether or not there is any organic lesion present. The presence of a multitude of symptoms, all pointing to hysteria, is not sufficient to rest a diagnosis on, if there is one symptom that positively indicates an organic lesion.

Cortical Lesions of the Brain.—Paralysis and anesthesia of the distal portion of a limb from a cortical lesion should never cause any difficulty in the diagnosis from hysteria, unless the patient is also the subject of the latter disease; yet I have seen cases in which this mistake has been made, in one instance, too, by a neurologist of no mean ability. In the first place there is absence of the stigmata of hysteria. The paralysis and anesthesia begin gradually, and the latter is rarely ever profound or extensive. If the lesion is irritative and attended by contracture, muscular wasting will occur, The spasm is at first limited and Jacksonian in character. The deep reflexes of the affected limb are excessively increased, while those of the other limbs may remain normal or nearly so. Soon other symptoms of organic lesion, especially choked discs and evidences of intracranial pressure, develop. The reverse of all these symptoms obtains in hysteria. In the event that the patient were hysterical the presence of the positive symptoms of a fecal lesion of the brain would make the diagnosis clear.

Cerebellar Tumor.—Most of the cases of tumor of the brain that have been mistaken for hysteria have been located below the tentorium. I have one such case under my care at present. This patient was treated eighteen months for neurasthenia and hysteria. It is fair to state that she comes of hysteric stock, and had the most prominent of the stigmata, even to the paroxysmal symptoms. A careful history, which revealed the fact that certain symptoms pointing to organic disease began gradually eighteen months ago and has since slowly, but steadily, increased, together with unilateral facial paralysis and double choked discs, make the diagnosis easy.

Hemianesthesia from Brain Lesion.—This is extremely rare unless associated with some motor disturbance. The deep reflexes, especially the knee-jerk, are increased to greater extent than is found in hysteria; hemianopsia will likely be present, and the special senses on the hemianesthetic side are less affected. In hysteria there is probably "crossed amblyopia." The hemianesthesia that occurs in alcoholism and in some cases of metallic poisoning, especially from lead, is evidently hysterical in its nature.

Hemiplegia.—The paralysis of one side of the face; the state of the reflexes—the deep excessive, and the superficial slight, or abolished, on the paralyzed side; the absence of "crossed amblyopia;" or profound affection of the special senses would exclude hysteria as the cause.

Hemianopsia.—If due to organic brain lesion in the occipital lobe, this may be the only symptom, except, perhaps, pain in the head. It is not changeable and persists for a long time, if not for life. In hysteria it is transient, changeable, the other fields are narrowed, the conjunctivæ of both eyes are anesthetic, the color-fields are probably reversed, and other stigmata of hysteria are present.

Paraplegia.—If due to myelitis affecting the lumbar region, paralysis of the anal and vesical sphincters, the loss of the reflexes, muscular wasting, bed-sores, and the reactions of degeneration would stamp the nature of the trouble. If the cervical cord or the lateral columns were the seat of the lesion, the exaggerated reflexes with true ankle-clonus and other evidences of organic disease would serve to determine the character of the trouble. In poliomyelitis, the muscular wasting, loss of reflexes, and the reactions of degeneration would exclude hysteria as the cause of paralysis. Syringomyelia has many symptoms in common with hysteria, but the muscular wasting, often the weakness of sphincters, the changes in the reflexes, and the absence of the stigma of hysteria would be sufficient on which to base a diagnosis. Multiple neuritis presents organic changes, as shown by reflexes, wasting, and the reaction of degeneration.

Disseminated Sclerosis.—Buzzard says: "Multiple sclerosis, like hysteria, is common in women at puberty; a history of some moral shock often precedes both; there are few cases of multiple sclerosis in which there are not hysterical symptoms added; and many symptoms of the former have long been looked upon as hysterical." The same writer states that the plantar reflexes are usually well marked in multiple sclerosis, and feeble or absent in hysteria. Paralysis is usually sudden in its onset, and more complete and flaccid in the latter than in the former. When blindness occurs in one eye, it is generally complete at first and comes on suddenly in hysteria, whereas in multiple sclerosis absolute blindness in one eye is rare. In the latter the acuity of vision lessens gradually with contraction of the visual fields, until the eye is almost useless; then vision improves in this eye and fails in its fellow. Atrophy of the optic nerve and nystagmus occur in multiple sclerosis, but are probably never of hysterical origin. The tremor of multiple sclerosis may be simulated by an irregular tremor occurring on voluntary movement in hysteria, but in the latter the excursions are usually less; there are a tardiness of the initial muscular effort and a contraction of the antagonistic muscles. Gowers lays considerable stress on the diagnostic importance of the presence of the last symptom. The hysterical patient affected with tremor will often touch a small object with the index finger without much difficulty, but after the finger has remained a few seconds in contact with the object the arm becomes affected with an irregular jerky tremor, differing from the tremor of disseminated sclerosis, in which great effort is frequently required in bringing the finger in contact with an object, but as soon as this has been accomplished the tremor ceases.

Neurasthenia.—Theoretically the difference between hysteria and neurasthenia is well marked. The former is a disease with its stigmata and paroxysmal symptoms, all or any of which may come on or end suddenly; the latter is an exhausted state of the nervous system, without complete loss of power in any direction, having a gradual beginning and ending and unattended by stigmata or paroxysmal symptoms. Practically, however, hysteria is a psychoneurosis, and neurasthenia, while it may begin as a simple neurosis, frequently becomes a neuropsychosis. Nerve exhaustion in a person who is predisposed to hysteria may cause the development of the typical symptoms of the latter disease. In cases in which hysteria and neurasthenia are associated a careful study of the manner in which individual symptoms have developed will usually enable one to determine which is the primary malady.

FEIGNING.

If the examiner understands his business and is careful and systematic in his examination, it is next to impossible for the maligner successfully to feign organic disease of the central nervous system.

It is exceedingly difficult for a maligner to simulate neurasthenia until he becomes, to a certain degree, neurasthenic himself. It is probable that a clever one may subject himself to a course of training that will ultimately lead to the development of neurasthenic symptoms. This probably can be done by insufficient food, anxiety, and a constant endeavor to simulate the disease for a considerable length of time, when the strain will begin to tell on the nervous system. In most of such cases, however, everything will be so exaggerated that the feigning will be apparent. Unless the patient is actually neurasthenic he can not simulate the rapid pulse, the influence of exercise on the heart, the local sweating, and the general symptoms of exhaustion. It must be remembered that in most cases of true neurasthenia there is, after a time, some exaggeration of symptoms.

In most patients I have met with hysteria, there has been an exaggeration of some symptoms. In this disease the suggestibility and impressionability of the patient are enormously increased. In cases that are under litigation, unless great tact is used by the examiners and the attorneys for the plaintiff and defendant, a mild case of hysteria results in great exaggeration of some symptoms and the feigning of others. It is a comparatively easy matter to distinguish between a case of simple feigning and hysteria. The stigmata of the disease can not be successfully feigned, except by an intelligent physician, and a clever trained nurse who may be conversant with all the symptoms of the disease. Given a case of genuine traumatic hysteria, with the prominent stigmata well marked, it is not always an easy matter to say, in suspicious characters, just to what extent intentional feigning enters into the manifest symptoms.

In the discussion of the points in the diagnosis of traumatic injuries of the central nervous system, my paper has grown larger than I had intended, yet, I have left many important points untouched, and those that I have tried to make prominent I have failed to make as clear and easy to the railroad surgeon as he and I wish it might have been done, in this most difficult subject in the whole range of differential diagnosis.

DISCUSSION.

Dr. E. W. Lee, Omaha, Neb.—The cardinal point of the paper of Dr. Eskridge, which has been so forcibly impressed on us, is that there is a tendency, when we examine neurotic patients, to make a diagnosis of hysteria before we find any true organic lesion. This is particularly true of a great many general surgeons and railway surgeons, and when a case of medicolegal importance is brought to them they are liable to consider the case as one of hysteria before they find any positive evidences of it. We know that there are many malingerers, people who are trying to get compensation out of corporations and are not entitled to it. It is natural for us to look on such patients as feigning, and the important point brought out by the essayist is this, that thorough, repeated and careful examinations should be made, and, if possible, we should discover some organic lesion before designating the case one of hysteria.

Dr. L. E. Lemen, Denver, Colo.—I wish simply to make a suggestion. The Union Pacific and the Denver and Rio Grande railroads, of which Dr. Eskridge is neurologist, are the only two roads that I know of in the country who have appointed neurologists. I saw the absolute necessity of having some competent man outside of a general railway surgeon to aid me in that line of work, and I must say that I have derived a great deal of benefit, as well as has my corporation—the former road—from his appointment. It is true, the management of the road did not see the necessity of it when I first made the suggestion, but after I had called attention to the salient points which would come from the appointment of a neurologist, the appointment was made.

Dr. D. S. Fairchild, Clinton, Iowa—I have had considerable experience in examining cases for settlement and preparatory to trial when a settlement could not be reached. There is one point, which was made by Dr. Eskridge, that is of great importance, i. e., the examination of a patient as early as possible [illegible] has accepted for the purpose of determining the existence of organic disease which may have been present before the accident, and the fact that changes which take place in the nervous system as a result of organic disease do not show themselves for some little time thereafter. If we make an examination early we can determine with a reasonable degree of certainty whether such changes occurred before or subsequent to the accident.

The essayist has pointed out the difference between organic lesions and functional and neurasthenic conditions. This is a matter of very great importance for there are many practitioners of surgery who, in their examinations of these patients, are unable to make these distinctions, and it is very fortunate that Dr. Eskridge has directed our attention to some of the most important points. I have been associated more or less with neurologists in making these examinations. I have also read much of what neurologists have said and written and I have gained the impression that there is a certain class of special pleaders for patients who have claims against railroad corporations. I have seen so much of this as to lose confidence in the opinions of many neurologists. Not long ago I had an opportunity of examining a patient in whom a so-called neurologist contended that extensive lesions might occur in the spinal cord without giving rise to any objective signs whatever; that the reflexes may be in a perfectly normal condition, and yet there may be extensive inflammatory foci in the spinal cord. This was new to me. The gentleman said he had made a number of post-mortem examinations, and had exhibited slides showing the condition of the spinal cord in cases where there had been no objective symptoms whatever.

Another point which might be taken into consideration here, especially in women, is the existence of pelvic troubles that give rise to neurasthenic symptoms which are attributed to an accident or injury when such injury occurs. Not long since I examined a patient in whom an injury, at the beginning, of a different character was alleged. The patient had sat violently down on the floor of a car, and claimed to have fractured the coccyx. For a long time the claim was based on this condition, but as no objective signs of this fracture could be elicited the claim was abandoned, and a suit subsequently instituted in which either neurasthenia or spinal cord lesions of a very general and indefinite pathologic basis were offered, and when the case came up for final examination the neurologist, to whom I have referred, stated as his belief that there were inflammatory points in the spinal cord, and when asked to produce evidence for these lesions, he was unwilling to point them out, and simply presumed on the information of other fellows who were associated in the case. He asserted that he had seen a number of patients in whom there were focal points of inflammation, in which the deep reflexes were not affected in any way, who, were incurable, and which made the case hopeless.

Dr. John E. Owens, Chicago—While I have not very much to say on this paper, I should regret very much to have it pass without expressing my appreciation of its value to the Academy. I do not believe that surgeons, as a rule, are experts in neurologic fields, and when diseases of this class present themselves to us, it is very essential for us to call competent neurologists to our aid. In other words, the head of no practitioner in this country is large enough to take in all branches of the practice of medicine. The idea that it is has long ago been laid aside by the thinkers in the medical profession, and the appointment of gentlemen representing this field of work in connection with our railroads is a step in the right direction. We certainly very frequently have to avail ourselves of their services in discussing these cases. This paper culls from the monumental work of the neuropathologists and narrows the borders of the subjects which we, as practical surgeons, are the most interested in, that is, those cases of nervous aberrations that grow out of real and alleged surgical injuries. It places the matter within our grasp. When it is published in our Transactions, it will be very convenient for us to refer to it, as I shall do, in studying the differential diagnosis of the various nervous aberrations which we have to meet.

Scandinavian Congress.—The third Northern Congress of Internal Medicine will be held at Copenhagen, July 26 to 28. Serumtheraphy is the chief subject for discussion.

TREATMENT IN COMPOUND, COMPOUND COMMINUTED, AND NON-UNION OR UNUNITED FRACTURES.*

BY C. D. EVANS, M.D.

SURGEON U. P. & B. & M. R'Y CO., SURGEON TO ST. MARY'S HOSPITAL, COLUMBUS, NEB.

In placing before this society a simple contrivance for the treatment of compound, compound comminuted and non-union or ununited fractures I somewhat hesitate, for fear that it may be looked upon as an individual or special splint, a fancy of my own, or as so many have, a "hobby." This I must leave for your consideration. This appliance I have used as much for after-treatment where operation was necessary as I have for fractures alone. It is the operation for the ununited fracture to which I wish to call especial attention. I can better describe the operation, splint and dressings by reporting the following case:

Charles L., aged 32, presented fracture of the upper part of the lower third of his right leg. He was a miner, Irish, and with good family history, no constitutional troubles, no previous sickness, excepting in childhood, and no history of venereal nor hereditary disease.

The accident occurred March 15, 1899. He fell from a railroad train, striking his leg against some object. The leg was at once put in a plaster cast from the toes to the knee, and three weeks later he was taken to the hospital. Two weeks after being in the hospital this cast was removed. The fracture was not united, and the cast was replaced by one enclosing the leg and the thigh. Four weeks later he left the hospital on crutches, with a spint on the limb, suffering pain on motion and exercise in the region of the fracture. One week later, making in all ten weeks, the cast was removed and the fracture found still ununited.

May 31 he came under my care and entered the hospital at Columbus, eleven weeks after the accident, and I found the following conditions: Leg badly swollen and painful small opening in the leg at the seat of fracture, on the anterior surface, and motion of the fragments free. By motion and rubbing of the fragments I could get very indistinct crepitus. After a thorough examination I resorted to the following operation, June 20: The foot and leg were made thoroughly aseptic. On the outer side of the leg, one-half inch from the crest of the tibia and two inches above the seat of fracture, I began the incision, extending it to the inner side and across the tibia two inches, making a short curve; then one was made down the inner side of the leg and beyond the inner margin of the tibia to a point two inches below the fracture; making a short curve as before, it then turned outward across the leg and tibia to a point corresponding to the upper incision. The flap with the fascia was dissected and turned to the outer side and entrusted to an assistant.

The fibula was found in thoroughly good condition and in my judgment not in need of operative interference. An incision was next made on the crest of the tibia down to the bone, the whole length of the opening. The periosteum was turned back and dissected from both fragments toward the fracture. (The reason I give for this dissection of the periosteum is that I secure more for the recovering of the bone than I would have done by dissecting from the seat of the fracture up and down.) The provisional callus and ligamentous growth markedly interfered with knowing just where the true periosteum began, therefore I saved from one-half to three-fourths of an inch of the latter, which I think would otherwise have been lost. The bone freed of periosteum in this manner, I used a chain saw and removed the thickened growth until true bone was secured. The fracture being a little irregular, I sawed in the line of fracture, in all losing about five-eighths of an inch of bony structure, not enough but that the fragments could easily be approximated. This being accomplished, I drilled, using a small-sized drill, three holes in each fragment, viz: crest, outer and inner side of the tibia. These holes were directed toward each other so that they would come in exact apposition, and none were allowed to enter the medullary canal. A half-curved needle was armed with No. 3 chromicized catgut and easily passed through the openings in each fragment. The fragments held well together, the catgut securely tied, and the periosteum brought together, the wound was closed by interrupted sutures, dressed with Tursche's powder and bichlorid gauze, and bandaged just far enough to cover the wound. Then the most important part in the treatment of compound and compound comminuted fractures and operations for securing the bone was attempted. Photograph No. 1 shows the leg before operation; Photograph No. 2, operation; Photograph No. 3, the first part of the plaster dressing or splint.

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*Read before the American Academy of Railway Surgeons, Omaha, Neb., Oct. 12-13, 1899.

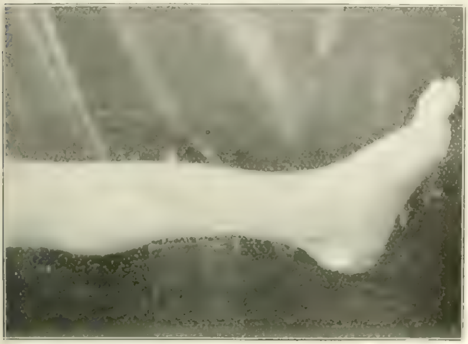

Figure 1.

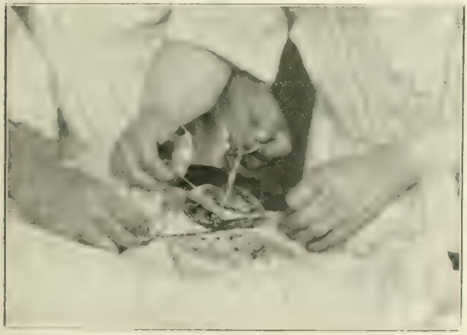

Figure 2.

The wound closed by first intention in the patient above, and the cast was removed July 15. A cast was put on to cover the leg from the toes to the knee, to keep the limb firm and to allow the patient to get out of bed. The last cast was removed July 29, and the limb is now in perfect repair and in continued use.

When preparing for the operation I secure what is known as "band iron." This I shape to the sound leg, in this case extending from one to two inches beyond the toes, back two or three inches above the knee. The iron is shaped to fit the leg except that at the seat of fracture I make a loop in the iron so as to raise it about two inches above the wound, admitting a thorough asepsis in after-dressing, should it be required. Having this properly shaped, the operation over and the wound bandaged, I cover the limb as far as necessary with raw cotton, in this case from the toes to the knee. I then enclose the foot and leg as far up as the lower end of the bandages, and also do this from the upper end of the wound as far up as the knee. I then tear the cotton around the leg in the center between the plaster-of-Paris dressing, and over the wound turn it back between the plaster, making a sort of cuff. I do this at the toes and the knee also. The irons are then placed on the anterior and posterior surface of the leg, held securely by two assistants, and firm plaster-of-Paris bandages are applied as before and of sufficient thickness to secure the particular fracture; turning back the cotton in this manner leaves no rough edges. When this is dry I supply the open space between the plaster and over the wound with more cotton and a well-tightened roller bandage, thus leaving the limb with equal pressure from the toes to the knee.

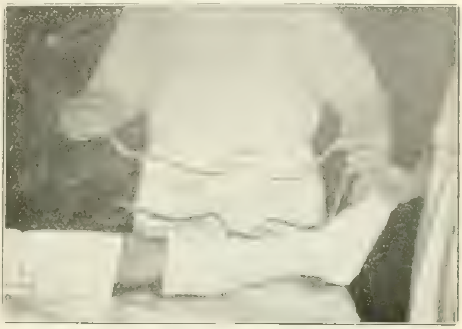

Figure 3.

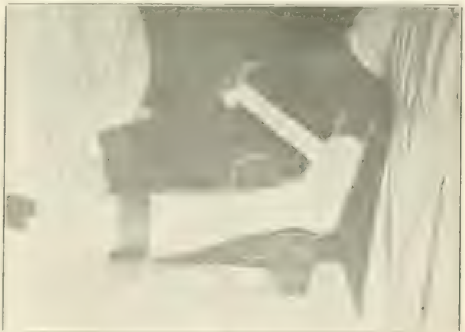

Figure 4.

Photograph No. 4 gives an idea of applying the irons. Photograph No. 5 shows the splint complete. The iron on the anterior surface is so bent upon itself that it makes a hook for the attachment of a rope to suspend the limb. This is done by securing two upright pieces about five feet long—one by three inches—to the foot and head of the bed, and with a piece of one-inch rope a little longer than the bed placed in these upright pieces, a pulley on the gas pipe, the rope in the pulley hook, the patient has the freedom of the bed. Photograph No. 6 shows the patient in bed and the dressing removed just before taking off the splint.

There are three principal features to which I wish to call especial attention: 1. The mode of securing apposition of the fragments of bone. 2. The simplicity of the appliance to keep the fragments in apposition. 3. The advantage of dressing the wound thoroughly aseptically.

The only material I used to secure bony apposition was catgut, No. 3. The secret in the successful treatment of this character of injury is to absolutely immobilize the fragments after securing apposition, and not forcing the bony structure to be subjected to foreign bodies more than is absolutely necessary to reach the object to be attained, that of immobilization.

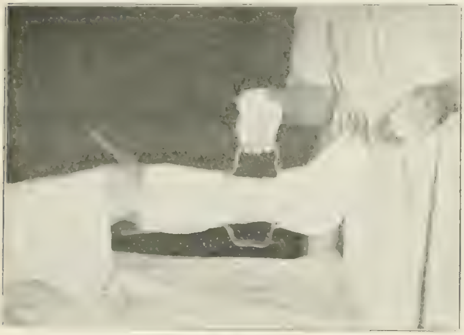

Figure 5.

The simplicity of the splint or appliance to keep the fragments in their position is that the iron can be secured at any hardware store or tinshop, and can be had at all times. The iron is easily bent and moulded to suit the limb and fractures, a little mechanical ingenuity and practical knowledge of anatomy are all that is necessary to make it a perfect success. .

The mode of dressing the wounds can be made absolutely aseptic. Two pieces of rubber dam, 8x12 inches, with a V-shaped piece cut out of the long side, the V-shaped piece being a little less than the diameter of the limb, and sterilized at each dressing, should be drawn tightly around the limb at the end of the plaster dressing, and under the iron and securely fastened by safety-pins; the rubber turned back, forming a cuff over the plaster cast, admits of thorough washing and dressing.

Just a word more regarding compound and ununited fractures: There are many authors and individual writers who say that injuries of this character should never be enclosed in plaster-of-Paris dressing. While this is true in part, they fail to tell us by what absolute measures we can secure the limb by external appliances. The rule I follow in compound and compound comminuted fractures is first to reduce to a simple fracture, and under the greatest aseptic measures. I have used this appliance for compound, compound comminuted fractures, and splint or dressing for the upper as well as for the lower limbs, for some years, and have never had a failure, although, with this appliance, I provide for failure, in this: that should any derangement of the soft tissues occur, or the fracture prove unsatisfactory, the wound can be dressed and redressed with the fragments in perfect apposition.

It would seem to me that the most important part in the treatment of this character of injuries and the after-treatment of operative measures for this class of operations is to have complete control of the limb by external appliances, and in no way jeopardize the limb or the patient by using foreign substances in the bone. Therefore, I want to say more particularly, to bring out the sentiment of this society, in full discussion, that the day for using wire sutures, ivory pegs, iron nails, clamp screws, or any other foreign substance in bony structures that will not readily absorb, more particularly where the soft parts are kept open, is fast drawing to a close.

I make reference to fourteen other patients, the ages varying from 14 to 60 years.

Figure 6.

DISCUSSION.

Dr. Thomas B. Lacey, Council Bluffs, Iowa—In regard to the strap or band around the splint as suggested in the paper, I am inclined to think it is simply a modification of the old method used in applying interrupted plaster-of-Paris dressing for fractures, which in some text-books is illustrated in much the same way, with loop made if necessary two loops, and a little turn by which the limb can be suspended from pulleys in the ceiling or by anything passed over the bed that gives a chance to attach to it.

As to the use of catgut to secure apposition in the case mentioned by him, it occurs to me that the catgut does not amount to very much as the essayist applies it, except in one particular, namely, that it holds the ends of the fractured fragments in apposition until he can apply his dressing, then he has no further use for the catgut. It may take him three-quarters of an hour to apply the dressing and have hardening take place, so that the external apparatus will retain the fractured fragments in their position. It occurs to me that this is all catgut is expected to do in this case, and that it simply holds the fractured fragments in close apposition until such time as the fragment has been hardened, and at the end of an hour or more he has no further use for the catgut, and it serves no further purpose. Whether we would be satisfied with the use of catgut or any other suture material, and have its purpose ended in one hour, and from that time on have it serve no further purpose, there is room for doubt. I would like to use some article in its place which will at least give us forty days' partial support, in addition to the dressing that he suggests in his paper.

Dr. W. W. Grant—What do you secure it with?

Dr. Lacey—The essayist says that he does not use wire, I believe, but wire is used extensively and frequently in these cases. The use of wire has been suggested by Dr. Lemen, and while I do not wish to anticipate him in the discussion of this paper, he suggests the use of silkworm gut, which will persist and give support. I think the ivory pegs are good; they will in a measure be absorbed, but we must be absolutely sure that they are thoroughly aseptic before being placed in position. Whatever we use should be introduced in such a way that the medullary canal is entirely avoided. In some of our text-books reference is made to the use of silver or plated wire. I think copper wire plated with silver has a greater tensile strength than silver wire itself, and that it will, perhaps, serve a better purpose. However, in some of our text-books you will see by the description and by the plates used, that the wire is at times passed directly through the full diameter of the bone, it, of course, passing through the medullary canal. This is objectionable and is the source of considerable trouble, as well as failure, in many cases in which failures are reported. It is easy to avoid the medullary canal, either by boring from the end of the fragment upward and to the surface, or by drilling through, just taking the compact tissue, and going sufficiently high to avoid passing through the medullary canal.

As to the use of wire, silver wire alone is a rather difficult thing unless you use large-sized wire, or unless you take two or three strands of moderate size and twist them together, making one cable, because silver wire, although you place it in position and get close coaptation for the time being, breaks too easily. If it should break in manipulating it, it would do absolutely no good and had better be out. Plated copper wire has, therefore, greater tensile strength and will not break so easily.

DR. LEMEN, Denver, Colo.—In regard to the treatment of fractures, there are three cardinal principles which should invariably be observed: 1, the diagnosis; 2, apposition, placing the fragments in accurate apposition; 3, retaining the fragments in position. In order to hold a fracture in apposition, you must have what we call a fixed dressing. A dressing that is absolutely fixed, which retains the fragments in position, is what we desire. I must criticise the Doctor's application of the plaster a little. In a limb that is entirely encompassed by a plaster-of-Paris dressing, it may be applied ever so snugly and thick at the time, yet in forty-eight hours after, owing to drawing out of the dressing and of pressure on the muscular tissue, more or less shrinking of the limb is produced. Then you have what is supposed to be a fixed appliance, but one that is badly in need of fixation; in other words, you have motion. In such cases catgut does not retain the fragments in position sufficiently long. The dressings, strings, or wire must be used longer than one hour. You will have good results where there is more or less motion. The more motion you have, the greater will be the amount of callus thrown out. You will have union. I have used ivory pegs; I have likewise used iron nails for uniting the fragments, but for the last six years I have employed silkworm gut, because it is stronger than silver wire. When you use the latter and twist it and tie it tight enough to make perfect apposition, you have a large knot which is a menace to the soft parts. By using silkworm gut and making three loops, bringing it taut, it holds firmly. It makes a buried suture, and Nature takes care of it. I have never had an opportunity of dissecting these wires afterward, to see the results, but I know that my results have been good. (Here Dr. Lemen demonstrated his method of treating a fracture in the middle or upper third of the leg.)

DR. W. RUML, Cedar Rapids, Iowa.—In treating a fracture below the knee it is very important to fix the knee-joint as well as the ankle-joint. I do not hesitate to apply a plaster-of-Paris dressing at once. In a case of compound fracture I thoroughly cleanse the wound, apply a large gauze dressing and absorbent cotton. In applying the plaster I use a roller gauze plaster-of-Paris bandage, and run it up well above the knee. I believe it is absolutely impossible to retain the fractured fragments in apposition without fixing both joints; in other words, completely immobilizing the fracture. The patient is kept in bed with the leg slightly raised, knee slightly bent; thus lessening tension on the heel tendons. If the cast does not include the knee-joint there is the possibility of a man moving the leg in the cast. If the knee-joint is fixed, however, this is overcome. I use iron wire in wiring bones, and what is called stove-pipe wire. I find it efficient. I use sutures ordinarily in the manner described by Dr. Lacey, but the most important part is the after-dressing, which should immobilize the fractured fragments.

DR. E. W. LEE, Omaha, Neb.—I wish to emphasize what Dr. Lemen has said in regard to the plaster-of-Paris bandage; instead of having it entirely encircle the limb, I would have it in the form of a side splint, so that it can be readjusted as the atrophy of the muscle takes place, from pressure and swelling becoming reduced. The plaster-of-Paris bandage can then be adjusted and brought into closer apposition to the limb, and in consequence the limb can be immobilized.

With reference to the use of silver wire, my experience has taught me that it gives very little trouble, and that there is very little danger, if any, of going through the medullary canal. A case that impressed this very firmly on my mind was one of compound comminuted fracture of the humerus, produced by a pistol ball, and in which non-union was the result, owing, in the first place, to a portion of the ball remaining between the fractured ends, so that when the case came under my observation there was a discharging sinus and ununited fracture. I opened the wound, and removed the portion of the ball that remained—about half of it: the fractured ends were soft and granular; I brought each fragment from outside the skin, cut them off slantingly, brought them together, and put four holes through each fragment clear through the bone, inserted a large silver wire, about the size of the largest string of a guitar, and twisted it, giving each one three or four twists, left about one-quarter of an inch twist, and brought it next to the bone where I peeled the periosteum back, and the arm then was in this position (illustrating). The patient was still under an anesthetic; I took the arm, held it in this manner (illustrating), and the silver wire held the bone, so that the arm did not sustain its own weight. I then used ordinary antiseptic dressings, and within forty days the man was able to use his arm, and has had a strong one ever since. The silver wire became encysted and has caused no irritation whatever. I do not use the solid silver wire, but copper wire silver plated, and in that case it worked eminently satisfactorily; I see no reason why we should not continue to use it.

So far as catgut is concerned, unless we have absolute confidence in it, it is liable to prove a source of great danger.

DR. JAMES A. QUINN, St. Paul, Minn.—I wish to say that in the past six months I have wired more than a dozen bones in cases of delayed union, or what I would call non-union. I have used copper wire plated with silver, which I prefer on account of its tensile strength. While I have gone through the medullary canal, I have not seen any untoward symptoms from so doing, and the testimony of my patients is satisfactory. If catgut can be so prepared that it will last and not be absorbed inside of forty days, preferably sixty days, I see no objections to it. On the contrary, I would welcome it. I have used silkworm gut in these cases, but my preference is copper wire silver plated. Its tensile strength is very much greater than that of silver itself. It has happened to me more than once, when everything was approximated, to have the limb sag and the silver wire break. I am fond of the use of plaster-of-Paris, and I employ it daily and invariably.

DR. C. D. EVANS, closing the discussion—In regard to the medullary canal, I based my statements on what I have seen, and I think that the surgeon who opens the medullary canal to put in a wire suture of any kind is not doing up-to-date surgery. There is no long bone in the 12-year-old subject but can be wired with catgut, or, as Dr. Lemen prefers, with silkworm gut, and when we have a fractured bone we have enough injury to the tissues without the surgeon wilfully making more. The object of the surgeon is to save further injury instead of making it. The fixation of the limb in this splint that I suggest is practically a partial covering of the limb in plaster, and we have all seen, after the application of plaster-of-Paris dressings, as well as of others, the fetid mess that is made by soiling these dressings, either by the discharge from the leg or by washing the wound. This splint I have shown you absolutely provides for cleanly dressing; you do not soil the splint, while the wound is absolutely aseptic all the time. In the photograph that is presented you will notice the limb suspended. This suspension can be applied to the arm as well as [illegible] the leg is in a [illegible] Paris [illegible] to keep it clean.

[illegible] rubber dam: [illegible]

[illegible] that in your previous remarks. When you apply plaster-of-Paris on a leg from the toes to the knee and suspend the limb by pulley, you have [illegible] so long as the limb is suspended and the patient is in bed. This splint provides for nutrition while loosening of the limb or atrophy is taking place. I always like [illegible] at the upper part of the splint or around the limb from the atrophy that is taking place, because it admits air, and that air is nourishment to the limb.

TREATMENT OF MINOR TRAUMATISMS.*

BY R. HARVEY REED, M.D.

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The frequency of minor injuries warrants more attention to their treatment than, as a rule, is given. The danger of severe infection from the most trivial wounds warrants our closest attention to this class of injuries.

During the last two years, my records show that I have treated on an average about one thousand minor injuries each year. Among these I have seen some of the most grave cases of infection arise from trivial accidents, so insignificant that those who were afflicted did not think it worth while to go to the surgeon's office and have them cared for, until they found that instead of repairing, they were getting worse, and oftentimes when they would apply for treatment they had already suffered from chill, and septic infection had set in.

A patient who is now convalescing in the Wyoming General Hospital will illustrate this subject. A young man, in the prime of life, ran a small splinter into the thumb of the left hand. He removed the splinter and paid no attention to it until about five days later, when he came in, suffering from rigors, headache and general lassitude, with a furred tongue; on examining the thumb, I found it swollen and inflamed, with a red streak following the line of the lymphatics of the arm to the shoulder, but especially was it noticeable in the forearm. He was sent to the hospital, the thumb was freely lanced, but only a small quantity of pus was discovered. This was evacuated, the wound washed with bichlorid solution and the entire hand, forearm and arm packed in sterilized gauze saturated with bichlorid evaporating solution and covered with christie to prevent evaporation.

Notwithstanding the vigorous treatment which was applied, the arm became intensely swollen, the inflammation extending to the fascia between the flexor muscles of the forearm, causing contraction of the fingers and thumb, which for a time were so painful that it was impossible to straighten them without excruciating pain. As soon, however, as the inflammation had subsided sufficiently, massage was instituted and the fingers and thumb were extended every day, until at the present writing the patient is able to move them and by some effort, and with more or less pain, is enabled to have them nearly straightened. Yet, there is still more or less thickening of the flexor muscles, which in time we are in hopes will subside and the young man eventually get the use of his hand.

This is only one of numerous instances of a similar character where a slight injury has produced the gravest effects. Many of these injuries to the fingers are followed by suppuration, the sepsis not unfrequently of so severe a character as to extend to the periosteum and even be followed by necrosis of the bone, necessitating amputation, usually the result of carelessness on the part of the patient, who became infected before applying for treatment. I regret to say that we have trivial injuries where patients do apply to the physician and surgeon for treatment, and through carelessness and neglect of strict antisepsis the surgeon allows the wound to become infected and the patient is obliged to suffer the consequences. I recall a case of this kind in which a young man, who was scratched with a piece of glass, became infected, and his first medical attendant added fuel to the fire by putting on a filthy flaxseed poultice. The infection extended along the lymphatics of the right arm until it reached not only the axillary but also the subpectoral glands, all of which became not only inflamed but broken down, and we were obliged to remove all the superficial and deep glands, and in operating, we found that the pus had burrowed beneath the pectoralis major muscle to its origin along the anterior aspect of the chest. This young man came near losing his life from a mere scratch, not larger than that made by the point of a pin. It cost him weeks of suffering, besides the general depression which an injury of this kind brings about to the economy. Many physicians are not as fully equipped for caring for this class of wounds as they should be. We also realize that the physiologic resistance in many persons is sufficient to protect them against infection, although it may be present in wounds of a minor character. Yet no one knows the moment this physiologic resistance may fall below par, and infection, such as I have described, follow.

The object of this paper is to impress, more especially on those who have to handle this class of injuries, the importance of treating even the smallest minor injury with the same precaution as though it were a major one. It is true that many of these patients come to the physician or surgeon, no matter how soon they are seen after the accident, thoroughly infected. The nature of their employment is such that it can not be avoided, yet I am convinced, by a reasonably large experience, that there are simple, inexpensive methods by which they can be treated successfully at the physician's office without having the terrible results of septic infection follow such traumatisms.

It has been my aim during the last few years to study how best to treat these injuries in such a manner as to obtain the most satisfactory results with the least loss of time to the patient and surgeon, and the least amount of expense. These are all factors which interest everyone concerned in the treatment of this class of injuries.

I trust I shall not be considered egotistic in presenting my method of treating this class of wounds, in the hope that it may be of some benefit and at the same time call forth discussion which will bring to light the experience of others. The method which I have found to be most satisfactory is to wash the injured parts thoroughly with tincture of green soap and a scrub-brush, after which the parts are bathed with a solution which has been abstractly named "bichlorid evaporating solution," and which consists of 80 parts of a 3 per cent. boric acid solution made with distilled water, 10 parts of alcohol, and 10 parts of glycerin, which constitutes the evaporating solution proper. Eight drops of a saturated solution of bichlorid of mercury is added to each pint of this solution. It may be interesting to note that the saturated solution of bichlorid is made by using 2 ounces of hydg. bichlor. and 2 ounces of alcohol, to which is added 6 ounces of glycerin. Made in this proportion the bichlorid is practically all dissolved, and 8 drops of this solution to a pint of water equals 1/3500. Thus it will be seen, by adding this amount to the so-called evaporating solution, that it is converted into a bichlorid evaporating solution which has a standard strength of 1/3500.

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* [illegible] Academy of Railway Surgeons, Omaha, [illegible]

After this, sterilized gauze is saturated in this solution and, after having applied a sufficient quantity of it—say four or five layers of ordinary gauze—the wound is bandaged in such a way as to expose a portion of the gauze. This solution is prescribed and the patient told to drop a small quantity of it on the gauze which is thus exposed, so that it will keep the entire gauze-dressing moistened; the patient is advised to report every other day. At each subsequent dressing this is removed, the wound cleansed with nothing but bichlorid evaporating solution, and another dressing of the same kind applied.

As a rule, ordinary injuries of the fingers repair in a very short time, and it is the exception to the rule where pus or even inflammation follows these injuries when dressed after this method. If the bichlorid is found to produce a toxic effect, either being absorbed or setting up dermatitis, it is frequently changed for a 10 per cent. solution of creolin in sterilized water, which is a very satisfactory dressing with the exception of the ungrateful odor which accompanies it. Where the skin is dry and hard, and the bichlorid evaporating solution or creolin does not give satisfactory results, glycolin mixture is used. This consists of carbolic acid and oil of gaultheria, each 16 drops; menthol crystals, 16 grains; glycolin, 4 ounces. This should make a clear oleaginous solution, and in cases where there is no pus and granulation is taking place, but the integument about the wound is dry and hard, it makes a most grateful and satisfactory dressing.

This is especially indicated where the nails have been torn off and where the wound has been treated with bichlorid evaporating solution until the new nail has commenced to repair, and where the evaporating solution is not indicated, on account of its irritating properties. In such cases the glycolin mixture is frequently used with very satisfactory results. I recall a series of injuries where I had under treatment at one time, twelve patients with the finger nails torn off, each one being treated by this method without a drop of pus in any case, and all treated in my office in the manner I have just described. In looking up my records, I find that the average length of time in which these parties were disabled varied from eighteen to twenty-five days. In this connection I might say that in each and every instance these were miners, and in following their occupation they were obliged to use the pick and shovel, and hence could not return to work until their wounds were fully repaired.

In the dressing of injuries of this class, and especially for those of us who live on the frontier or in the heart of the Rocky Mountains, it is not always convenient to drop into a first-class drug store and obtain ready-made dressings, and I have often thought it was a godsend that we could not, for it compels us to devise original methods and means for doing our own sterlizing, and preparing our own dressings which, after all, are the safest and best as well as the least expensive. Gauze is purchased by the quantity, of such grade and quality as desired. This is sterilized under steam pressure, which can easily be obtained by any modern portable sterilizer. It is then packed in self-sealing fruit-jars. A large quantity of this can be prepared at one time and, after being sealed with cotton, it can be doubly sealed by "self-sealing tops" and is ready for use at all times. These jars can be packed into portable surgical cases and carried to any point desired. Absorbent cotton treated in a similar manner is always ready for use for dressings. The solutions above can easily be made in an office or an ordinary drug store, and kept ready for use at any time. These can, likewise, be packed into a portable surgical satchel, and I consider them much preferable to preparations which are made in the tablet form, as they are almost instantly absorbed by water, while tablets oftentimes require some considerable time to dissolve, besides leaving a sediment, and we never know whether their strength is standard or not.

It will be observed that I do not pretend to treat accidental wounds aseptically, as experience has convinced me that this plan of treatment is not applicable to dressing wounds such as usually occur in emergencies, and in my judgment is only advisable in such cases as can be thoroughly prepared before an operation is had.

Thus far I have not considered wounds that can be sutured and closed up, but have devoted my time entirely to wounds which were of a contused and lacerated character, which can not be sutured. I will now consider those minor injuries which can be sutured and which, under favorable circumstances, we expect to repair by first intention. To insure healing by first intention, surgical cleanliness and perfect coaptation are essential. In emergency surgery cleanliness is not always so easily obtained, on account of the condition and circumstances surrounding the patient when he is injured. Coal-miners, for example, are covered with grease, coal dust and other filth, similar to railroad employees who, when injured, are often dragged along the ground in such a manner as to fill the wound with cinders and dirt of all descriptions. In bad wrecks I have seen the entire clothing and every wound on the person literally filled with pulverized wood which had been crushed in the terrible force accompanying the accident. It is no small task to cleanse the wound of these foreign substances, but if we do not take care to remove them at our first permanent dressing, we will meet with more or less trouble and additional work later on, saying nothing of the increased loss of time on the part of the injured patient. To remove this dirt it is often necessary to place the patient under an anesthetic, and to use an ordinary scrub-brush to cleanse the parts, such as is used for the hands, in addition to using the fingers, which are the best probes we have at our command for detecting and removing foreign substances from a lacerated or incised wound. After having thoroughly scrubbed the parts with tincture of green soap, they are then flushed with a bichlorid solution of 1/3000. In many of these wounds, after surgical cleanliness has been secured, their margins are found to be ragged—the fibers of the connective tissue having been brought to the surface—which as a rule are devitalized and, if allowed to remain, will only become necrotic tissue and form a nidus for pus infection. This should be removed at the risk of producing slight hemorrhage, which can easily be stopped by the application of a gauze sponge dipped in hot water. The nearer we come to converting a lacerated into an incised wound, the better the condition for rapid repair.

Having thoroughly cleansed not only the wound but the parts adjacent to it, and having shaved the hair off, if such be present, the edges of the wound are then carefully adjusted and either sutured with sterilized pyoktanin catgut or sterilized silk. The latter is preferable, as it can easily be kept in alcohol, or if not, immersed in absolute alcohol before use, and we have found that it is an exception if a stitch abscess follows the suturing of lacerated or contused wounds when they are dressed after this method. Having carefully approximated the edges of the wound, it is covered with collodion and the patient told to report in two or three days. If the wound is looking well at the first visit, and there is no indication of inflammation or suppuration, the patient is told to return at the end of the week, when, as a rule, the wound is found completely repaired, the stitches are removed and the patient is allowed to return to his avocation.

This dressing is particularly applicable to the head and face, where a bandage is kept on with difficulty, and if it *can* be kept in place it becomes exceedingly dirty in a short time and is often a source of infection rather than a protection. If the wound is thoroughly cleansed and all devitalized tissue removed and good coaptation secured repair by first intention should be the reward of our care and trouble. But if the wound is allowed to become infected before it is sealed with collodion, then suppuration can be expected, and when the collodion is removed, the wound will be found gaping as a result. It is sometimes advised to use a thin film of cotton, which is saturated with collodion and placed over the wound. But as a rule I prefer to omit this, as it is apt to become soiled, while a wound sealed with the collodion only can be readily washed and the dirt removed without injury to the dressing.

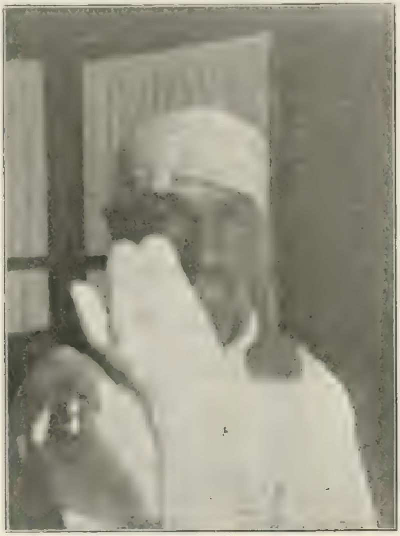

Fig. 1. Appearance at first dressing.

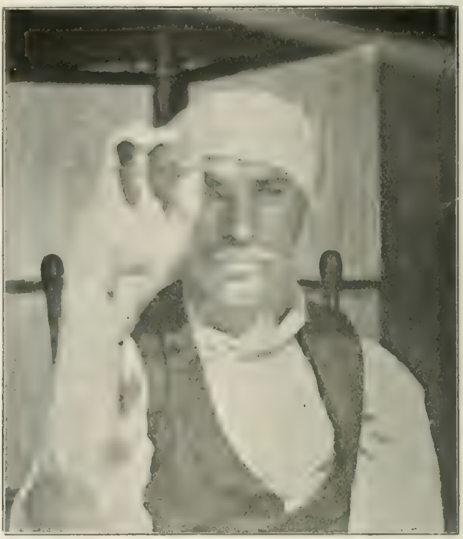

Fig. 2.—Appearance just before skin grafting.

To illustrate the practical results of the antiseptic methods above described for the care of minor injuries, I wish to call attention to the accompanying photographs, showing the condition of a patient's hand, which was injured by his falling off a train. The ring and little fingers, including their metacarpal bones, being crushed by a car wheel, it was necessary to remove them, but owing to the fact that nearly all of the dorsal and palmar surface of the hand was denuded of all integument, we were at a loss to get sufficient flap that was not devitalized, to cover the exposed parts. In cases of this kind I have made it a rule to use all the integument possible, even if I were aware at the time that it was devitalized. It makes the best covering that can be had for a denuded surface composed of fascia and connective tissue. It is necessary, however, to see that the devitalized integument is thoroughly cleansed, in order to prevent the vitalized portions from becoming infected. In other words, it is really a sort of skin grafting, and in some instances integument is found which seems to be devitalized, but it sometimes will become vitalized, aiding very much in the repair of the parts. Where it does not retain its vitality it is easily detected and removed, when, as a rule, we find the surface in a healthy condition with normal granulations which, later on, can be skin-grafted with entire success.

In the case referred to by the photographs, this method was adopted, not more than one-third of the integument that was used to cover the denuded surface retaining its vitality, and the balance had to be removed, leaving a large granular surface extending over the entire dorsal and palmar surface and a portion of the fingers. Notwithstanding that the hand was as dirty as grease, coal dust and cinders could possibly make it, repair took place without a particle of suppuration and, in less than three weeks from the time the injury occurred, the parts had granulated sufficiently to warrant us to make a skin graft. This was done by removing a piece of skin from the arm, six inches in length and one inch in width, and which involved the entire integument down to the subcutaneous fat. As much of the latter as adhered to the graft was carefully removed by a pair of scissors, curved on the flat, when the graft was placed as near the granulating surface as possible, and one end sutured to the ulnar side of the dorsal surface and the other to the ulnar side of the palmar surface. The graft thus passed over the back of the hand, in front of the thumb, below the forefinger and over the palm of the hand. Two sutures were placed in each end of this graft, and one on each side near the center, to keep it spread over the granulating surface as near as possible. Before placing the graft in position, it was carefully washed with a normal salt solution at the temperature of the body, and after being placed in position, dressings dipped in this solution were used next to the granulating surface and the graft and the entire hand carefully dressed with a thick pad of sterilized gauze and cotton. This was not disturbed for three days, when the dressings were removed, and it was found that the entire graft had become adherent and that the hand was in a perfectly healthy condition. This was dressed every day or every other day, and in from six to seven weeks after the injury repair had taken place completely, as is shown by the last photograph. This patient has complete use of the thumb, forefinger and second finger, and will soon be able to resume his work in the mine.

In regard to skin grafting, experience has taught me to take the entire integument, as in this case, in preference to scraping off the epithelium or even making a Thiersch graft, which in reality splits the skin and only takes a portion of it instead of the entire thickness. If the parts are healthy and the graft is carefully removed and sutured in place, there is no more trouble in having a large portion of the skin taken off in this way, adhere, than it is a small portion. I recall a case of this kind in which the entire back portion of the leg was denuded of skin by being burned. I removed one graft from the arm, that was seven inches in length and from an inch to an inch and a half in width, and sutured it on just below the buttocks. Another, six inches in length, was placed three inches lower down, and a third one, five inches in length—all the same width—was sutured three inches below that, all of which adhered without a particle of trouble, and in a short time the entire back portion of the leg was covered with integument and the patient was discharged, recovered.

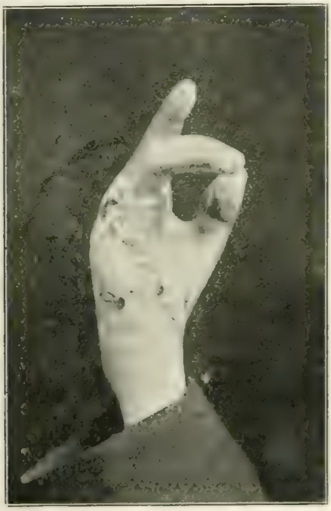

FIG. 3.—Appearance when discharged.

The importance of using the entire thickness of the integument in making skin grafts is, I think, manifest. The capillaries are better preserved, and, with so much of the fascia as may adhere, and which is known to repair more readily than any other part of the economy, unite with the granulating surface more readily and with less trouble than where the skin is split in two and simply laid on the granulating surface and held there by pressure. When the entire integument is used, it is easily sutured and held in place, and the necessity for pressure is much less and the less pressure used in skin grafting the better, for pressure interferes with circulation and interrupted circulation interferes with union, which is avoided by the use of sutures.

In this brief consideration of minor injuries, we have endeavored to give, in a concise and comprehensive manner, the practical method adopted for years past with a view of getting the most rapid repair with the least possible infection at a minimum expense, and in our endeavors to accomplish this end it seems to the writer that the successful treatment of this class of traumatisms may be summed up as follows: 1. Strict observance of surgical cleanliness. 2. Preservation of normal blood-supply. 3. Perfect coaptation when possible. 4. Simplicity and efficiency of dressings. 5. The use of chemicals which will destroy infective germs but at the same time will not irritate or disturb cell reproduction.

DISCUSSION.

DR H. REINEKING, Sheboygan, Wis.—Dr. Reed speaks of implanting the skin flaps on the granulations. This is the first time I have heard that advocated. I have had some personal experience with the implantation of skin flaps, but I have thought it necessary to carefully remove the granulations. Of course, that is not done when we use the Thiersch grafts. It seems to me as though it is hardly physiologic, if I may so express it, to put the entire thickness of the skin on a granulating surface. Our teaching has been to remove the grafts, and I would like to hear from the Fellows as to whether they have had any experience in placing skin flaps on a granulating surface, and, if so, what success they have had in so doing. If it can be successfully done, I have no doubt it would simplify matters. By scraping away the granulations we produce hemorrhage, and the operation is prolonged beyond what it would be if the granulations were left. I should hardly think a skin flap, put on a granulating surface, would get sufficient nutrition.

DR. E. W. LEE, Omaha, Neb.—It is necessary for us, in these operations, to consider the condition of the granulating surface. If the granulations had become somewhat exuberant and were very prolific, when the skin flap was put on, there would undoubtedly be failure. If I remember rightly, Dr. Reed says: "As soon as granulations permit." I believe he means by that, as soon as healthy granulation is established, and not to wait until the granulations become exuberant or until they manifest any tendency to suppuration. I have never used skin flaps over a granulating surface; I have used the Thiersch flaps, and small squares of the integument over granulations, which united very readily without any trouble.

DR. A. I. BOUFFLEUR, Chicago—The subject of Dr. Reed's paper is very instructive because there is no class of injuries more interesting to railway surgeons. I am very much surprised however, at the large statistics the Doctor gives, as to the number of patients he has treated. One's experience, based on such a large number of cases, is of great value. I was interested in the composition of the bichlorid evaporating lotion, because my own experience with bichlorid under confinement is that it is a decided irritant. Perhaps I am a little sensitive in this regard because bichlorid and I are not friendly, as far as any skin is concerned, and I certainly would not want it placed on my hand in any strength, underneath any protective material, because I know it would give me a severe dermatitis. Bichlorid is a valuable remedy; it is a positive antiseptic, and it should be used as such and not as a constant dressing. That is the general consensus of opinion to-day, because plain sterile gauze at the present time has entirely superseded the use of bichlorid gauze, bichlorid gauze being formerly used with that idea in view.

Dr. Reed's remarks as to the disinfection and maintenance of [illegible] and it does not matter very much what [illegible] that condition of asepticity. Some [illegible] mechanically, others require strong [illegible] them to disinfect surfaces thoroughly, [illegible] with a combination of the mechanical and weak antiseptic solutions, like alcohol, lysol, and [illegible]

With reference to skin grafting, it is a well-recognized [illegible]. I have been in the habit of using the Thiersch grafts very largely and have at times been disappointed in the conduct of wounds so closed. I had always supposed that if we removed the granulations and the layer of connective tissue immediately beneath them, we would [illegible] of surface. I have had experience in closing large defects in the side of the neck in which a grafted surface, two inches wide, in the course of three or four weeks, would be shrivelled up to half an inch in width. One needs to be very careful in using grafts over bony surfaces where there is much pressure, or where there is likely to be friction. Therefore the suggestion of Dr. Reed in urging the full thickness of the skin is timely, about the palmar surfaces of the hand in particular. I have used skin flaps on granulations when the granulations were to my mind positively aseptic. I have frequently clipped off granulations with scissors, that is, part of them, not removing all of them, however, and have had the grafts adhere. This is a matter entirely dependent on the asepticity of the surface. If the surface is strictly aseptic, the granulations need not be removed. If it is not aseptic, it is absolutely essential that the granulating surface be removed down to aseptic tissue.

Dr. William U. Cole, Columbus, Ohio—With reference to skin grafting, I very well remember seeing Dr. Reed take long strips of skin and get adhesions. I have had the same results as have been referred to in attempting to place thin strips of epidermis on granulation tissue. It is not so much the thickness of the skin as it is that the condition of the wound is such that it will readily take the grafts and the wound must be thoroughly aseptic. It is not very easy to put a skin graft on a septic surface and have it take or adhere, particularly if there is a tubercular condition, or a condition of lowered vitality. A Thiersch graft, applied to a wound, if the parts are aseptic, will unite.

With regard to the treatment of minor injuries in which sepsis predominates, the parts may be kept irrigated in this way: As soon as a man sustains an injury, he should immediately stop work, and a surgeon be sent for, no matter whether it be a minor or a major injury. I am connected with roads where that is the rule, and there is very little pus encountered under these circumstances. The grease that gets into the wound is generally crude petroleum, and I am satisfied of its antiseptic value. However, I may be mistaken in this. I do not remove the crude petroleum from the wound, because in ordinary lacerated wounds I am convinced of its antiseptic value, and I do not recall a case in which pus followed where the crude petroleum covered the skin.

In regard to the suppurative cases referred to, the best way to get rid of the pus is by submersion and the application of iodid of mercury. I would keep the hand or foot constantly submerged for four or five days or more, if necessary. I recently treated a case in which I deemed it necessary to keep the man's foot submerged for sixteen days, believing that he would have lost the foot if this was not done. A bath-tub can be used and a solution made to suit one's inclinations. My favorite solution is boric acid with a large amount of water. In the case of a bruised foot or hand, it is my practice to take the ordinary foot bath-tub, if there is nothing better at hand, fill it with water, and keep the water at a temperature of 100 F. I do not find it necessary to discontinue this except as the patient begins to convalesce, or the wound shows signs of recovery. This method of submersion is worthy of trial, because it attains several objects, and among them the power of absorbing bacteria and ptomains. It has the power of supplying the necessary heat to the injured part; it has the power of absorbing the material which is natural food for the system. I have seen no bad results following submersion of limbs for ten days or two weeks. I am satisfied that I have saved limbs by adopting this method that otherwise would have been lost.

A CONTRIBUTION TO THE SURGERY OF THE COMMON BILE-DUCT: REPORT OF A CASE OF CHOLEDOCHENTEROSTOMY.*

BY JOHN E. SUMMERS, Jr., M.D.
OMAHA, NEB.

It would be interesting to discuss the progress of the growth of surgery of the common bile-duct following so closely upon that of the more perfect technique of operative work on the gall-bladder and cystic duct. However, the time at my disposal would scarcely admit of more than a mere outline, the details of which can be found in several well-known monographs. I would particularly refer to the writings of Mayo Robson, whose operative experience in the surgery of the gall-bladder and bile-duct is probably as great as that of any other surgeon in the world. With this brief explanatory excuse for not indulging in ancient or modern history, I ask your attention to the subject title of my paper.

A well-developed young woman 18 years of age, was referred to me for operation for "gall-stones." The history given was that for the past five years she had been a sufferer from intermittent attacks of hepatic colic. The attacks for the first four years were usually mild, but sometimes quite severe, and were accompanied or followed by some jaundice. The icterus usually cleared up entirely when the intervals between the attacks were of several months' duration. The patient came under my notice the latter part of September, 1899, when she stated that the intermittent character of the pain, pronounced during the first four years of her suffering, had changed much during the past year. She was ever conscious of pain, and would have severe exacerbations with intervals varying from a few days to as many weeks. Jaundice was very pronounced. She had had the regular medicinal treatment for gall-stones. A physical examination showed her to be well nourished, of medium stature, with a rather prominent thick-walled abdomen. Pain was complained of on pressure on the upper epigastric region, as well as over the usual site of the gall-bladder. The liver was enlarged and could be felt a little more than two fingers' breadth below the right costal arch in the mammary line. The spleen was somewhat enlarged. A diagnosis of stone or stones in the common bile-duct was made and operation advised.

The patient entered the hospital on October 5, and was put on a preparatory treatment, consisting of baths, liquid diet, and the daily administration of effervescing citrate of magnesia (salt), and the effervescing phosphates of soda. The operation was on October 9. The incision recommended by Bevan was employed, and disclosed a most peculiar looking, enlarged liver; it was dark bottle-green in color, with a very irregular, granular surface. The gall-bladder was enlarged to about twice its usual size. The site of the common bile-duct was exposed by depressing the colon downward and outward, lifting up the lower border of the liver and holding the stomach well toward the left. The common bile-duct looked more like a distended portion of the intestine than anything else; its walls were much thickened and tense. The cystic duct was somewhat distended. A stone could not be felt, neither in the cystic duct nor in either end of the common duct. After the usual protective packing with sterile gauze, the common duct was incised, after aspiration, and the index finger introduced. No stone could be detceted, neither could I pass a suitable probe through an evident stricture near the duodenal end of the duct. Likewise it was impossible to establish a communication between the common and the cystic ducts through an impermeable occlusion of these, near or at their point of juncture.

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* Read before the Western Surgical and Gynecological Association, Des Moines, Iowa, Dec. 27, 1899.

I incised and emptied the gall-bladder of a bile-stained mucus, and tried to pass a probe through the cystic duct into the common bile-duct, but failed. The natural anatomic barriers to the passing of a probe through the cystic duct were necessarily, in part at least, obliterated because of the moderate dilatation of this duct. Evidently we had to deal with a very much dilated common duct which was acting as a reservoir for the bile, because of the occlusion of the route to the gall-bladder. This, however, gave no uneasiness—the strictured end of the common duct near the duodenum was the cause of my anxiety. How best to deal with this puzzled me considerably. The history of the case showed, without question, that this stricture was becoming tighter and tighter. The idea of draining the bile externally through the common bile-duct incision was rejected because I knew prolonged drainage of this kind was followed by a high mortality. I had no confidence in the letting up or giving way of the stricture into the duodenum after the relief of the irritation from the pressure of the bile by external drainage. I was about to attempt a retrograde dilatation of the stricture through an incision into the duodenum, but changed my mind, because if successful how could I be assured of its permanency. I had done a like procedure a number of times through the bladder, in dealing with strictures of the deep urethra, but then how different is one's ability to control the after-treatment. The only course open, in my judgment, was an anastomosis of the common bile-duct with the duodenum. This I proceeded to carry out with the aid of a Murphy button—no better technique would have been practicable.

After the introduction of the halves of the button into the duct and intestine, it appeared impossible to bring them together, not so much because of the great tension as because of the difficulty of grasping the half of the button in the duct sc as to admit of the necessary manipulation. The procedure became comparatively easy after passing the left index finger into the foramen of Winslow. I then could, with this finger behind and the thumb and middle finger of the same hand in front and opposite one another, control that half of the button. The duodenal half of the button was manipulated by the fingers of the right hand, and the parts brought properly together. The forceps devised by Dr. Murphy, for the purpose of grasping the halves of the button so as to better, in some cases, admit of a proper approximation, failed to be of service. I know these forceps are valuable aids because I have proven their value a number of times in my work.

The opened gall-bladder was sutured into the wound; it could have been excised but I disliked to prolong the operation, especially as the patient showed the not uncommon disposition to bleed, observed in cholemic patients. I hoped to restore the function of the gall-bladder by attacking the stricture of the cystic duct through my incision into the gall-bladder—the latter, if functionating, is a guard against the re-formation of stones in the ducts, hepatic and common. After irrigation with hot salt water, several strips of sterile gauze and a glass drainage-tube were introduced to the bottom of the field of operation and the wound closed, in part, by suture. I employed drainage because, in my manipulations, after introducing one-half of the button into the duodenum a slight leak occurred from the bowel, notwithstanding the usual precautionary measures—the depth of the operative field from the surface made this slip in technique possible.

Post-Operative History.—The patient reacted nicely from the operation but developed a remittent fever. This was attributed to a septic infection from the rather extensive wound, which repaired by granulation. The infection undoubtedly had its origin in the duodenum. The enlargement of the liver and spleen increased and the outlook for my patient became very unfavorable, although she was up and about the hospital. We were of the opinion that the wound had better be reopened and a search made for the nidus of the infection. A medical colleague, Dr. W. O. Bridges, rather inclined to the opinion that the increased enlargement of the liver and the spleen were not due to the sepsis, but rather to changes already developed because of the long-continued cholemia. The jaundice commenced to disappear soon after the operation, and all of the old pain vanished. I gave my patient Warburg's tincture cum aloes. Within thirty-six hours after commencing this remedy the temperature dropped to normal and remained so. It had ranged from 99 to 104 F., usually reaching 101 to 192 F., in the evening. A blood examination showed: reds, 2,530,000; white, 10,500; hemoglobin, 40 per cent; *no malaria.*

After the temperature was normal, December 1, the appetite became voracious and convalescence progressed rapidly. The button was never recovered; through a misunderstanding, after the end of the second week a laxity of observation was kept. The rapid clearing up of the jaundice and relief from pain proved the patulousness of the anastomosis. The patient returned to her home and will re-enter the hospital after a few months' recuperation, to have the useless gall-bladder excised. No bile has ever discharged from the fistula; only a little mucus comes away. The strictures of the ducts were probably the result of inflammation following pressure irritation from passed gall-stones. So far as I have been able to discover, this is the only reported American case of an anastomosis between the common bile-duct and the bowel. Some of our latest text-books on surgery mention that such an operation may be done. I knew this myself and so stated in a paper on the surgery of the gall-bladder and bile-ducts, which I published several years ago. The technique adopted in the manipulation of the halves of the button, I believe to be valuable. A thick abdominal wall, and an enlarged liver render any surgical work on the common bile-duct exceedingly difficult.

Note.—The patient, in a letter from her home, La Grange, Wyo., dated Jan. 24, 1900, says: "When I came home I weighed 115 pounds; now I weigh 126½ pounds. I feel fine, help do all the work and have a good appetite."

315 McCague Block.

Painless Plaster.

The *Journal de Méd. de Paris* of January 21 gives the following formula for a painless plaster that works like a cantharides plaster:

℞. Menthol
Chloral hydrate, āā ....gr. xv 1
Cocoa butter ʒ ss 2
Spermaceti q. s.
M. Spread on cloth or diachylon plaster

HYSTERIC LETHARGY WITH REPORT OF CASES.*

BY G. W. McCASKEY, A.M., M.D.
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A deep interest, both lay and professional, has always been manifested in the various states of morbid unconsciousness, especially when not associated with other obvious disturbances of health. To an involuntary, profound, unaccountable and especially more or less prolonged state of apparent sleep has always been assigned a certain element of mystery. While the mystery, at least in the transcendental sense, has largely faded, the interest and obscurity remain and there is recognized at present a group of cases with every gradation of intensity between moderately excessive somnolence and a stupor from which no amount of stimulation will arouse the patient; and varying in duration from a few minutes to several months. It is understood that the coma of gross brain disease, drug narcosis, etc., is excluded. A considerable number of these cases have been of toxemic origin. The narcotic toxin, in some cases, such as the persistent drowsiness which occurs as a frequent prodrome of diabetic coma, is principally of metabolic origin, although my own observations have convinced me that it is sometimes of gastrointestinal origin. Somnolence is frequently associated with pathologic obesity. I remember one case of a merchant, 45 years of age, weighing nearly 300 pounds, who said that he could sleep twenty-four hours a day, and that it was a punishment for him to remain awake at all. After reducing his weight some fifty pounds, and improving metabolism, principally by hydriatic measures, the morbid somnolence entirely disappeared.

After eliminating these chronic autotoxemic processes there still remains a large number of cases, which, *so far as we know,* are not toxic in their origin. Their nature is often obscure, although they can for the most part be regarded either as hysteric or epileptic in character. In 49 cases collected by Dr. C. L. Dana,[1] 26, or 53 per cent. were of hysteric origin, 11, or about 22 per cent., epileptic in character, the remaining 12 being due to other causes. It is to the hysteric that I desire to call especial attention, beginning with the report of some cases:

CASE 1.—Mrs. G., aged 37, married, was referred by Dr. G. B. M. Bower, Oct. 12, 1898.

History.—Her health had always been good, prior to the present illness, with the important exception that when 13 years of age she had chorea, and what her physician at that time called "rush of blood to the head," lasting intermittently for nearly five years. Her mother was distinctly emotional in character, and the patient herself had always been subject to occasional emotional disturbances, being especially prone to cry without adequate cause. For some three months she had been suffering from sudden attacks of unconsciousness, lasting from a few minutes to half an hour, or more. During July, 1898, she was in bed two weeks on account of frequency and severity of these attacks, coupled, her physician informs me, with indigestion, to which he says she is occasionally subject, and during which the lethargic attacks are always aggravated. During the July exacerbation she says her heart always felt as though it had stopped beating during the attack, and that breathing was interfered with by peculiar chest sensations; but Dr. Bowers has had an opportunity of examining her during some of these paroxysms, when she complained of cardiac distress, and dyspnea, and found the heart action and pulse perfectly normal. The spells of "falling asleep," as she called them, began without any other notable disturbances of health, and at first occurred only once a week, or at longer intervals; they then became more frequent until they finally occurred as often as twenty or thirty times a day. They were sometimes very brief, lasting only two or three minutes. As a rule she could be awakened by simply touching her with the finger over the hysterogenic zone, which, in this case was the forehead, and the region just below the eyes, thus including only afferent fibers of the trifacial nerves. No amount of pressure or manipulation of the neck, limbs, trunk, or ovarian region would awaken her. Occasionally pressure over the above described hysterogenic zone also failed to awaken her, and she would remain in this condition for half an hour or longer, although she would always make some motor response to pressure over this zone.

Several attacks occurred in my office during the first examination. The eyes would suddenly close and the head incline forward farther and farther, giving the impression that she would fall to the floor. The hands were partially closed and held in a semiflexed position a few inches above her lap, markedly rigid, but gradually falling by a jerky tremulous motion. During these attacks, each of which lasted from two to five minutes, there appeared to be not only complete anesthesia, but analgesia as well. I ran a pin into the flesh of each hand as well as into different parts of the limbs and trunk, without eliciting the slightest response in facial expression or otherwise. Manipulation of the limbs with pressure and pinching produced no effect, and a little muscular rigidity was constantly observable.

There was no drowsiness preceding or following the lethargic attacks, and when she emerges from one of them, she clearly remembers what she was doing or saying at the moment the attack developed, but from that moment till the awakening there is a complete interregnum of consciousness with absolutely no memory of anything that transpired during it. In all the attacks that I saw she awoke with a "start," and with a peculiar smile as though she had been highly amused.

Her general health had not been so good recently. During the last few months her weight had fallen from 160 to 137 pounds, a loss of 15 per cent. Her bowels were regular and the dejections soft and free; there was no stomach nor bowel distress, eructations of gas, nor other evidence of gastro-intestinal disease. Neither was there vertigo, tinnitus aurium, nor photopsia. The liver and spleen were normal, the heart perhaps slightly enlarged, but otherwise normal, and there was no Romberg symptom. The knee-jerks were exaggerated, but there was no ankle-clonus. Ophthalmoscopic examination was entirely negative. There was slight amblyopia, not accurately tested, but the patient said she was unable to see as well as formerly. The total quantity of urine for twenty-four hours was 1900 c.c., the specific gravity 1020; reaction acid, acidity 35 degrees; urea .9 per cent. or 17 grams; total solids 88 grams; no albumin, sugar nor indican. No cutaneous anesthesia could be found.

Examination of the visual field showed reversal and marked contraction, the precise nature of which will be considered later, and on the basis of this phenomenon, together with the distinct neuropathic tendency, I sent the patient back to her physician with a positive diagnosis of hysteric lethargy. Considerable improvement followed a general line of treatment, including tonics and electricity, but a few weeks later she had a spell lasting some four days, during which time she was unable to open her eyes, nor could they be forced open by any reasonable effort on the part of her attendants. Consciousness remained intact. I did not see her during this time, but she has since been much better, the lethargic attacks occurring very rarely, and her general condition being very much improved[2].

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*Presented to the Section on Neurology and Medical Jurisprudence, at the Fiftieth Annual Meeting of the American Medical Association, held at Columbus, Ohio, June 6-9, 1899.

[1] Trans. New York State Medical Society, 1894, pp. 257-281.

There are several points of considerable interest in this case, one of especial diagnostic value being the limitation of the visual fields. The fields for blue, red and green maintained their normal relations. The blue was, as in health, the largest of all the color fields, about 60 degrees outward and 40 inward; but the field for white, instead of being 90 outward, and 60 degrees inward, as it should have been, was only 45 degrees outward and 40 inward. The field for red, instead of being larger than the blue, as is frequent in hysteria, was about the same as for the white. The field for green was slightly smaller than that for red. The fields for blue, red and green were therefore normal as to their relative size, the reversal being limited to the field for white, which, instead of being considerably greater than the blue, was considerably less, closely approximating the field for red.

Some little importance is also to be attached to the tremulous movements of the eyelids, first pointed out by Charcot, and conspicuous in this case.

The marked nutritional disturbance evidenced in this patient by the loss of more than twenty pounds in weight is very significant, and has been reported by Gilles de la Tourette, Carthelineau and others as present in a large proportion of cases. It is a feature well worthy of careful study, and where the paroxysms of lethargy are as brief as in this patient, and the appetite as good, its explanation is neither simple nor easy.

In this case we find a somewhat excessive amount of solids in the urine, although the urea was strictly within, or rather under, the range of health. The excess was made up principally of chlorids and phosphates and especially the latter, indicating excessive destructive metabolism in the nerve centers and elsewhere. In cases in which the paroxysms of lethargy lasted over a period of days, weeks or months, as is occasionally reported, the explanation of loss of body weight is sufficiently obvious. It is, however, frequently prevented from becoming excessive in these cases because of the fortunate circumstance that the reflexes, and particularly the pharyngeal, are not abolished, and that the patients can be fed although quite unconscious, by placing semi-solid food well back in the throat. The loss of more than 15 per cent. of total body weight within a few months, with a good appetite fully gratified, and a somewhat excessive secretion of urinary solids, points to a more profound disturbance of nutritional processes than is commonly supposed to be present in a so-called purely functional disease like hysteria. The metabolic processes of the body are clearly under nervous supervision, and in a disease like hysteria, involving the highest nerve-centers in all their cardinal functions—psychic, sensory and motor—it is really not surprising that in the general cataclysm of perverted nerve functions these metabolic processes should suffer either by acceleration or restraint.

Two other cases of similar character have fallen under my observation but were not studied or recorded with sufficient care to permit their being fully reported. Both patients were women. The first was married, and some 35 years of age, and her general health was wretchedly bad. She suffered severely from indigestion, and was the subject of attacks of hysteria major which frequently terminated in a state of lethargy associated with complete anesthesia and catalepsy. Her attacks would last for several hours, during which I frequently ran pins into different parts of the body without any sign of pain or other sensation. They recurred during a period of several years until the patient was finally lost sight of. She ultimately died, I have heard, of some gastric or intestinal disease.

The other patient was a school girl about 16 years of age, who had all the stigmata of hysteria and a rank heredity of hysteric parentage. I saw her in a series of lethargic attacks, or rather, almost one continuous attack, lasting over a period of a week or more with very slight intermissions occurring two or three times. Her recovery was complete, and no recurrence took place so far as I know. There was absolute anesthesia and analgesia.

The pathology of such cases is exceedingly interesting and equally obscure. It involves the pathology of the entire subject of hysteria, our knowledge of which has by no means kept pace with the study of its clinical phenomena.

In regard to the entire group of cases of lethargy Preston declares[3] that every case which has heretofore been studied with care and fully reported has shown many of the stigmata of hysteria, although as quoted above, Dana accepts the records—or at least did in 1884—as proof of the epileptoid origin of a certain proportion occurring independently of these conditions. It would seem that the real pathology of these attacks must be sought for in evanescent changes in some of the constituents of the upper neurones, either occurring as a primary intrinsic change or secondary to certain morbid blood constituents, the latter being the result either of faulty metabolism—leucomains pathologic in kind or quantity—or absorbed from a mucous surface, principally that of the alimentary canal—ptomains and toxins of bacterial origin—in quantities too great for the defensive machinery of liver, leucocytes, etc., to dispose of. The trend of evidence, to my mind, would incline toward the acceptance of both of these hypotheses, the first being constant and essential, the second accidental, contributory and inconstant. The change must be somewhat wide-spread in distribution, involving as it does the psychical, sensory and motor department of the higher nervous system the same as is the case in the ordinary types of hysteric attacks, for hysteric lethargy is something much more than sleep, inasmuch as there are present complete anesthesia and analgesia, together with certain motor disturbances, which latter Preston says are always present.

The danger from these attacks is usually slight, although Semelaigne and Janet[4] have reported cases which terminated fatally, and such attacks are always exceedingly alarming to friends of the patient, who fear brain disease of a serious character. The treatment, aside from electricity and other forms of stimulation to the hysterogenic zone, is that of the hysteric state which forms its background, the consideration of which is altogether too large a topic for this paper.

107 West Main Street.

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[2] Dr. Bowers reported Sept. 21, 1899 that she had been entirely well for six months.

[3] Hysteria: Its Nature and Treatment, p. [illegible].

[4] Arch. Gen. de Med., 1891; quoted by Preston.

NERVOUS DEPRESSION AS A SEQUEL OF INFLUENZA.

BY E. J. [illegible], M.D.*

[illegible]

I wish especially to call attention to two features of this depression, for I do not know that they follow any other disease, so I regard them as the most remarkable and probably the most important of any of the phenomena that are associated with influenza. These features are the subnormal temperature and the reduced pulse-rate. In the cases of which I have kept records, the temperature ran from 97 to 95 F., and the pulse from 60 to 48, for weeks and months. This is most characteristic of the disease, and it strikes me as most strange that it has not been described. I have read over the works of Osler, Wood, Fitz, Lyman, Whittaker, Struempell, Tyson and Pepper, and none of them speak of this subnormal temperature and reduced pulse-rate which, I have noticed, follow influenza.

Tyson says: "Weakness following influenza may be extreme, and the slightest effort, physical or mental, promptly convinces the patient of this, and the duration of the weakness may be prolonged for months." We have all observed this, and in most of these cases if the temperature is taken it will be found to be subnormal. Just so long as the temperature is subnormal, just that long will the patient show this nervous depression.

Osler, in his concluding remarks on the treatment of influenza, says, in one line: "The depression following this disease is one of the most unpleasant and obstinate features." Here I wish to call attention to a matter that I think many able and otherwise accurate physicians are unmindful of, namely, the full use of the clinical thermometer; e. g., many fail to make use of this to learn of subnormal temperatures. It has been my custom to use it this way ever since influenza first made its appearance, and if this custom were more universally practiced by physicians many would be surprised to learn how often there are temperatures of this character.

The rectum affords the most trustworthy means of getting a correct temperature, but in my cases, for convenience, I have used the mouth. I take special care that the mercury end is placed under the tongue and as close to the lingual artery as possible; when I have had nurses who kept a record of the temperature, I always, on visiting the patient, take the temperature myself.

I had my best opportunity of observing this depression at St. Charles College, among the students—just where we might expect to find it—whose sole occupation is that of the mind. The symptoms are all those of a diminished metabolism, that is, a diminished production of animal heat, lowered pulse-rate and depressed circulation accompanied by intellectual inertia, mental exertion bringing on head troubles, most often in the occipital, sometimes in the temporal regions, dizziness and rather odd sensations about the head other than pains or aches. Insomnia was not uncommon. The symptoms showed that the brain was not receiving the needed blood-supply. All these symptoms or troubles continued three or four months after the acute attack of influenza had passed, the patient often having a fair appetite and not losing any in flesh.

How is this diminished metabolism brought about? Evidently through nervous depression. The nervous system exercises a control on both of the factors concerned in the regulation of the temperature; on the loss of heat by means of the vasomotor system, which regulates the amount of blood in the deep and superficial parts of the body, and by the respiratory center which controls the frequency and depth of respiration; on the production of heat through the nerves which control the activity of the tissues and chiefly the muscles.

Suggestively, the things that might be considered to influence temperature are: the heat centers in the brain, and vasomotor nerves having their center in the medulla oblongata; the drugs that lower temperature, as chloroform, ether, morphia, chloral, and nicotin; those that raise it, as cocain, atropin, brucin, caffein and veratrin. It was on this theory that I used citrate of caffein, from which I got the best results. Temperature is also influenced by mental and muscular work, by age, food, race, etc., and more by sleep, normally falling to 97 F. between the hours of 2 a.m. and 4 a.m. All the factors mentioned influence metabolism and therefore temperature.

In the acute stage of one of my cases of influenza, that took much the form of cerebrospinal meningitis, the temperature ran riot, and on three different thermometers the mercury was driven as far as the tube would allow, that is to quite 111 F. It was evident in this case that the governing heat centers were out of gear. It remained at this point a very short time only and then dropped to normal.

In the acute stage, accompanied with fever and severe pain, I gave phenacetin in 5-grain doses every six hours hours until the pain was relieved. The coal-tar preparations being so much used in the treatment of influenza, we might suspect that this condition of temperature and pulse was brought about by them, but in the cases where phenacetin was not used the same conditions were present.

The medical treatment for the depression consisted of strychnin in full doses—1/20 gr. of the sulphate—three times a day; compound syrup of the hypophosphites, digitalis, elix. ferri-quinia and strychnia, spts. ammo. aroma., tinc. valerianæ, ammo., elix, guarana, whisky, brandy, tinc. nucis vomicæ and asafetida; the cold plunge and cold shower-bath. Medical treatment was rather unsatisfactory. Some benefit was derived from the cold bath, but it was not persisted in long enough to form a positive opinion. Brandy in ℥ss doses four or five times a day seemed to add to the comfort of patients. Entire rest seemed to be the treatment. Citrate of caffein in 7 gr. doses three times a day helped the head troubles and seemed to help pulse and temperature.

CASE 1.—MR. K.

DATE.	TEMPERATURE.		PULSE.	
	M.	E.	M.	E.
May 10.	96.8	98	60	56
May 11.	98	98.5	56	70
May 12.	98	98	56	70
May 13.	98	98.5	60	66
May 14.	97.4	99.4	64	66
May 15.	97.4	98.8	60	66
May 16	97.6	98.6	62	64
May 17.	98	99	70	70
May 18.	97.6	98.6	70	70
May 19.	97.4	...	70	..
May 23.	97.4	....	56	..
May 26.	97	....	68	..
June 16.		99.4	..	70
June 17.	96.6	98.2	62	60
June 18.	98.6	99	62	64
June 19.	96.6	98.4	64	60
June 20.	97.2	....	60	..

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*Read before the Howard County (Md.) Medical Association, July 5, [illegible]

CASE 2.—MR. R.

Date.	Temperature.		Pulse.	
	M.	E.	M.	E.
May 23	....	97.4	..	66
May 24	96	....	64	..
May 25	95	98.5	60	60
May 26	96	....	52	..
May 27	96.2	....	54	..
May 28	97	98.8	46	72
May 29	97.8	99.2	60	72
May 30	97.6	....	58	..
June 13	....	98.5	..	64
June 14	97.4	98.6	48	52
June 15	97.6	99	52	60
June 16	96.4	97.6	52	60
June 17	96.8	97.8	52	60
June 18	96.2	97.6	52	56
June 19	97	98	48	54
June 20	97.2	....	56	..

CASE 3.—MR. M.

Date.	Temperature.		Pulse.	
	M.	E.	M.	E.
May 2	....	98.5	..	56
May 3	97.2	98.5	56	58
May 4	97.2	97.8	50	56
May 5	97.4	99.4	60	68
May 6	97.2	98.6	60	60
May 7	98	....	60	..
May 8	97	99	54	60
May 9	97.2	....	56	.
May 10	97.6	98.5	66	68
May 11	98	99.4	60	70
May 12	97.8	....	60	..

CASE 4.—MR. C.

Date.	Temperature.		Pulse.	
	M.	E.	M.	E.
May 12	...	98.2	..	64
May 13	97.4	98.2	56	60
May 14	97.2	98	48	68
May 15	97	99.2	48	70
May 16	97.2	98.4	48	64
May 17	96.6	97.4	50	64
May 18	96.6	....	56	
May 19	96.8	96.6	60	60
May 20	95.8	97 4	60	60
May 21	96 4	98	48	70
May 22	96	....	48	..
May 23	96.4	97	56	54
May 24	97.2	98 2	50	64
May 25	97.4	96.8	52	72
May 26	96.8		50	

A fuller record of pulse temperature was made in many other cases, but was mislaid—there is sufficient here, however, to show character of pulse and temperature.

TREATMENT OF A COMMON COLD.*

BY FRANK WOODBURY, M.D.

Associate Professor of Laryngology in the Philadelphia Polyclinic
and College for Graduates, etc.

PHILADELPHIA.

When a patient tells us that he has "a bad cold," or that he is "suffering with a cold," we at once understand him to mean that a group of symptoms are present, which are the usual results of an exposure to cold, or which frequently follow a chill, or a lowering of the surface temperature of the body, with insufficient reaction. Characteristic of this condition are muscular soreness, or actual pain on motion—muscular rheumatism—in different parts of the body; a general feeling of heaviness and indisposition to effort; more or less difficulty of breathing; partial obstruction of the nasal chambers, owing to the swelling of the mucous membrane; frequent sneezing; and a free discharge of a thin watery secretion from the nasal chambers and associated sinuses, often accompanied by a slight febrile condition. The tonsils may become inflamed, especially if they have been the site of former attacks. Other portions of the air-passages, or the alimentary canal, may suffer from the catarrhal inflammation. More rarely, neuralgia results, the branches of the trigeminal and the occipital nerves being most frequently affected.

Directing our attention particularly to the condition of the nose, it may be of interest to inquire why it is so frequently the site of catarrhal disorders. It was the opinion of Schneider, after whom the Schneiderian membrane was named, that catarrh is the result of indolence and luxury; in other words, it is a part of the price we are required to pay for our enjoyment of the amenities of civilization. If, however, we should infer from this statement that man, in his primitive, uncivilized condition is not subject to this form of disease, we should be in error. Dr. Sims, of London, who spent several years in equatorial Africa, at a mission station, informed me that one of the most striking and most disgusting sights that he witnessed while there, was that of the natives coming out of the bush, in a long file, each carrying a burden, and each with strings of mucus hanging from his nose. Dr. James Johnston, of Brown's Town, Jamaica, who crossed the African continent in 1892, recently showed me a native African handkerchief. It was a finger-shaped flat piece of iron, which he said was used as a scraper and then wiped on a convenient tuft of grass. No African with any pretensions to recognition by the local "four hundred," would think of venturing to appear on the streets of the village without having one or more of these indispensable adjuncts to the African full-dress toilet depending from his girdle. This leads me to remark that since both civilized and uncivilized man has nasal catarrh, we may paraphrase the famous definition of man as the "animal who laughs," and style him "the animal who uses a handkerchief."

While on the subject, it may be as well to recall an interesting anatomic fact mentioned by Dr. Harrison Allen in a communication to the American Laryngological Association, some years ago. Dr. Allen directed attention to the relatively enormous development of the fore-brain in man, which, in its progressive development had crowded forward on the nose, so that this has really become a degenerate organ in man as compared with the olfactory organs of many lower animals. He remarked also that it was in accordance with the laws of evolution that organs in the process of extinction, like the human nose, and the appendix vermiformis, should be especially liable to disease. This is doubtless one of the reasons why man is so prone to have nasal irregularity and nasal catarrh.

My object in making this communication, however, was not the discussion of the pathology of coryza, but to speak of a therapeutic observation which seems to me to merit being called to your attention. It may not have the same value from a scientific standpoint as the discovery of a new variety of bacillus, but I hope that it will not be found entirely valueless from a practical point of view.

At the outset, I may say that I have abandoned all attempts at alleged specific treatment by means of irrigation of the nasal chambers with potassium permanganate, quinin, phenol, resorcin, and other agents of the kind which have been recommended in the treatment of acute rhinitis. Nor, in view of the abuse which

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* Read before the Section on Otology and Laryngology of the College of Physicians of Philadelphia, Dec. 20, 1899.

[illegible] effects from its use, would I for such cases give cocain, in powder or in spray, for self-treatment. When necessary, I prefer to make such applications myself, applying 5 or 10 per cent. solution to the swollen turbinals, with the aid of the nasal speculum and a good illumination, so as to observe the effects. The patients, occasionally, may use a warm alkaline douche, or spray, followed by a few drops of liquid petrolatum, etc., where the local symptoms are severe. On the other hand where they are slight, and in the absence of any special reason for such treatment, I do not devote any attention to the nasal chambers, but leave the nose alone. Where the patient, upon rising in the morning, finds that he has a cold, it often happens that 5 or 6 gr. of quinin, or some cathartic medicine, will cause a cessation of the symptoms, especially if he takes exercise in the open air. On the contrary, a sedentary occupation, especially with brain work, will greatly aggravate the disorder. This leads me to say that in my opinion the neurotic element in a "common cold" has been too largely ignored in the plans of treatment usually followed. It is a common observation that when one person gets a cold in a family, others generally follow, and I do not think that this is because their handkerchiefs are washed together, but they are affected largely from sympathy and because they are under similar conditions. We all can recall a case, reported some years ago, by Dr. John Mackenzie, of Baltimore, of a woman who was the subject of annual rose cold, and who on one occasion had a severe attack of her malady after smelling an artificial rose. This may have been simply coincidence; but, on the other hand, it has the appearance of being a strong illustration of the neurotic character of acute nasal catarrh. I have a patient, a young woman, who, whenever she uses a tooth-wash containing soap-bark, invariably gets an attack of coryza in consequence. Many individuals are known to get colds in the head after smelling ipecacuanha, and other substances. In the report of the cruise of the *Corwin*, it is stated that when the members of the ship's company returned to San Francisco, they all suffered with colds, presumably from inhaling the dust of the streets, they having been free from colds during their previous four months' stay in the Arctic regions.

With the view of acting directly on the neurotic element of the cold, I have used for the last two years a combination of acetanilid, bromid of sodium, and compound morphin powder of the U. S. Pharmacopeia. This combination is given in small doses of two or three grains. The manner of administration is such as to aim at a cumulative effect, by giving the powders, or capsules, one every half hour until four are taken, and then every hour or two until the desired effect is obtained. The proportions of the ingredients are varied with the character of the symptoms. Where neuralgia or muscular pain is present, at the beginning of a cold, I give 3 gr. of the sodium bromid, 2.5 of compound morphin powder and 2 gr. of acetanilid. Where the local symptoms are severe and secretion from the nose is excessive, I write the prescription as follows:

R	Pulv. morphinæ comp.	gr. xx
	Acetanilidi	gr. vi
	Sodii bromidi	gr. x

M. Divide in capsule No. xii, to be taken one every half hour until four are taken, then every two hours.

This usually breaks up an ordinary cold in a few hours. The doses of the active ingredients are so small, in this prescription, that the patient absolutely experiences no effect, as the rule, except that disease is overcome and ease takes its place. The patient is not restricted in his movements, and attends to his business as usual. In the case of elderly or weak persons and in young children, however, it is advisable to keep the patient under observation, under conditions favorable to recovery, as we know the tendency of such cases to run into pneumonia or intestinal catarrh. After the catarrhal symptoms are relieved, a tonic, especially quinin, may often aid in bringing the patient back to the normal condition.

Where the case has advanced further, and fever is present, the usual treatment with citrate of potassium, spirits of nitrous ether, or small doses of aconite tincture, with hot drinks to excite the action of the skin and kidneys and reëstablish the peripheral circulation, is in order. The old nurse's plan of administering a dose of castor-oil to a baby, "to carry off a cold," may also be adopted occasionally in older persons with advantage, the fluid extract of cascara answering well for this purpose. The method of treatment I have mentioned above is most efficient in the incipient stage. By its use I have often been able to obviate the necessity of resorting to any of the other measures, which experience has shown to be of value in the treatment of "a common cold."

DANGEROUS PULMONARY HEMORRHAGE IN TUBERCULOSIS AND ITS MANAGEMENT.*

BY NORMAN BRIDGE, A.M., M. D.
LOS ANGELES, CAL., AND CHICAGO.

Pulmonary hemorrhage, besides being sometimes dangerous, and occasionally fatal, is always a terror to the patient. When produced by tuberculosis the patient is always looking for recurrences and is apprehensive, although small hemorrhages are, in such cases, useful and dangerless. The patient can never know that a slight oozing of blood may not suddenly develop into an alarming hemorrhage. You may assure him, in the most positive manner, that his little hemorrhage is a very useful thing, and that those who frequently have such are more likely to recover than others, but as soon as he begins to expectorate color, he will be seized with fear. It is important, therefore, to have patients, as well as their nurses and friends, informed as to the nature of pulmonary hemorrhage; as to the rational things that may be done for it in case it is severe, and to do the things, if possible, that may prevent it from becoming severe. They should be instructed that slight bleedings do no harm, and that they are not to treat or doctor them, but that the patient is to be kept in such a condition as to ward off any influence that may provoke a severe hemorrhage. The patient, during a small or great hemorrhage, should be as quiet as possible, should eat sparingly, should, preferably, be resting in a nearly horizontal posture, and his body should be warm and unhampered by clothes. He should avoid constipation, and be unstimulated. He should be mentally tranquil and unperturbed by anything; anger, fear, worry and apprehension are equally dangerous—they may at any time change the conditions at the site of the ruptured vessels so as to bring on a large bleeding, when without them nothing but a little useful oozing would take place.

Many hemorrhages from the lungs are attended, or followed, by fever, or an increase of it, lasting a few days, and of such a character as to suggest that an extension of the tuberculous process has occurred in conjunction with the hemorrhage, and probably causes it. We know that in many of these cases an extension of the disease does occur; but sometimes in the absence of evidence of this fact it appears that the hemorrhage must have opened new channels of absorption into the lymphatic system, and so of infection, to produce the fever. Yet the prompt improvement of many patients after a hemorrhage strongly suggests that in the process some mass of pus- and microbe-breeding tissue is washed away, thus freeing the system from a certain amount of harmful influence.

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*Presented to the Section on Practice of Medicine, at the Fiftieth Annual Meeting of the American Medical Association, held at Columbus, Ohio, June 6-9, 1899.

The amount of blood lost in a hemorrhage is nearly always overestimated. A large quantity of mucus and serum is expectorated with the blood, often matter from the stomach is mixed with these, and frequently a receptacle is used containing water; so that a half pint of blood becomes easily magnified, in the eyes of the bystanders and patient, into a quart. A hemorrhage need rarely be regarded as serious in degree unless and until it causes faintness or produces a considerable acceleration of the pulse. The account that the patient and his friends give of a hemorrhage of a quart of blood, or even of half that amount, that has not disturbed the circulation or caused fainting, or even much paleness, must always be considered as inaccurate.

The mechanics of hemorrhage are simple. Manifestly it occurs because the blood-pressure is too great for the resistance of the vessel walls; there is a disproportion between the two. But the vessel is not eaten into by an ulcer; the tuberculous process invades the tissues about the vessel and then its walls, weakening them, causing them to be brittle so that they sometimes give way from the normal pressure—oftener by some increased pressure produced by unusual circumstances, as overaction of the heart, either mental or physical excitement, overstimulation by alcohol, drugs, or even the process of digestion; or by sudden muscular strain, even by coughing. Each act of coughing produces a sudden change in the blood-pressure of the intrathoracic vessels. The moment before the explosive act of the cough, when the air-pressure is increased by compression of the chest and closure of the glottis, the blood-pressure is resisted; there is increased pressure against the outside of the vessels, which tends to prevent hemorrhage. The explosive out-rush of air, however, takes off the pressure from without the vessels so suddenly that the presure from within is more likely to cause rupture and hemorrhage. A to-and-fro strain on the vessels is caused by every act of cough. The thing that happens in the hemorrhage, if the vessel opening is not too large, is the formation of a clot at the seat of rupture. The surfaces are rough, the vitality of the tissues at this spot is lowered, even actually dead tissue is present, all conditions strongly tending to produce a clot if the normal elements of the blood that are required for this purpose are present. If the blood-pressure is not too great, therefore, the clot always closes—and permanently—the opening; healing then takes place,. and probably the obliteration of the minute vessel at the point of rupture. This is the normal and physiologic method of stopping the leak.

The obvious thing for us to do is, if possible, to lessen the vascular blood-pressure at the point of rupture, allowing the clot to form and close the opening. The clots became organized, and through them, often, the obliteration of the vessel is made easy; the circulation being kept up by the undiseased vessels of the neighborhood and by the new ones formed in the tissue of repair.

In a severe hemorrhage the measures to be resorted to should have for their purpose the immediate lessening of the blood-pressure. To this end the patient should: 1. Minify his exertion—otherwise, keep still. The movements of the body unavoidably more or less increase the circulation, and therefore the blood-pressure. 2. He should avoid taking deep breaths—advice that is usually not needed, although it sometimes is. Deep breathing not only increases blood-pressure by reason of the physcal exertion of it, but, by the process of aspiration, it additionally increases it at points beyond the region of obstacles to the ingress air; that is, to points beyond, or distally, to the seat of the oozing. Quiescence of the lung tissue where the bleeding is going on, or liable to recur, would be further facilitated by collapse of it through distension of the pleural cavity. Here is a logical use for the treatment proposed by Murphy, by injection of nitrogen gas into the cavity, in such cases as are not complicated by adhesions. 3. The bowels should be kept open, as constipation is liable to produce an intropulsion of blood and so increase the vascular pressure. 4. The patient should have loose clothes, and his extremities should be kept warm, by artificial means if necessary, as this favors distension of the superficial vessels. Nervousness, and especially fear and apprehension of calamity, must be avoided. To this end the positive assurances of the doctor are often valuable, but in most cases of any severity, a dose of morphin and atropin should be given hypodermically. Such a dose makes the patient forget his trouble and danger, and gives him a sense of great tranquillity. 6. The heart force, when it is beating violently, may with benefit be reduced. To this end aconite and veratrum may be used, even in more liberal doses than is usual; but it should always be remembered, in giving these drugs, that absorption from the stomach is likely to be slow, and that we are liable, if we give repeated doses, to discover a cumulative effect, and possibly a poisonous one, a few hours after beginning the use of the medicine. One drop of the tincture of aconite or veratrum, or one of each, may, with propriety, be given every half hour, for several doses; then every hour, till a distinct effect is produced. 7. Blood-pressure in the chest may be reduced by dilating the vessels of the extremities. To some degree morphin and atropin do this, so there is a double purpose in using this combination. I do not forget that it is alleged, perhaps correctly, that the blood-pressure is increased by these drugs, yet I believe that in cases of severe pulmonary hemorrhage the pressure inside the chest is relatively reduced by them; certainly their great value in tranquillizing the patient overbalances, ten-fold, any slight harm they might do.

Another measure of great value consists of tightly-drawn cinctures about the limbs at their junction with the body. An ordinary linen or cotton handkerchief, tied by the corners, makes a good cincture. Where danger is imminent, but not present, they may be tied loosely about the limbs with one knot, and left there to be drawn up and instantly fastened with a second knot on fresh hemorrhage occurring. It is easy to adjust the tension so as to segregate a large volume of blood in each limb without seriously darkening its color or interfering with its nutrition or comfort.

Medication through the stomach is, in the presence of a severe hemorrhage, unadvisable. No absorption can be looked for that will be prompt enough to do any immediate good, and the patient is liable to swallow great quantities of mucus and blood, and even to vomit, thus tending to prevent absorption. The hypodermic method alone should be resorted to in all such cases.

The profession has a heritage of myriads of medicaments and treatments recommended for this calamity. Most of them are entirely useless. The most common of them all, perhaps, as used by the laity, is common salt, which is often swallowed in large quantities. It can have no other useful purpose than to divert the patient's mind and the minds of his friends. The inhalation of turpentin fumes can do no possible good. Ice to the chest over the supposed seat of the bleeding may do good; it certainly can do no harm, and it often comforts the patient in the belief that he is being helped and protected. There is no objection to using it. There is no reason to believe that the internal administration of hamamelis does any special good, and certainly it is of no value given at the time of a hemorrhage.

The drug most often used by the profession, after morphin and atropin, is ergot—a drug that should never, under any circumstances, be given for this purpose. If it has any physiologic action on the bleeding vessels it is to increase the blood-pressure within them, and thus imperil the fragile walls of those in the diseased area. The only real reputation for proved usefulness that ergot has ever acquired is based on the theory that it causes contraction and increased tension in unstriped muscular fibers; all the investigators have claimed that it so acts, and it is employed for the contraction of the uterus in hemorrhage on that theory, as it is in certain uterine tumors—not for its power to contract the blood-vessels, but rather the mass of the uterine muscular fibers, and so compress bleeding vessels and expel tumors.

If it has such an effect on the blood-vessel walls, as it undoubtedly has, it must influence them all, and so increase the blood-pressure, and this is found to be the case. Every particle of increase of general blood-pressure by so much increases the danger of a rupture at the weakest spot, and the weakest spot is where the vessel walls are brittle from disease. Why the profession will continue to use the drug, with the common knowledge of its physiologic action, is past understanding, except on the theory that fashion and custom are with many of us liable to take the place, in our mental processes, of science and reasoning, and even of common sense. To me, the use of ergot for dangerous pulmonary hemorrhage is tantamount to malpractice.

Of all the measures ever used for this accident, probably morphin—preferably with a proportionate admixture of atropin—administered hypodermically, is more valuable than all others put together. It may be used rather freely; it should never be used recklessly. A quarter of a grain may be given every half hour, for two doses, if the urgency of the case demands it; then the intervals should be lengthened, and the effect on the nervous system carefully watched. The amount given should be gauged by its effect on the nervous system, not by its control of hemorrhage. Slight somnolence should be produced, nothing more. With knowledge of a vast number of cases where this medication has been used, I have no record of a single instance where a poisonous or harmful effect was produced by it.

Morgue Keeper an Officer.—Judge McAdam holds in People vs. [illegible], at a trial term of the supreme court, New York County, that the position of morgue-keeper in the City of New York, being a position of public trust, not transient, occasional or incidental, and commanding a fixed salary by the year, is an office, within the meaning of the authorities.

AN INTESTINAL ANASTOMOSIS IN A CASE OF A TUBERCULAR FECAL FISTULA OF TWENTY YEARS' STANDING.

BY JACOB FRANK, M.D.

Surgeon to the German Hospital; Consulting Surgeon to St. Elizabeth's Hospital, and Jewish Orphans' Home.

CHICAGO.

Mrs. H., aged 50 years, consulted me at St. Elizabeth's Hospital in September, 1898, and gave the following brief history: At about the age of 14 she was taken sick with pain in the abdomen. No diagnosis was made by her physician, and, after many months of suffering a spontaneous opening appeared at the umbilicus, with a discharge of large quantities of pus. About twenty years before I saw her, a fecal fistula appeared through the same opening, discharging both pus and feces.

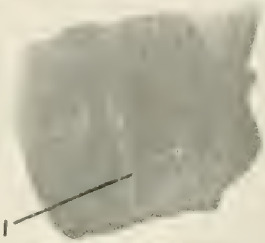

FIG. 1.—1. Line of Union.

On examination a large, hard, immovable mass could be palpated, irregular in outline and extending from the site of the fistula along the left iliac region far into the pelvis. A vaginal examination revealed both anterior and posterior culs-de-sac filled with a hard mass and the uterus firmly fixed.

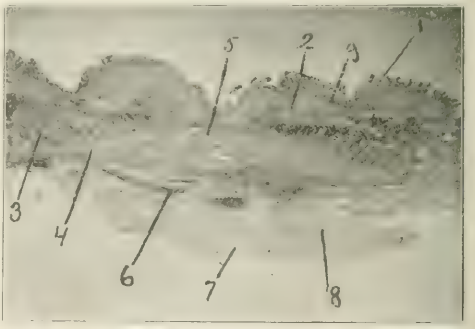

FIG. 2.—1, mucosa; 2, submucosa; 3, inner muscular tunic (circular); 4, outer muscular tunic (longitudinal); 5, scar; 6, peritoneum; 7, omental adhesions; 8, young tubercle; 9, muscularis mucosæ.

On September 17 an incision was made around the fistula, and on opening the abdomen, the intestines were found matted in a bunch, and all surrounding structures greatly thickened, extending down into the pelvis. With great difficulty the fistula was isolated and a resection made, the anastomosis being performed with a one-inch, Frank's decalcified bone coupler.

The patient rallied nicely from the operation, and was on the road to recovery when a new fistula opened at the lower end of the incision. However, feeling pretty well, she was up until about October 16, and on the 17th, nearly one month after the operation, succumbed.

On post-mortem, adhesions were found around the site of operation. The intestines and omentum were matted together in one mass, which was very hard, extending into the pelvis. The *line of union* macroscopically (Fig. 1) was found in a very good condition, and under hydraulic pressure did not separate. The intestine on either side of the union was unhealthy in appearance, and had scattered upon its surface small tubercular nodules about the size of a pinhead.

The report on the microscopic examination, from Dr. L. Feingold, showed that a section was made through the line of union (Fig. 2) and the following found: The mucous membrane did not cross the line of union. The submucosa was not regenerated, but thickened and very vascular. Neither were the circular and longitudinal muscular tunics regenerated, reaching as far as the line of union, blending with the scar which was formed by the peritoneum. The peritoneal coat was thickened by young, inflammatory, connective-tissue cells and blood-vessels, this thickening being especially marked over the line of union. Omental tissue was also found adherent to the peritoneal coat. The scar extended from the peritoneum to the muscular tunics, a small amount of scar tissue covering the ends of the submucosa and muscularis mucosa, but not filling the gap, as is seen in the illustration. The scar was very vascular and composed of embryonal tissue. A great portion of the mucosa was removed by rough handling.

I report this case not only to show the few interesting clinical features of the case, but more than that to show the very good union that took place within a comparatively short time, with my decalcified coupler, in spite of the severe condition of the case, and which is well illustrated both macroscopically and microscopically.

17 Lincoln Avenue.

DESCRIPTION OF A CASE OF ORAL SURGERY.

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MILWAUKEE, WIS.

The deformity shown in Figure 1 was caused by a burn at the age of 3 years, the patient being, at the time of operation, about 20 years old. The chin was held tightly against the breast by the cicatricial tissue; one arm and hand were also grown to the breast, the wrist being turned so that the thumb was twisted back upon itself, its palmar surface next the skin of the patient's chest. By reason of the continual strain occasioned by the effort of the muscles of the back of the neck constantly endeavoring to hold the head up, in order to enable the subject to look straight before him, the lower jaw was deformed and elongated in such a manner that the first inferior molars met the superior cuspids in occlusion, the anterior lower teeth protruding forward in the shape of a fan, giving an expression to the face, by tension on all of the facial muscles, which can only be understood by reference to the pictures. Dr. W. H. Earles, surgeon of the Milwaukee Medical College, performed the first operation, by dissecting away the distorted cicatricial tissue and transplanting a large flap of healthy skin from the unaffected shoulder on the opposite side. The patient was then given into my charge, and one week afterward I removed all that portion of the inferior maxillary, from the bicuspid forward, including the teeth it contained. I then dissected away the soft tissues and, with the surgical engine, a sloping surface was cut in that portion of the jaw still remaining, by reason of its unusual thickness, which enabled me to make a fair imitation of the form of a chin. The soft parts were bound on this with bandages in such a manner as to become adherent and give the face a natural appearance.

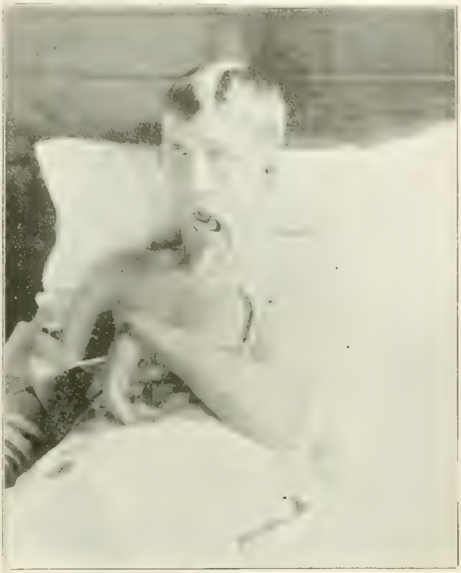

Figure 1.

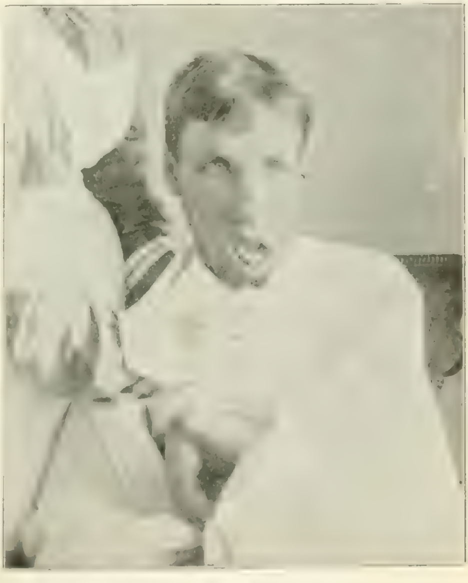

Figure 2.

Figure 2 shows the face after the first operation, with the mouth closed as tightly as was then possible. Only sterilized water and hydrogen dioxid were used in the care of the mouth, and the fact that notwithstanding exposure to infection, by reason of carious and otherwise diseased teeth in the mouth, the parts united and uncovered portions of the bone surface became completely covered with healthy tissue in two weeks after the operation, would seem to prove that they were quite sufficient for all purposes; in fact, it is believed that a better result was obtained than would have been had more active tissue-destroying antiseptics been applied. The insertion of a bridge containing the lost teeth, attached by crowns on each side of the jaw, restored the usefulness of the arch and a pleasing appearance to the mouth. As usually happens when the surgical engine is used, there was very little hemorrhage, and the hydrogen dioxid was quite sufficient to control such as was apparent.

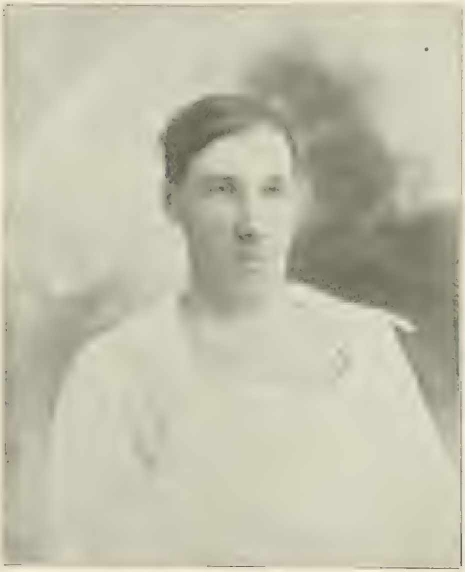

FIGURE 3.

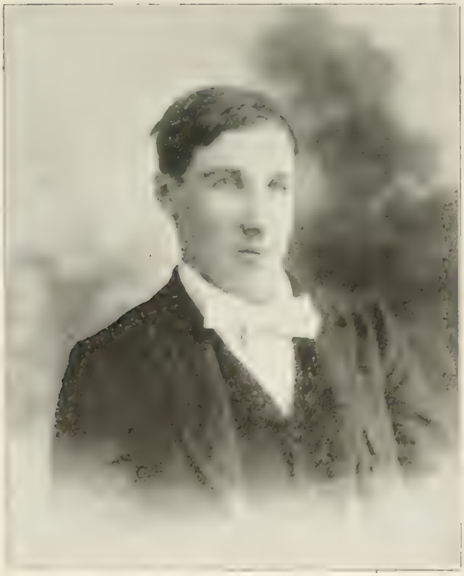

FIGURE 4.

Figure 3 shows the size of the flap on the breast and neck, and the appearance of the face without any artificial assistance in the way of dress.

Figure 4 is the altered condition in which the patient was discharged, having become at last human in appearance.

HYGIENE OF PUBLIC SCHOOLS.*

BY C. F. ULRICH, A.M., M.D.

WHEELING, W. VA.

The truth of the old adage, *Mens sana in corpore sano,* has been established by the experience of centuries. It has been observed, and the fact has impressed itself on the mind of thinking men and women that, no matter what might be the native talent and the careful education of an individual, if the bodily health is neglected, or is bad from the first, the intellectual development does not come up to the expectations of the fond parents and the admiring relatives and friends. The sickly body, the failing physical strength, the general debility hold back the native talent, the brilliant genius, and prevent the development of what bade fair to become a giant intellect; dwarfing it by physical deficiency and the consequent want of energy. The youth of genius, who would soar high above his fellows, making himself a name, and writing that name high up in the temple of fame, is often rendered weak, deficient in energy, devoid of ambition, his talents wasted, his brilliancy dimmed by the want of physical health, which is essential, not only to the growth of the body, but to the proper development of the intellectual faculties.

The question that presents itself to us is: How shall we go on cultivating the intellect without interference from failing health and want of physical force? It is by adopting the principle contained in the sentence at the beginning of this article, that a sound, healthy body, with all its functions in good working order is essential to the development and maintenance of a healthy, vigorous and far-reaching mind. One must nourish and strengthen the body, which constitutes the machinery by the aid of which the mind does its work.

A child, from its birth to the beginning of its school days, lives under the supervision of its parents or guardians. If they are intelligent, well educated and careful observers, they will bring the child up in such a manner that body and mind are equally developed, because they understand the close relation existing between the two, and their mutual interdependence. If they are ignorant or careless, they allow their children to grow up just as it happens. If there is an unhealthy tendency it is not restrained or checked, but is permitted to go on, aided by unsanitary surroundings, until the constitution is weakened. Unfortunately the latter class of parents is in the majority, since even the intelligent parents are frequently careless; their minds being occupied with a great diversity of affairs, which causes them to neglect their children. Now these children, thus variously endowed by Nature, and brought up, or allowed to come up, by their parents, arrive at the age for school and are entered as pupils in the public school. The main object of these schools is to cultivate the intellect and to store the mind with useful knowledge, and qualify the child to enter a sphere of activity that will enable him not only to enjoy life himself, but to add his contribution to the advance of civilization and to the sum of human happiness.

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*Presented to the Section on State Medicine, at the Fiftieth Annual Meeting of the American Medical Association, held at Columbus, Ohio, June 6-9, 1899.

In order that this education may be complete it is necessary that the physical welfare of the pupils should be as carefully attended to as the training of the mind. Much can be done in this direction by paying close attention to hygienic laws in the construction of school-houses; the extent and convenience of the playground; the hours of confinement in the school-house; the recesses and intermissions, etc.

Thirty-six years' connection with schools, as pupil, teacher and school commissioner, has given me some insight into these questions, and will, I hope, enable me to contribute my mite to their elucidation. The construction and arrangement of the school-house occupies a very important place in the list of items necessary to aid in preserving and promoting the health and physical well-being of the pupils. The house should possess three qualities which are absolutely essential to the comfort and healthfulness of the inmates, teachers and pupils.

It should be roomy, airy and well lighted. Crowded school-rooms are always unhealthy. The confined air, the want of space in which to move about, the cheerless and uncomfortable aspect of an overcrowded room, always exercise an unfavorable influence on the health of children. But one of the worst effects of a small room is the under size and the crowded condition of the seats and desks. Although there is an immense improvement in that particular since the early days when I was engaged in teaching, there is still much room for further improvement. During my membership in the board of education I visited the schools frequently, and discovered that nearly all the seats were too small, and the aisles between the rows of desks were too narrow. It would greatly disturb the order of the school to have the children jump up, stretch their limbs, and run about the room. Yet, to sit for a long time, an hour or more, in those little, cramped seats, without an opportunity to change their position and bring another set of muscles into action, works very seriously on the muscles and nerves, and, through them, on the entire system. It makes the children discontented with school life, negligent of their studies and anxious to get out where they have free play for all their bodily functions. If the seats were roomy the children could stretch their limbs and change their position without disturbing their neighbors or interfering with their own work; or leaving their seats and returning to them, either for recitation, for taking a little turn around the room, or for going out and coming in, could be done with as much ease and facility as though they were out on the campus, going through some of their games. These movements would have to be made systematically, by direction of the teacher, otherwise confusion would be the result.

The next thing is that the room should be well ventilated. The old-fashioned ventilation, of open windows, will do where nothing else is possible; but it causes draughts and other inequalities of the air-supply, which occasion catarrhal and bronchial complaints, and interfere with the health of the pupils. A sufficient supply of pure air is essential to health, as every one who has the least smattering of physiology and hygiene, which should be taught thoroughly in every school, must know. Therefore, in the construction of modern school-houses, some system of ventilation should be introduced which gives an equable supply of fresh air to every room in the building without creating unpleasant draughts. When the weather is suitable, the open window can be added to give a more abundant supply of the life-giving fluid. Care should be taken to open the windows to the full extent, since a small opening is sure to create a draught. This must be regulated by the teacher, who is expected to be thoroughly posted in such matters.

Light is the next essential to health and well-being, and should be supplied in sufficient quantities. It is well known that plants deprived of light are colorless, without vitality and strength, and die prematurely. The same is true of animals, and those people who spend most of their time in dark rooms are like house or cellar plants: delicate, weakly and short-lived. But the light in the school-room should be so regulated as not to impinge directly on the eyes, since that would injure the eyesight and greatly interfere with reading and writing. The light should enter the room in the rear of the pupil, and the side light on the left. In this way the book and paper would be illuminated, and the eye would only be struck by reflected light.

Water is another essential to human life; and this should be supplied in abundance, and of the greatest possible purity, in every school-house. Not ice water, as is so much in vogue in this country; but good, pure, and moderately cool water. The children should be encouraged to drink frequently, in moderate quantities, and slowly. Water is better than any other beverage; it cools, nourishes and stimulates. It revives the overworked body; recuperates the worn out power and refreshes the exhausted nerves.

The extent, commodiousness and arrangement of the campus or play-ground occupies a very high rank in the hygiene of schools. This is very often deficient in cities, on account of the difficulty of obtaining ground. The site of the school-house should be on high ground, removed as far as possible from the smoke of factories; sufficiently extensive to give the children room to run, leap and play to their heart's content. If the funds are limited, it is better to spend more for extensive grounds than to waste so much for external, architectural ornamentation. There seems to be a mania in our time for erecting beautiful and ornate school buildings. This is all very well, provided it is not done at the expense of comfort, convenience and health of the pupil. The hours of confinement constitute another very important question in school hygiene. A child, if healthy and left to itself, is in constant motion. This favors free circulation of the blood, thereby promoting the growth of the muscles and all the organs of the body, developing all the functions of body and mind. The children must remain in their seats long enough to learn their lessons and receive instructions from their teachers; but the time should be short, adapted to the age of the pupil, a little recess of a few minutes being allowed, say every half hour for the smallest ones, and at longer intervals for the larger ones. These recesses can be graded by the teachers, and conducted in such a manner as to cause the least possible disturbance to the rest of the school. This could, with little practice, be reduced to a perfect system, and would constitute by no means the least important part of the management of the school.

Prophylactic measures against contagious and infectious diseases form one of the most important items of school hygiene; for if diseases of that class obtain a foothold in the school, they will spread like wild fire through the community. Vaccination as a prevention [illegible] The experience [illegible] on the side of vaccination. The infectious diseases: diphtheria, measles, scarlatina, rubeola, mumps, whooping-cough, etc., should not be permitted to enter the school, and eternal vigilance should be exercised by the principal and teachers to prevent their admission. If any suspicious symptoms are discovered, the pupil should be sent home at once, and the parents required to consult a physician. Many epidemics could be modified, or prevented, by this.

The fact that bodily health is essential to a proper development of the mental faculties is admitted by every one, and this is being more thoroughly appreciated by all except those who have gone through life with closed eyes and ears. Investigation will doubtless give rise to many improvements in our system of conducting public schools. We can not take too much to heart the intimate connection of the body and mind; the impossibility of developing or improving the one without having the other to advance *pari passu;* the two mutually supporting and strengthening each other. Do not accuse me of materialism when I speak of the complete interdependence of body and mind. I would not assert that the mind is only a finer part of the body, because it can not grow, yes, not even manifest its existence, without the body.

The human body is the machinery that enables the mind to accomplish so many wonders at which the world stands amazed. If you do not keep that machinery in order, by promoting bodily health and developing physical force, the mind will be powerless and will be as though it had no existence.

Thus it becomes plain that, in the public schools, which are established for the development of the intellect, bringing it up to a higher grade of perfection, and enabling it to grasp the deep and momentous questions that are presented to us in these modern times, it is essential that the intricate and complicated body should be kept in first-class order. This object can be promoted by close attention to hygiene in the schools; not only in the few points I have suggested in this brief paper; but in everything that may contribute to the health and well-being of the body, as well as the training and educating of the intellect. For this purpose, intelligent and broad-minded men should be selected for the board of education. Men of a high order of intellect, men who have received a training not only in classics, science and general literature, but who are also well up in physiology and hygiene, should be appointed as superintendents and principals of public schools. The teachers should not only possess skill and tact in governing, but should be well versed in the knowledge that enables them to watch over and guard the health of the pupils. Above all, they should be healthy themselves, in order that they may have perfect control over their own minds, as well as that of the children. When you have such school boards, such superintendents, principals and teachers, and when you have schooled yourselves to the point of keeping such capable and worthy men and women in their positions without regard to political changes, you will be able to say: "We have a school system that will stand the test;" and you will bring up a race of people that will go on improving until the Utopian dreams of the speculative philosopher and the poet are more than realized.

[illegible]

INSANITY AND THE TURKISH BATH.*

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Centuries of neglect and mismanagement have emphasized the fact that insanity is an affliction both singular and terrible, and at the same time a reproach to society, but modern science has proved that the early stages of the disease are as tractable as are those of other diseases, and we are not without hope in the more advanced stages.

While the increase of insanity may be due to heredity, and the strain of modern civilization on weak brains is a most potent factor, certainly the enormous use of narcotics in the shape of tea, coffee, tobacco, and alcohol, not to mention the indiscriminate use of other drugs, is responsible for 75 per cent. of this disease.

In ordinary disease the physician can derive much aid and information from the patient, but with insanity he is more frequently obliged to draw his deductions entirely from existing external conditions, and rely on general principles for the correction of the morbid action. For this purpose constitutional treatment is not only safe but most efficacious. It is also of great advantage to regulate the diet that the nervous forces shall not be further drawn upon to dispose of unnecessary aliment. Out-door life, including available exercise, ought to be considered a necessity, in order that a sufficiency of oxygen may be imbibed to vitalize the blood in its circulating and renovating course. Not least in the list of constitutional agencies is that of baths, and preeminent among all baths is the hot-air, otherwise called the Turkish bath.

As insanity is characterized by abnormal mental action and condition, it follows that there must necessarily be more or less congestion of the brain substance. To change this condition would seem to be the first requisite. If the blood is loaded with impurities, it necessarily affects the nourishment of the brain. If we can call the blood in greater force to the extremities and surface of the body, it is but reasonable to suppose that thereby an overcrowded brain may be relieved. How much more so when we can at the same time purify this circulating fluid. There is no such thing as isolation in physiology. Perfect work is united work, and the good influences of the Turkish bath, or any other treatment, can never be confined to one organ or one part of the body.

It is claimed by good authority that it is the diseased condition of the blood, acting on the brain in the same way that alcohol does, which causes the morbid ideas of lunacy, and accordingly it is readily shown that no remedy for lunacy exists which is at all comparable to the bath, owing to its purifying action on the blood.

There are two peculiarities of insanity, an inertness of the skin, and a peculiar odor, that is due to the presence of an abnormal amount of chemical abomination called fatty acids, which the bath quickly remedies. According to Dr. Thudicum, the peculiar fetor attending this class of cases is owing to a crystalline deposit around the mouths of the sweat-glands, which becomes decomposed, producing carbonate of ammonia, in combination with volatile acid. Healthy fresh sweat, from a clean skin, has a most agreeable odor, or none at all.

It is generally acknowledged that there is no specific for insanity, as it is a disease depending on and associated with various functional disorders, especially with perverted nutrition of the organ of the mind. Experience has shown that if we bring harmony to the various functions of the body, the mind quickly regains its lost balance. The soothing, quieting effect of the bath needs to be personally tested to be fully appreciated.

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*Presented to the Section on State Medicine, at the Fiftieth Annual Meeting of the American Medical Association, held at Columbus, Ohio, June 6-9, 1899.

The modern Turkish bath is simply the scientific application of heat to the body through the skin, as a remedial agent, and by it we have a most efficient control over organic diseases. Its processes are simple, and consist of several stages, whereby the patient is gradually brought to a condition of profuse sweating, and while in that stage well manipulated, and then the entire exterior thoroughly washed. Cleanliness can go no farther. Afterward, by gradual stages, the patient is brought back to his ordinary condition, but with the senses quickened and the tone and vigor of the body in every way improved. No violence has been offered to any sense whatever; on the contrary, the changes are so gentle and pleasant as to make the whole process seem more like the development of a beautiful flower.

In the first place the Turkish bath purifies the external body in a more perfect manner than is possible by any other process. In the next place it regenerates the blood by bringing it more completely to the surface, and there unloading its purities. Then again, by this very process it equalizes the circulation, and by quickening its action in every organ of the body, it renders more perfect each and every function, whether of the secretions or the excretions, while at the same time it is an exceedingly enjoyable luxury.

We know very well, when there is a fever to deal with, that the crisis is passed when the sweating stage is reached. With heat applied to the surface of the body, we can bring on that stage at once. If the system is loaded with poison of any kind, whether it be of rheumatism, malaria, or other virus, the first thing in order is to eliminate that poison from the body, and no way has yet been found at all comparable to the heat-cure as found in the Turkish bath. The heat produces a perfect action of the skin. If the skin is not at all times in order, there is danger of poisoning one's self by the nonremoval of the disintegrated tissues that are being generated every moment.

If there be a congestion in any part of the body, whether it be in the arm, the foot, the liver, the lungs or the bowels, the action of heat is to relax the tissues of that special part and thus permit the circulation to assume its natural course, and when once a perfect circulation is established in the part, the congestion is quickly dissipated. The substance that was obstructing the circulation is passed on to be eliminated through the natural channels of the body. What is true of a part is true of the whole.

The action of heat on the blood is more than salutary. It might be imagined that the temperature of the body would be much increased thereby; such, however, is not the fact. The uniform standard of health, or blood heat, is 98 F., maintained in all conditions of weather. Necessarily in a low temperature the external vital changes are slowly carried on. But when under the influence of a high temperature, the action of waste and repair is more active, exhalation and evaporation secure the equal temperature of the blood, and it is from this adaptability of the body to sustain high artificial temperatures that the bath produces its marvelous sanitary and curative results. When under its influence the pores of the skin are thoroughly opened and the circulation perfected, then we have an unloading of all useless material that would otherwise remain to clog some organ or function. The child that was covered with gold leaf during the French Revolution, to represent the Golden Age, quickly died.

By the action of the bath we produce the results sought to be obtained by drugs; that is to say, it removes the symptoms for which they are administered, whether the drug be a cathartic, a diuretic, a tonic, a detersive or a narcotic, without any of the unpleasant sequelæ that too often follow their administration. The bath will bring sleep to one suffering from insomnia, but will not, like opium, make the healthy man drowsy. Furthermore, when a patient has recourse to the bath for any special disease, he is not only relieved of that trouble, but his whole system is placed in an improved condition. In applying the bath to man in his normal state of mind and body, only the most beneficial results have been produced. Still more so will it apply to man in an abnormal condition.

But little has yet been accomplished in the way of placing Turkish baths in the asylums of this country. Much, however, has been done in Great Britain and Ireland. Dr. Powers, superintendent of the lunatic asylum at Cork, Ireland, reports that by the use of the Turkish bath the cures rose from 59 to 76 per cent. After a few applications the patients like the treatment and ask for it. The deaths have diminished one-half. Thirty idiots have been so improved as to enjoy their lives and be made useful, and many persons before pronounced incurable, have recovered and been restored to their friends. Dr. Powers' extensive experience convinced him that the bath is a safe and powerful agent in the treatment of the insane. He further states: "I have never seen any ill effects from the bath, except a little nausea, and a slight fainting in a few instances, but after a bath or two those effects disappeared."

Dr. Fitzgerald, resident medical superintendent of the Limerick District Lunatic Asylum, said: "I am happy to have it in my power to record my opinion as to the favorable results produced by the bath."

Dr. Lockhart Robertson, medical superintendent of the Hayward Heath Lunatic Asylum, says: "There is no specific for the cure of insanity. It is a disease depending on and associated with various functional disorders, especially with perverted nutrition of the organ of the mind. The indications are to restore the balance of the circulation, and thus regulate the secretions and the supply of blood to the brain, and restore a healthy action to all the functions, including the brain. This is [illegible] by its soothing [illegible] the nervous system, and the relief it affords to internal congestion by determining the blood to the surface. I also notice a specific power of the bath to remove the noxious secretions of the skin, so frequent with the insane, and which refuse to yield to ordinary ablutions." He relates a case that had remained in the asylum three months under the ordinary treatment of such cases, and had gradually grown worse, instead of improving, but in six weeks after commencing the bath treatment the patient was at work at his trade, and in six months he was discharged, sound in mind and body, and able to earn a comfortable living.

Some years ago the writer visited the large asylum at Colney Hatch, England, where there were accommodations for some two thousand patients. Here they had erected a small, separate building, expressly for a Turkish bath, and the attending physician spoke in very high terms of the success they were having with the bath treatment of their violent patients. The medical superintendent publicly stated that the bath had been an unqualified success.

In a report of the Newcastle Infirmary, the saving of drugs is particularly limited, [illegible] as one of the benefits obtained by the introduction of the Turkish bath, and it adds: "The bath creates a species of elysium, where ache and pain vanished, as if by magic." "I say," said one of the patients, when taking a bath, "this bath is good for everything." When asked, Why? he replied, "When I was working in the fields my sweat rolled down from me like water: it had no nasty smell nor disagreeable taste. Now, sir, my perspiration is thick and nasty like oil. It has a bad smell and a worse taste. When the cook puts a pot on the fire with a piece of meat or vegetables to boil, doesn't the fire throw the impurities to the top? and doesn't she take a spoon and skim them off?" He was asked how long he had been at the institution. "Nine years!" was the reply, and he was what was called a taciturn lunatic. For six years previously he had not exchanged a single word with his fellowmen, and he was considered incurable, but after a short course of treatment he was discharged cured, and has remained out of the asylum since, a comfort to society and to his fellows.

Dr. Blumer, of the Utica State Hospital (N. Y.), asserts as the result of an experiment in placing insane patients on a farm, where they could get the benefit of out-door air and exercise, that the improvement in their physical and mental condition exceeded the most sanguine expectations. The wonderful success of the Gheel system in Belgium, which has been in operation over five hundred years, and claims to cure 60 per cent. of the patients, is based on practically the same lines. These results are from the action of simple natural agencies, quickening the recuperative functions of the body. It can easily be seen that by adding a more scientific and direct application of those principles through the agency of hot air, we can produce a quicker and four-fold greater improvement.

Dr. Barter, who introduced the bath in Ireland, and who was very active in extending its benefits to the asylums and institutions of his own land, on a public occasion said: "The bath is a luxury free from vice, and may be taken daily with increasing pleasure and benefit in health and disease. Its mission is to suffering humanity, its objects are, the prolongation of life, the increase of human happiness, and the mitigation of human misery."

It was well said by Walter Savage Landor: "This is the grandest matter of modern times, because even the cleansing of the mind from error is inferior to the purification of the body itself, for unless the body is well conditioned, the mind never can be so."

The salutary effect of the bath is a matter of plain evidence. It is an agent at once simple and powerful, agreeable and economical, fully tested by experience, as incomparable in relieving various phases of the most terrible disease with which humanity can be afflicted, and it needs only a full recognition of these facts to make it available to thousands of sufferers throughout the country.

Therapeutics.

Gelato-Glycerin Bougies in Earache.

[illegible] (*[illegible] Practitioner*) states that further [illegible] of the value of [illegible] bougies in an early stage of acute [illegible] They can be inserted in the ear without [illegible] slippery, and with [illegible] slip down into the [illegible] the medicament is brought directly into contact with the inflamed surfaces, and the pain is relieved. Besides being a medium for the exhibition of other remedies, the glycerin is of itself distinctly curative, in that it tends to draw out more serum from within and lessen the tension. This favors absorption, and a paracentesis may be prevented. After insertion the ear should be stoppered with absorbent cotton or gauze and a lightly filled hot water bottle placed at the side of, or over, the ear. Cases which have passed an early stage are, of course, beyond relief with the remedy, and demand treatment appropriate to the condition, whether paracentesis or other. Many a case of acute earache in children will, if promptly treated in this manner, at once subside without going on to severe inflammation. The following formula is recommended:

R	Acidi carbolici	m. vii
	Fluid ext. opii	m. vi
	Cocainæ	gr. iii
	Atropinæ sulphatis	gr. iii
	Aquæ	m. lii
	Gelatin	gr. xviii
	Glycerini	ʒii and gr. xxxviii

M. Ft. bougies xlii.

After making they should be covered with lycopodium, and dispensed in a bottle, as they are hygroscopic. They should be no larger than will readily slip in the external canal. The size made in a urethral bougie-mould has proved satisfactory.

Prurigo.

R.	Olei morrhuæ	℥vi
	Olei amygdalæ amaræ	m. iii
	Acaciæ	℥i
	Extracti pancreati	ʒii
	Liquoris calcis, q. s., ad	℥xvi

M. Fiat emulsum. Sig. One to two teaspoonfuls two hours after meals.

Enteralgia.

R.	Spiritus ammoniæ aromatici	℥i
	Spiritus chloroformi	℥i
	Spiritus camphoræ	ʒii
	Tincturæ hyoscyami	ʒiv
	Ext. cannabis indicæ fluidi	ʒi
	Tincturæ cardamomi comp., q. s., ad	℥vi

M. Sig. Two teaspoonfuls in water every hour or two until pain is allayed.

In cases of enteralgia associated with hysteria, the following is beneficial:

R.	Liquoris potassii arsenitis	ʒss
	Tinct. belladonnæ fol	ʒii
	Potassii bromidi	ʒv
	Syrupi	ʒiv
	Aquæ, q. s., ad	℥viii

M. Sig. Tablespoonful three times a day, two hours after meals.

Orchitis.

℞.	Iodini	gr. ii
	Potassi iodidi	ʒi
	Aquæ destil	fl℥iv

M. Apply with camel's hair brush as soon as acute symptoms have subsided.—*Niemeyer: New Eng. Med. Monthly.*

Chronic Cystitis.

℞.	Guaiacol	gr. lxxv
	Iodoformi	ʒi
	Olei Olivæ, sterilized	fl℥iii

M. Sig. For injection into the bladder.—*North American Practitioner.*

New Method of Bromid Medication in Epilepsy.

Many patients are very susceptible to large doses of bromids, or even comparatively small doses continued over a long period of time. This unfortunate state is especially seen in the proper treatment of epilepsy by bromids. How to be able to give the drug in sufficient doses to gain the desired result and not poison the patient is an ever-pressing problem to the physician.

Toulouse (*Revue de Psychiatrie*, January, 1900) appears to have put forth a very ingenious and practical plan to avoid giving enormous doses of bromids, and yet get the desired sedation in epilepsy. The conclusions of the experiments made by Richet and himself were that the lessening of common salt in the diet of epileptics ought to raise the therapeutic potency of a given amount of bromids. The rationale for this experiment rests on the fact that bromids may be made to replace chlorids in the organic cells of the body. Toulouse reduced the average 14 gm. of sodium chlorid, which his patients were taking, to 2 gm., which he found to be the smallest amount compatible with health. Toulouse's diet to reduce the salt to the minimum is as follows:

Bread (no salt added), 550 gm..........	.027
Meat, 280 gm..........	.684
Milk, 125 gm..........	.133
One egg, 35 gm..........	.171
	1.015

By allowing fresh beans or peas, and fruit in moderation, the salt was brought up to 2 gm.

A similar diet arranged in four meals is as follows:

7 a.m.	Milk, .25 liters.
11 a.m.	Two cakes made with eggs; farina, milk and sugar, coffee.
3 p.m.	Porridge made with farina; sugar, boiling milk, etc.
5:30 p.m.	Bouillon unsalted; boiled beef unsalted; potatoes; no wine.

Twenty confirmed idiopathic epileptics with considerable mental enfeeblement were treated by this plan. The daily dietary given as above proved acceptable to the patients. The 4 gm. of bromid of sodium which these patients had been taking was reduced to 2 gm. in most cases. The results were strikingly beneficial. For example, one patient who had attacks every five days went 184 days without a seizure; in all the diminution of attacks amounted to 92 per cent. Those patients who used no bromids at all showed no improvement, thus showing the diet was merely an adjuvant to the bromid treatment. The experiment proved to the authors that the surplus salt in the economy will, from its chemical similarity, inhibit the action of the bromids.

None of the patients recovered, which, from the nature of the cases could hardly be expected. The economy of extensive bromid medication by this method is obvious. Then too, there is a possibility of obtaining equally good results in the use of bromids in other diseases necessitating long-continued sedation. These two points render Toulouse's and Richet's experiments of great value.

Neurasthenia.

The following prescriptions have been recommended for the various forms of neurasthenia:

SEXUAL NEURASTHENIA.

℞. Zinci bromidi
Zinci valerianatis
Zinci oxidi, āā..........gr. xv
Rosæ conserv., q. s.
M. Ft. pil. No. xx. Sig. One an hour after breakfast and dinner, and before retiring.

TONIC IN THE SAME AFFECTION.

℞ Strychninæ
Phosphori, āā..........gr. 1/8
Ext. cannabis indicæ..........gr. ii
Ferri carbonatis..........gr. xx
M. Ft. pil. No. xxv. Sig. One before meals.

AS A SEDATIVE.

℞. Potassii bromidi..........ʒii
Ammonii bromidi..........ʒi
Potassii bicarbonatis..........gr. viii
Tinct. calumbæ..........℥i
Aquæ..........℥iv
M. Sig. Teaspoonful to tablespoonful night and morning.
Rockwell.

℞. Cornutinæ citrat.......... |03
Cretæ preparat.......... [illegible]
Gum tragacanth.......... [illegible]
M. Ft. pil. No. xx. Sig. Two to four pills daily.
[illegible]

℞. Quininæ sulphatis..........gr. xx
Ferri subcarbonatis (U. S. P. 1870)..........ʒi
Strychninæ sulphatis..........gr. [illegible]
Extracti damianæ..........gr. [illegible]
Extracti cinchonæ..........gr. [illegible]
M. Ft. caps. No. xx. Sig. One after each meal.
Bedford Brown.

NEURASTHENIC DEBILITY.

℞ Acidi phosphorici diluti..........ʒi
Ext. cocæ fluidi..........ʒss
Ext. damianæ fluidi..........ʒss
Tinct. nucis vomicæ..........m. x
Syrupi zingiberis..........ʒi
Aquæ, q. s., ad..........℥ss
M. Ft. dosis. Sig. To be taken in water at 11 a.m. and 6 p.m.
Sir Andrew Clark.

NERVE TONIC AND SEDATIVE.

℞ Quininæ valerianatis..........gr. xl
Ferri subcarbonatis..........gr. lxxx
Acidi arseniosi..........gr. i
Strychninæ sulphatis..........gr. i
Asafetidæ..........ʒii
Extracti sumbul..........ʒi
M. Ft. cap. No. xlviii. Sig. One after each meal.

Or

℞. Strychninæ arsenitis.......... |1
Zinci phosphidi.......... |4
Calcii iodidi
Ferri sulphatis
Saponis amygdalin anisati (Fr. Cod.), āā... 4
M. et ft. pil. No. xl. Sig. One after breakfast and dinner.
Dornbluth.

℞. Tinct. kolæ
Tinct. cocæ, āā..........℥iss
Acidi citrici..........gr. xv
Sodii arseniatis..........gr. 3/4
M. Sig. Teaspoonful three times daily.

WHEN GASTRIC SYMPTOMS ARE PROMINENT.

℞ Zinci phosphidi.......... |1
Zinci bromidi.......... |1
Quininæ hydrobromatis.......... 1|5
Ext. nucis vomicæ.......... |15
M. Ft. pil. No. xxx. Sig. One three times a day.

℞. Ferrous lactate..........gr. iii
Quininæ sulphatis..........gr. i
Ext. ignatiæ..........gr. 1/4
M. For one pill. Sig. Dose one or two before eating.
S. Weir Mitchell.

FOR INSOMNIA OF NEURASTHENIA.

℞. Paraldehyde..........gr. xxxviii
Ext. piscidiæ fluidi..........gr. lxxv
Syr. pruni virg..........℥iss
M. Sig. To be taken at once in a cup of orange-flower water.
Monin.

Or,

℞. Chloralamid
Tinct. zingiberis, āā..........ʒi
Aquæ menthæ pip..........ʒxv
M. Sig. A tablespoonful to be taken at the time of going to bed.

NEURASTHENIC HEADACHE.

In neurasthenic headache associated with low vascular tension, caffein, either alone or in combination, gives excellent results. The following formula is particularly useful:

℞. Caffeinæ citratis..........gr. i
Sodii bromidi..........gr. x
Sodii bicarb..........gr. x
Pulv. acidi tartarici..........gr. x
M. Ft. pulv. No. 1. Sig. Take in water while effervescing.

℞. Caffeinæ citratis..........gr. i
Ammonii salicylatis
Salol, āā..........gr. v
M. Ft. cap. No. 1. Sig. One capsule every three to four hours.

Or,

℞ Caffeinæ puræ..........[illegible]
[illegible]..........[illegible]
M. Ft. cap. No. 1. Sig. Take with hot water and repeat in one hour if necessary.

[illegible]

℞ [illegible]
[illegible]
[illegible]
[illegible]
M. [illegible]

[illegible] suffice only for amelioration and temporary cure.

Medicolegal.

Damages for False Report of Death.—For the mental [illegible] Court of Civil Appeals of Texas holds [illegible] in Western Union Telegraph Company vs. [illegible].

Teachers Entitled to Pay.—Where the public schools of a city are closed temporarily by the city authorities and health officers as a measure of precaution to prevent the spread of a disease such as smallpox, the teachers being required to hold themselves in readiness to resume their duties as soon as the health authorities will permit, the Court of Civil Appeal of Texas holds, in Randolph vs. Sanders, that they will be entitled to recover their salaries as for services rendered.

An Oxydonor Decision.—In the infringement suit of the Animarium Company vs. Filloon, the United States Circuit Court, in Iowa, holds that the complainant failed to conclusively establish the validity of letters patent No. 587,237, or to show that the device known as the "Oxydonor" is in fact valuable or useful, in such sense as to justify a court of equity in granting protection thereto. But the court leaves it open for the complainant to file a petition for a rehearing in this case if the validity of the patent and usefulness of the device are properly established in other cases, of which it understands some are pending.

Duty of Employers in Extrahazardous Undertakings.—When the occupation carried on is in its nature so extrahazardous as to be dangerous to human life or health both justice and humanity, the Court of Appeals of Maryland holds, in State vs. Lazaretto Guano Company, require that the employer should take all reasonable and needed precautions to secure safety to the employees, and make clearly known to them the inherent dangers of the service, and should especially acquaint them with such risks as are ascertainable only through a knowledge of scientific facts, which an educated man is presumed to know. A failure on the part of the employer to afford the protection due from him to the employee will render him liable for injuries occurring to the latter as a result of such failure. And some of the cases go so far as to hold that in specially hazardous occupations the employer must make and enforce reasonable rules and regulations for the conduct of the work, in order to protect the employees from the dangers of the service.

Effect on Release of Mistake as to Injuries.—A passenger injured in a railway accident was taken to an infirmary used by the company for the care and treatment of injured employees. On the following morning he was carried to the operating-room, where there were three persons, one of them the company's surgeon who was in charge of the infirmary, another, its claim agent. Their first object was apparently to [illegible] No examination of his injuries had yet been made by any physician. But now one was made of his ankle, without any other investigation. He says that he was assured that he had sustained only a slight injury to his ankle and foot, and would be well and able to resume his work in six weeks. He also says that he called the physician's attention to pains which he was suffering in his back and lower bowels, and was assured that they amounted to [illegible] to have such pains. The result was that, in the afternoon, in consideration of the payment [illegible] watch, he executed a full and complete release of all claims for damages or injuries to him as a result of the accident. Subsequently, he learned that he had suffered concussion of the spine and injury to his bowels. Under such circumstances, the Court of Civil Appeals of Texas holds, case of McCarty vs. Houston & Texas Central Railroad Company, that, while such instruments should not be lightly disturbed, relief should be granted against manifest injustice. It says that here, if any other injury was known or suspected by the physician or company's agents, they were under the strongest obligation to disclose [illegible] honestly believed that the pains in the back and the condition of the bowels were not due to the accident, and were symptoms natural to one of the man's age, then the additional injuries complained of were not a part of the consideration moving to the execution of the release. It adds that it can not be said that he should not have relied on the physician's opinion. It was not the mere casual opinion of a non-expert, but a professional opinion, receivable as evidence in a court of justice, and was given with actual knowledge that it would, at least in part, form a basis of the negotiations then pending. But the court does not think that the release should be entirely avoided, for, in so far as it discharged the railway company from liability for injuries to the foot and ankle, or any other known injury, or any injury which could be fairly held, in the light of the facts, to have been reasonably within the contemplation of the parties, the one executing it was bound. Therefore, it holds that he might retain the sum received, and sue for the part of his claim which the release was not intended to discharge.

Against Making Too Much of Life Tables.—When the Supreme Court of Pennsylvania first held life tables admissible, in an action against a railway company, Mr. Chief Justice Paxton, who rendered the opinion, said: "While we are unable to see how such evidence is to be excluded, I must be allowed to express the fear that it may prove a dangerous element in this class of cases, unless the attention of juries is pointedly called to the other questions which affect it." What he merely apprehended, that court now declares, in Kerrigan vs. Pennsylvania Railroad Company, experience has demonstrated has since been realized. Courts and juries, as a rule, it goes on to state, give far more weight to this testimony than it is entitled to. They are apt to supply the place of proof of the particular life by generalization from life tables. This is going further than was intended, or than is warranted. Therefore, the court proclaims, a halt is called on the manifest tendency to give them undue weight. Here a brakeman, 22 years of age, whose right arm had been crushed, was seeking to recover damages. The judge instructed the jury that the life of a young man of this age, according to the tables, is estimated at 40 to 45 years, and that they could take that as a means of estimation of what would compensate him for his loss. The fair inference that the jury might draw from this statement was that the tables not only were some evidence of his expectancy, but that they established it. This, the supreme court holds, was error. It holds that the tables were not entitled to such weight, unless by precedent proof the plaintiff had brought himself clearly within the class of selected lives tabulated, which he had failed to do. Nor does it consider annuity tables at all admissible in a case of this character.

Not Amputation of Foot Under Policy.—The length of a man's whole left foot was 11 5/16 inches to the end of the great toe, while that of his maimed right foot was exactly 7½ inches on a line drawn through the center of the foot, and 7¾ inches if drawn in the direction of the great toe, measured on diagrams made by drawing a pencil around the two feet while he stood on a piece of paper. He contended that his whole right foot had been amputated when it was so far removed as to be useless in the performance of the natural functions of a foot, although he had left all of the heel, substantially all of the hollow of the foot, and possibly a part of what is called the "ball of the foot." But the supreme court of Michigan does not consider that he was brought within a by-law of a mutual benefit association which provided that any member receiving bodily injuries which alone should cause amputation of a limb—whole hand or foot—should receive the full amount of his policy. It holds that the natural construction of the words would be the same as though the by-law had said, "whole hand or whole foot." It further says that the injury insured against was not the amputation of a hand or foot, but a limb; and that the words in brackets, "whole hand or foot," were used as explanatory of what was meant by the word "limb," i. e., an amputation, not necessarily a whole arm or leg, at the elbow or knee, but an amputation of a limb that should include a whole hand or a whole foot. And it makes a distinction between this case, of Fuller vs. Locomotive Engineers' Mutual Life and Accident Insurance Association, and cases of insurance against the "loss of a hand or foot," for it thinks that it might well be said that a foot or hand is lost when it is so impaired as to be of no further use, and that, it adds, is as far as the authorities have gone.

Current Medical Literature.

Titles marked with an asterisk (*) are noted below.

Boston Medical and Surgical Journal, February 22

1.—*Unity of the Acute Psychoses. Philip C. Knapp.
2.— Psychology and Heredity. Robert MacDougall.
3.—*Advisability of a More or Less General Exploration of the Abdomen When It has Been Opened for an Operation. John Homans.
4.—*Clinical Study of Heroin. James R. L. Daly
5.— Case of Old Shoulder Dislocation. Frank E. Peckham.

New York Medical Journal, February 24.

6.—*Albuminate of Mercury (Sapodermin) in the Treatment of Parasitic and Fungoid Diseases. George J. Bucknall.
7.—*Determination of Sex at Will. J. Griffith Davis.
8.—*Studies on Internal Antisepsis. Edwin Klebs.
9.—*Treatment for Hypertrophy of the Inferior Turbinated Bone. E. Harrison Griffin.
10.— Surgery of the Superior Cervical Sympathetic Ganglion. George F. Suker.
11.— Operation for Divergent Strabismus. David Webster.
12.— Benefits of Balneotherapy in Treatment of Chronic Rheumatism and Gout. Henry H. Schroeder.
13.— Treatment of Iritis, for the General Practitioner. Norburne B. Jenkins.

Philadelphia Medical Journal, February 24.

14.— Difficulties of Medical Reporting. F. E. Wessels.
15.—*Etiology of Sydenham's Chorea: An Analysis of 100 Consecutive Cases. Joseph Collins and I. Abrahamson.
16.—*Certain Effects of Benzoic Acid on the Urine. William W. Ashhurst.
17.— Case of Successful Symphysiotomy. Joseph B. DeLee.
18.— Subhyoid Pharyngotomy for Removal of Malignant Growth of the Larynx. F. J. Lutz.
19.—*Resuscitation of Apparently Dead New-born, by Laborde's Method. Francis E. Fronczak.
20.— Interscapulothoracic Amputation. William D. Hamilton.

Medical News (N. Y.), February 24.

21.—*Notes on Plague. H. E. Deane.
22.—*Experimental Researches on Effect of Increased Barometric Pressure and of Foreign Bodies in the Pharynx, Esophagus, Trachea, and Larynx. George W. Crile.
23.—*Some of the European Sanatoria for Consumptives, and the Final Aims of Phthisiotherapy. W. Freudenthal.
24.—*Clinical Contribution to Thyroid Therapy. Charles E. Hirsh.

Medical Record (N. Y.), February 24.

25.—*Treatment of the Sliding Hernias of the Cecum and Sigmoid Flexure. Robert F. Weir.
26.—*Clinical Uses of the Sphygmograph. R. Van Santvoord.
27.— Physician as a Factor in Education. Frank Overton.
28.—*Operation for Relief of an Incarcerated Iris. George H. Bell.

Cincinnati Lancet-Clinic, February 24.

29.—*Etiology of Locomotor Ataxia. David I. Wolfstein.
30.— Ophthalmic Memoranda. David DeBeck.

Medical Review (St. Louis, Mo.), February 24.

31.— Case of Puerperal Septicemia Treated with Antistreptococcic Serum. S. J. Barker.
32.— Report of Recovery from Traumatic Tetanus. L. B. Van Camp.
33.— Some of My Mistakes. A. Herring.

Pediatrics (N. Y.), February 1.

34.—*Estimation of Leucocytes of Blood as an Aid in the Diagnosis of Children. George D. Head.
35.—*Report on Cause and Prevention of Infant Mortality. Ernest Wende.
36.— Two Cases of Infantile Hemiplegia Following Convulsions in Scarlet and Malarial Fever. E. B. Montgomery.

American Journal of Insanity (Baltimore, Md.), January.

37.— Cortical Functions and Psychology. Herbert Nichols.
38.—*Common Features in Neurasthenia and Insanity: Their Common Basis and Common Treatment. G. W. Foster.
39.— Differential Diagnosis of Paretic and Pseudoparetic State. Arthur W. Hurd.
40.— Case of Multiple Cerebrospinal Sclerosis of a Special Anatomic Form with a History of Pronounced Family Defect. Irwin H. Neff and T. Klingmann.
41.—*Colony System of Caring for the Insane. Herman Ostrander.
42.—*General Pathology of Mental Diseases. Henry J. Berkley.
43.—*Differential Count of White Blood Corpuscles in a Few Cases of General Paralysis. F. H. Jenks.
44.— What the Chronic Insane Can Accomplish under Proper Direction. J. T. W. Rowe.
45.— Transitory Alienation Following Distressing Pain. Henry J. Berkley.

Railway Surgeon (Chicago), February 6.

46.— Some Points in Practical Abdominal Surgery. A. C. Bernays.

Laryngoscope (St. Louis, Mo.), February.

47.—*Principles of Stuttering (Therapeutics). R. Coen.
48.— Papillomatous Growth of the Tonsil. J. Payson Clark.
49.— Taking Cold. Frank S. Milbury.
50.— Tenotomy of the Tensor Tympani Muscle for the Relief of Deafness and Tinnitus. Wm. L. Ballenger.
51.— Three Convenient Formulæ. Richard B. Faulkner.

Physician and Surgeon (Ann Arbor and Detroit, Mich.), January.

52.—*Rigidity of Maternal Soft Parts During Labor. J. J. Mulheron.
53.—*Study of Mycosis Fungoides. Andrew P. Biddle.
54.— Widal Reaction. D. Murray Cowie.
55.— Case of Cyclops. Frank B. Walker.
56.— Tetanus, with Report of Cases. A. N. Collins.
57.— Report of Case of Septic Infection. George G. Barnett.

Journal of Nervous and Mental Diseases, February.

58.—*Study of the Lesions in a Second Case of Trauma of the Cervical Region of Spinal Cord, Simulating Syringomyelia. James H. Lloyd.
59.—*Landry's Paralysis. Philip C. Knapp and John J. Thomas.
60.— Case of Hematomyelia. James H. Lloyd.
61.— Case of Tumor at Base of Brain in Pontine Region. James H. Lloyd.
62.— Nervous Equivalent of Fever. Henry S. Upson.

Medical Bulletin (Philadelphia), February.

63.— Clinical Lectures: Varicella; Pemphigus. John V. Shoemaker.
64.— Oxaluria. George W. Pfromm.
65.— Endocarditis and Aortitis Due to Gonorrhea. Professor Potain.

Alienist and Neurologist (St. Louis, Mo.), January.

66.— Outline of Psychiatry in Clinical Lectures. C. Wernicke.
67.—*Samuel Henderson, Murderer. Martin W. Barr.
68.— Transitory Mental Disorder in Hemicrania. v. Krafft-Ebing.
69.—*Physiologic Common Sense and the Drinking of Alcohol. C. H. Hughes.
70.— Hungry Evil in Epileptics. Ch. Fere.
71.— Epilepsy Modified by Treatment and Environment, with Some Notes of Two Hundred Cases. Martin W. Barr.
72.— Research in Comparative Cytology of the Nervous System of the Vertebrates. Guiseppe Levi.
73.—*Legal Disabilities of Natural Children Justified Biologically and Historically. E. C. Spitzka.

International Medical Magazine (N. Y.), February.

74.— The Century of Surgery. W. Wayne Babcock.
75.— Franklinic Electricity and Methods of Application. Margaret A. Cleaves.
76.— Importance of Early Recognition and Treatment of Gonorrhea in the Female. E. E. Montgomery.
77.— Stricture of the Urethra. (*Concluded.*) J. D. Thomas.
78.— Importance of Thorough Urinary Examinations: the Needed Preparations, Apparatus, Etc. A. Robin.
79.— Diagnosis of Some Ocular Maladies, by the General Practitioner. J. A. Patterson.
80.— Symptomatology, Complications and Sequels of Gastric Ulcer. Boardman Reed.
81.— Some Practical Points in Infant Feeding. Howard S. Kinne.

Journal of Boston Society of Medical Sciences, January 16.

82.—*Variation among Pathogenic Bacteria. Theobald Smith.
83.— Gumma of the Oblongata. E. W. Taylor.
84.— Simple Method for Anaerobic Cultivation in Fluid Media. James H. Wright.

Chicago Medical Recorder, February.

85.— Preparation and Disinfection of the Patient. Christian Fenger.
86.— Disinfection of the Patient: Schleich's Ideas. E. W. Andrews.
87.— Methods of Surgical Disinfection Employed at St. Augustana Hospital, Chicago. A. J. Ochsner.
88.— Use or Disuse of Irrigating Fluids in the Abdominal Cavity. J. B. Murphy.
89.—*Ovarian Cyst Complicating Labor, with Report of Case. H. D. Peterson.
90.— Prevention of Tuberculosis. Charles J. Whalen.
91.— Amebic Dysentery. T. M. Aderhold
92.—*Ocular Therapeutics for the General Practitioner. Albert B. Hale.
92.— Gunshot Wound of Abdomen, Followed by Operation and Recovery. Jacob Frank.
94.— Chronic Posterior Gonorrheal Urethritis. Frederick Leusman.
95.— Case of Fracture of Clavicle. Edward H. Ochsner.

Merck's Archives (N. Y.), February.

96.— Materia Medica and Vivisection. Robert Meade Smith.
97.—*Treatment of Diarrhea. J. T. Moore.
98.—*Methylene Blue in Malaria. J. W. P. Smithwick.

Medical Examiner (N. Y.), February.

99.— Life Insurance: General Plans, Reserves and Investments. Emory McClintock.
100.— Longevity. A. M. Laughton.
101.— Predisposition is Either Hereditary or Acquired to Any Constitutional Disease. Geo. W. Wells.

Archives of Pediatrics (N. Y.), February.

102.—*Study of Lesions of the Liver in Young Children. Rowland G. Freeman.
103.—*Mortality and Treatment of Acute Intussusception. Fred Kammerer.
104.—*Necessary Factors in Successful Treatment of Intussusception. C. L. Gibson.
105.— Report of Two Cases of Sarcoma of the Lower Jaw. W. H. [illegible]

Journal of Eye, Ear and Throat Diseases (Baltimore, Md.), January-February.

106.— Operative Treatment of Senile Cataract: a Retrospect. Anderson Critchett.

Woman's Medical Journal (Toledo, Ohio), February.

107.— Women Nurses in the American Army. Anita N. McGee.
108.— Operating Room and Its Accessories, Adapted to Perfect Asepsis Surgery. [illegible]
109.— Melancholia. [illegible] H. Trout.
110.— Additional Note on Thyroid Extract in Acute Tonsillitis. Julia S. Kapp.

Archives of Ophthalmology (N. Y.), January.

111.— Double Nasal Hemianopsia Following a Fall on the Head. Swan M. Burnett.

112.—*[illegible] of Congenital [illegible] J. W. H. Eyre.

113.—*[illegible] Treatment of Three Important Cases of Diseases of the Eye [illegible] Method of Hg [illegible] Internally and Pilocarpin Hypodermically. G. Herbert Burnham.

114.—Case of Extensive Detachment of Retina in Myopic Eye, in which Complete Recovery Followed Rest in Bed and the Administration of Pilocarpin. Samuel Theobald.

115.—*Further Contribution to Value of X-Rays in Detecting Metallic Particles in the Eye, with Remarks on Other Methods. A. B. Kibbe.

116.—*Treatment of Corneal Ulcers and Corneal Fistula by Electrolysis. Frank Cornwall.

117.—**Injection of a Weak Sterile Solution of Sodium Chlorid into Collapsed Eyes.** Joseph A. Andrews.

118.—Series of One Hundred Cases of Cataract Extraction. C. E. Finlay.

119.—Case of Angioma Orbitæ Fibrosum. Ernest Neese.

120.—Fibroma of Corneal Limbus in Spring Catarrh. Hans Schlub.

121.—*Twin Ganglion Cells in the Human Retina. R. Greeff.

122.—**Case of Glioma Retinæ and Brain Metastases, with Autopsy and Review of Literature.** F. M. Wilson and Edgar S. Thomson.

123.—**Case of Congenital Irideremia.** R. S. Copeland.

124.—Attempted Evulsion of Both Eyes by an Insane Patient. David Coggin.

Medical Dial (Minneapolis, Minn.), February.

125.—Remarks on Joint Diseases. Knut Hoegh.

126.—**Puerperal Mania.** C. K. Bartlett.

Medical Herald (St. Joseph, Mo.), February.

127.—Acute Articular Rheumatism and Pseudo-Infectious Rheumatism. A Chauffard.

128.—**Some Recent Surgical Cases.** Daniel Morton.

129.—Antistreptococcus Serum. Paul Paquin.

130.—Nasal Obstruction Due to Adenoids. Robert M. Lapsley.

131.—Puerperal Infection. H. S. Forgrave.

132.—Diabetes Mellitus. Wm. Hooker Vail.

Ophthalmic Record (Chicago), February.

133.—*Prolapse of Iris after Simple Cataract Extraction. Geo. C. Harlan.

134.—Blindness from Sympathetic Ophthalmitis; Restoration of Vision by Critchett's Operation. G. E. de Schweinitz.

135.—Unusual Case of Orbital Gonorrhea, Infection following Irritation from an Artificial Eye; Complicated by Septic Endocarditis; Death and Autopsy. William R. Murray.

136.—*Valuable Subjective Method of Measuring Astigmatism. Edward Jackson.

137.—Eye and Ear Work in the London Hospitals. E. Oliver Belt.

138.—*Injuries to Crystalline Lens. S. Mitchell.

139.—*Some Disputed Points about the Entopic Observation of the Circulation in the Retinal Capillaries. Carl Weiland.

140.—New Portable Sterilizer for Eye Instruments. Clarence A. Veasey.

Carolina Medical Journal (Charlotte), February.

141.—Typhoid Fever at the State Normal and Industrial College in Greensboro. W. P. Beall.

142.—Remarks on the Best Operation for Removal of the Faucial Tonsils and Adenoid Vegetations in the Vault of the Pharynx. Edward F. Parker.

143.—Change of Refraction from Compound Hypermetropic Astigmatism to Compound Myopic Astigmatism—Glaucoma. L. Webster Fox.

144.—Some Practical Hints in Injuries of the Eye. Dunbar Roy.

145.—Foreign Bodies in the Air-Passages. C. A. Misenheimer.

146.—Corneal Ulcers. W. H. Wakefield.

Quarterly Journal of Inebriety (Hartford, Conn.), January.

147.—*Periodic Dipsomania and Some of Its Remote Causes. P. C. Remondino.

148.—*Alcoholism and Suicidal Impulses. W. C. Sullivan.

149.—Alcoholic Hypnotism. Arthur MacDonald.

150.—Craving for Stimulants. Harry Campbell.

151.—History of Prohibitive Legislation. Charles Macfie.

152.—*Results of Treatment in 1129 Cases of Acute Alcoholism; Death-rate 1.5 Per Cent. J. K. Bauduy.

153.—Biographic Sketch of Dr. Norman Kerr. T. D. Crothers.

Medical and Surgical Monitor (Indianapolis, Ind.), February 15.

154.—*Appendicitis: A Clinical Lecture. Joseph Eastman.

155.—Sterility and Pelvic Deformity. Joseph B. Cooke.

156.—Variola and its Treatment. Theodore A. Wagner.

157.—Breech Presentations. B. Wallace.

158.—Hemorrhage into Conjunctival Sac, Through Nasal Duct, Following Operation for Removal of Nasal Spur. Wm. F. Clevenger.

159.—Antitoxin in Diphtheria. Report of Seven Cases. Chas. R. Sowder.

Therapeutic Gazette (Philadelphia), February 15.

160.—*Relation Between Posterior Urethritis and Prostatic Abscess, and Treatment of Each. Ramon Guitéras.

161.—Some Points of Interest in Connection with Chronic Urethritis. Orville Horwitz.

162.—Treatment of Appendicitis [illegible] Mordecai Price.

163.—*Santonin in Treatment of Epilepsy. G. Frank Lydston.

164.—*New Surgical Dressing Possessing Remarkable Powers; Chloretone as an Antiseptic and Local Anesthetic; Report of Cases. T. A. Dewar.

Memphis Medical Monthly, February.

165.—Use of the Tuberculin Preparations in Treatment of Consumption. [illegible]

166.—Surgical Clinic. Battle Malone.

167.—*Vesical Calculi in Children. F. D. Smythe.

168.—*Suprapubic vs. Vaginal Hysterectomy. J. P. Runyan.

169.—[illegible]

170.—Correction of Deviated Nasal Septa. Richmond McKinney.

171.—Contribution to Treatment of Chorea. H. S. Greeno.

American Medical Compend (Toledo, Ohio), February.

172.—**Relation of Regular Medicine to Various Medical Sects.** W. J. Gillette.

173.—*Excision of the Cervical Sympathetic Ganglia. Geo. Suker.

174.—Modern Technic in Amputatio Mammæ for Carcinoma. B. Becker.

175.—Rational Therapeutics. D. E. Bowman.

176.—*Diet in Lithemia. A. B. Conklin.

Medical Times (N. Y.), February.

177.—Observations on Some Forms of Paralysis. George I. Cutler.

178.—Treatment of Typhoid Fever. Stephen Thach.

Oklahoma Medical Journal (Guthrie), February.

179.—Mastoid Disease and Its Surgical Treatment. A. K. West.

AMERICAN.

1. **Unity of the Acute Psychoses.**—The theory advanced in Knapp's article is that in the acute psychoses we do not have a variety of different diseases, but a single affection the anatomic basis of which may be an acute degeneration of the cortical neurons, and if we adopt Wernicke's suggestion—which seems to him the most sound one—that insanity is a disease of the association system—a degeneration which causes a greater loss of function in the association neurones of the cortex than in the neurones which belong to the projection system. This affection may vary in its severity and in its clinical manifestations. It is most frequently due to some toxic process—such as alcohol, post-infectious toxins, or perhaps autotoxins—or to exhaustion—toxins of fatigue. It is often attended at the onset with some febrile disturbance; a slight rise is not uncommon in milder cases, and a marked rise is the rule in grave delirium. Under certain conditions—perhaps a marked virulence or a very large dose of poison—the symptoms are of sudden onset, with states of active delirium which may speedily cause death by exhaustion. Under ordinary conditions, states of confusion or hallucinatory delusion are produced, which may remain through the course of the disease or which may go on more or less rapidly to dementia. If the changes be not too complete and too extensive, recovery may ensue, or, in some cases, recovery with some persistent mental defect. The variation in the clinical picture is due to the varying extent and severity of the morbid changes or perhaps to a varying localization. He thinks trend of opinion during the last decade seems to be more and more in the direction of regarding the acute psychoses as one. He believes this hypothesis of the essential unity of a pathologic basis in acute degenerative change in the cortical cells is the most possible solution of the difficulty, and one that will be strengthened by further study.

3. **Abdominal Exploration.**—Homans pleads for the regular practice of abdominal exploration in laparotomy, and says that by this he has in a number of instances discovered unsuspected lesions that required attention, such as appendicitis, salpingitis, gall-stones, etc. He reports cases illustrating his position.

4. **Heroin.**—Daly has used heroin in a number of cases, and reports eight where it was employed to advantage. He thinks that it is unequaled as a sedative in coughs, and prevents the disagreeable stagnation of secretory products in the lungs, especially in tuberculosis. He considers the dose of 1-6 of a grain rather large in many cases, 1-12 being sufficient. It has a beneficial result also on respiration, and its effect on night sweats is second only to that on cough. In no cases he has seen was there any effect on the temperature. It possesses many advantages over morphin, which he sums up as follows: 1. It prolongs respiration, and at the same time increases the volume of each inspiration, making it a remedy much to be desired in the treatment of cough. 2. It is not a hypnotic. 3. Absence of danger of acquiring the habit. 4. It does not weaken the respiratory apparatus. 5. It does not cause unpleasant disturbance of the stomach or intestines. 6. It can be prescribed in cases in which heart complications occur, without risk of any deleterious effect on that organ. 7. The ratio of the therapeutic to the toxic dose is considerably smaller than that of morphin.

6. **Albuminate of Mercury.**—The parasitic diseases, especially scabies, are noticed first and the treatment given. Bucknall says the principles are: The avoidance of all external irritating or injurious agents of whatever kind, of all substances which cause a roughening of the epidermis, the employment of those only which tend to soften and leave the skin in a healthy condition, the use of antiparasitic agents to

destroy the organisms causing the inflammation. He considers that these cardinal principles are all happily combined in the albuminate of mercury, which has all along been disregarded and designated "inert," because it was considered that the bichlorid of mercury, when brought in contact with fats and oils, was transformed into an insoluble albuminate, a theory which has lately been entirely exploded by English, French, and German chemists. Sapodermin is a soap in which the bichlorid of mercury is incorporated with triple refined stearin and glycerin. The bichlorid is therefore changed into an albuminate of mercury, which is highly active as an antiseptic, destructive to all forms of parasites, fungoid and bacterial growths, yet leaving the skin in a soft, velvety, and pliable condition. He considers it worthy of extensive employment. The paper concludes with several clinical cases, and the author states that he has had many others under observation, several of which have been cured, and others greatly benefited.

7. **Determination of Sex.**—The theory advanced by Davis is that the sex can be determined the following way. He first assumes a general vibratory law. In the female, during ovulation the rate of vibration is higher, rendering her the positive and ruling factor. It is logical, therefore, to conclude that the result of sexual association near the period will result in a female. Vice versa, when the rate of vibration is lower and she becomes negative, so to speak, the male element will predominate and a male will be the result.

8. **Internal Antisepsis.**—Klebs' article is concluded in this issue. He believes that he shows that antinosin and nosophen insure the normal healing process in non-infected wounds. In this respect he lays special stress on the prompt development of leucocytosis and eosinophilia. He says the use of antinosin in general septic infections seems to weaken the action of the micro-organisms introduced, and to promote the vital functions. Its use is also unattended by the danger so often noticed in connection with the employment of other iodin preparations of no value in internal sepsis. He shows, by temperature-curves of the infected animal treated with antinosin the more continuous typical fever and never the enormous variations that occur without its use. He thinks that this continuous regulation of temperature is preferable to the acute depressions which are often disastrous in the course of the usual antipyretic treatment, and also claims that its use in several cases has been clinically demonstrated to him. For external as well as internal use he uses antinosin, 1 to 1000, in the mouth, pharynx and nose; internally he gives from three to six tablespoonfuls of the same strength solution.

9. **Hypertrophy of Inferior Turbinated Bone.**—The operation described by Griffin, for the occluded nasal passages due to the hypertrophy of the inferior turbinated bone, consists in sawing off this bone from below and upward and inward toward the septum, after thorough cocainization of the parts previous to operation, and with 10 grains of quinin and 20 grains of bromid of potash at bedtime for a week or two prior to the operation to prevent secondary hemorrhage. He uses absorbent cotton with more success than strips of iodoform gauze, and allows it to remain in the nose twenty-four hours. He then removes the forward portion of it, and if this is followed by hemorrhage, he allows the rest of it to remain until the next day. He follows this with a wash with Seiler tablets or Dobell's solution, and orders the patient to cleanse the nose with it morning and night for two weeks. Also a little vaselin snuffed up the nose is agreeable. It takes from a month to six weeks for the parts to completely heal, when a patency of the nose is established that will not close with every change in the weather. Atrophic rhinitis does not follow the operation. He has operated in over 1000 cases, and has never seen one where the patient was not greatly improved. [illegible] cases are here reported.

15. **Etiology of Chorea.**—From an analysis of 100 consecutive cases, Collins and Abrahamson find that the school period covers 77 per cent. of all cases, the first ten years of life 50 per cent. Females seem more liable than males, the ratio about 2 to 3. Twenty-seven per cent. of the patients were Jews, which is in accordance with the known fact of the liability of this race to nervous disorders. The maximum number occur in July and in the summer months; next, in the spring. They did not find any effects from hygrometric conditions. Their findings as to heredity in all cases are rather less than those of some other authors. Of these 100 cases, 22 per cent. were neuropathic, 19 rheumatic and 14 choreic. The authors think that rheumatism has a decided and definite relationship with chorea, which possibly may be considered as a metarheumatic manifestation. It is highly improbable that it is an infectious disease in the true sense of the term. In none of these cases did there seem to be any relationship with the eruptive diseases of children. The exciting causes are usually psychic trauma in various forms and bodily exhaustion. It rarely follows gastrointestinal irritation, eye strain, reflex excitation, etc. Relapses are frequent: 45 of the 100 had had more than one attack. Chorea gravidarum is mentioned and the fact that chorea is much more serious in adults than in children. As regards psychic symptoms, they found mental apathy in 23, mental excitability and terrorized states in 27, mental torpor in 4, and mild dementia in 3 patients. These tend to confirm their conviction that chorea is not unfrequently accompanied by noteworthy mental deterioration.

16. **Benzoic Acids and Urine.**—Ashhurst reports experiments on dogs with sodium benzoate, and also on himself. He says, to sum up, the evident effects on the urine, of the exhibition of benzoic acid are: 1. An inconstant diuretic action, accompanied by a slight diminution of the acidity of the urine. 2. A retardation or absolute prevention of the occurrence of the alkaline fermentation. 3. An action in Nature germicidal or inhibitory to the growth of certain micro-organisms, either within the bladder or when introduced into the urine after voiding, these susceptible organisms including especially those which tend to produce the alkaline fermentation, but which develop in the urine while it is still acid.

19.—This paper previously appeared elsewhere, and was abstracted in The Journal of January 13, ¶ 106. p. 101.

21. **Notes on Plague.**—Deane gives the history of plague and notices the Yersin serum and other methods of treatment. He does not believe in the importance of infection by rats, and the usual methods of drug treatment are, he thinks, generally failures. The Yersin treatment seems to have some good results, but Deane protests against the practice of having control cases in experiments with these methods—every patient should be given an equal chance for his life. The article is to be continued further, and his own treatment with snake venom will be reported.

22. **Foreign Bodies in the Pharynx.**—Crile's article deals with the experiments and methods as regards foreign bodies in the pharynx, esophagus, trachea and larynx. This installment is confined to the preliminary remarks, physiologic principles discussed and the technique of his experiments.

23. **Tuberculous Sanatoria.**—After describing some of the European institutions and their methods, Freudenthal urges the importance of rational muscular work for patients with incipient tuberculosis, always under the supervision of physicians. He thinks that the sanatoria for the rich and the poor should be under the same financial management so that the resources of one could help the other, and that arrangements should be made by corporations, and lodges and benefit societies, to send patients to a milder climate where open air employment can be carried on at all seasons of the year.

24. **Thyroid and Therapy.**—Hirsh points out the advantage of iodothyrin over simple thyroid extract and reports cases in which he has used it with good results.

25. **Sliding Hernias of the Sigmoid.**—The condition described and discussed by Weir includes this class of hernias, where there is defective investment of the cecum or ascending colon, by peritoneum, so that the hernia has only a partial sac. He thinks them rather frequent, [illegible] out of 20 in which the ascending and descending colon alone or accompanied by the cecum and sigmoid was involved. Slip hernias are more common in the left side and in males in advanced or middle life. It is difficult to determine their nature before the required surgical intervention. They are reducible in the early period and soon become irreducible and are usually septic. It is [illegible] in [illegible] hernias of the left side to make the incision into the sac wall to the inner side

of the [illegible] swelling, and [illegible] [illegible] [illegible] involved in the [illegible] [illegible] [illegible] replaced by dissecting it up on one side of the bowel, at the top, on a level with or a little above the internal ring, and at the bottom to a short distance below the bowel. The latter is then loosened by peeling off with the finger or, if tightly fastened, by cutting or snipping, with scissors as widely as possible from it until it is released up to or above the internal ring, which is to be opened widely by retractors, or even enlarged by cutting if required to obtain a good view. Then the loosened peritoneum is turned backward and sutured behind the gut as far as practicable. The peritoneal flap should be an ample one, so as to permit, to a satisfactory degree, the unfolding of the bowel loop and thus avoid kinking, which, however, is rarely of importance in the large intestine. The ring is afterward carefully sewed together after the newly covered bowel is reduced, and if the patient has consented to the justifiable proposition to sacrifice the testis on this side, a radical cure may be reasonably looked for. He hopes that the peritoneal covering thus aids in preventing recurrence as the direction of further slipping is turned away more from the hernial outlet. In two cases in which he has tried this there was no difficulty in operation, and there has been no recurrence. He reports ten cases in detail.

[illegible] **Sphygmograph.**—Van Santvoord's article is illustrated by numerous reproductions of sphygmographic tracings.

28. **Incarcerated Iris.**—Ball reports the operation which he has repeatedly used for the relief of incarcerated iris. The great principle involved in this is the cutting loose of the iris from its attachment to the posterior surface of the cornea, with one sweep of the Von Graefe cataract knife. After the eye has been made as aseptic as possible, either with boric acid, or 1 to 5000 mercuric chlorid, the curved linear incision is made with the Graefe knife, after the manner employed in doing anterior sclerotomies. Not always cutting upward, not always cutting downward, but sometimes to one side, sometimes to the other, the surgeon uses his best judgment, depending entirely on the situation and the extent of the incarceration, and the knife is entered .5 to 1 mm. outside the margin of the cornea, and the blade passed into the anterior chamber between the incarceration and the center of the pupil. The counter-puncture is made the same distance behind the limbus, if possible; then the operator cuts from within outward, through the incarceration, on out through sclera and conjunctiva. It is not necessary for the counter-puncture to be directly opposite the point of entrance of the knife, as it is in anterior sclerotomies or cataract extractions. The great object is to make as small a section as possible, and after one gets the point of the knife by the incarceration, one makes the counter-puncture at once, thereby reducing the size of the section to a minimum, for obvious reasons, having always in mind the conjunctival flap. The operator then turns this flap over the cornea, so that the wound may be exposed to view; then the iris forceps is introduced into the anterior chamber and the iris is caught, drawn out, and excised with the scissors. The columns of the coloboma are then replaced by means of irrigation with a sterilized decinormal salt solution, through a bulb syringe, which little device is generally very effective and without any bad results to the lens. When necessary, we resort to the spatula to help us out of the difficulty of freeing the pillars of the coloboma. Too much stress can not be laid on this point. The flap of the conjunctiva is then returned to position and the wound is sealed by stroking it with the spatula; one drop of a 16-grain solution of atropin is instilled, and both eyes are bandaged for twenty-four hours. The author's reasons and plea for the conjunctival flap are: 1. Fuchs claims that scleral wounds are less liable to become infected than those of the cornea, because of the slighter tendency that the sclera exhibits toward purulent inflammation, which is certainly worthy of consideration. 2. Another great advantage, which must not be overlooked, is that the wound heals much faster, thereby causing a quicker restoration of the anterior chamber, which, after all, is the desideratum. 3. The astigmatism is not nearly so great.

29.—See abstract in The Journal of February 10, p. 365.

34. **Blood Count in Children.**—The value of the blood-count in young children is emphasized by Head. His experience does not teach him that it is unreliable in these cases. The leucocytes are more numerous in children than in adults, which fact must be taken into account, and also the leucocyte counts are not as definitely fixed as with adults. He claims that the white count is often of value in prognosis when the diagnosis is known, as in otitis media. It is also of value in appendicitis, in diagnosing typhoid, lobar pneumonia and pulmonary tuberculosis, meningitis, osteomyelitis, etc. Measles has no leucocytosis, while scarlet fever has a pronounced one, as has diphtheria, tonsillitis and acute articular rheumatism. La grippe usually presents a normal or diminished leucocyte count. The author reports fifteen cases illustrating the value of this system in childrens' diseases.

35.—See abstract in The Journal of Nov. 18, 1899, p. 1290.

38. **Neurasthenia and Insanity.**—Foster discusses the pathology of neurasthenia and insanity at length, and recommends especially the hydropathic treatment. He thinks that in all early forms of these two conditions special treatment in special institutions is highly desirable. The hospital might be under state or proper private regulation, admission to be voluntary on the patient's part, with the condition of remaining at least three months.

41. This paper was editorially noticed in last week's Journal, page 568.

42.—This paper is also editorially noticed, this week.

43.—**Blood-Count in Paralysis.**—From examination of the blood in nine cases of paralysis, Jenks concludes that there is an increase of large lymphocytes prior to epileptiform and congestive seizures, but not especially at other periods. It does not follow that this increase necessitates the oncoming of such attacks, but it justifies suspicion.

47.—**Therapeutics for Stuttering.**—The leading principles in the treatment for stuttering, advised by Coen, are, first, methods of breathing gymnastics, of which the chief movements are: 1, deep, continued inspiration; 2, short expiratory movement of the breath; 3, gradual prolonged expiration; 4, holding of the breath. All of these should call into use the breathing muscles, and special consideration should be given to the diaphragm. The second principle may be called the regulation of the vocal and speech-producing organs. This is done by slowly enumerating the vowels and diphthongs, and gradually increasing the intensity and rapidity of their vocalization, a pitch being selected which is within easy range of the pupil's voice. The speech-producing organs are regulated by strongly accenting and loudly pronouncing single sounds and syllables, then words and phrases, carefully observing tone and pitch. As a third fundamental principle we must eliminate, as much as possible, the spasmodic periods of speech, diminish the excitability of the nervous system, establish an increased activity of the speech muscles. Treatment will have to be individual, with hydrotherapeutics, electrotherapeutics and drugs. The fourth principle is the exercising and strengthening of the will-power of the patient, and the fifth and last, the general stimulation and toning up of the system. Most stutterers are physically weak in some direction, and this weakness must have an influence on the vocal and speech organs.

52.—See abstract in The Journal of Dec. 16, 1899, p. 1553.

53.—Ibid., November 11, p. 1230.

58. **Trauma of Spinal Cord.**—Lloyd reports additional facts of a case formerly described, and gives attention to the autopsy. There was excessive destruction of the gray matter of the cerebellar and Gower's tracts, the posterior columns being comparatively intact, which explains the retention of tactile sensibility in this case. The pathology as bearing on the physiology of the cord is discussed. The case somewhat resembles the cases of syringomyelia, though there was no cavity, but the lesion involved the same regions of the gray matter.

59. **Landry's Paralysis.**—Three cases of Landry's paralysis are described by Knapp and Thomas, and the pathology of the condition discussed. They point out the resemblance to and clinical differences from poliomyelitis and neuritis. In nearly all cases of these affections we find acute ascending paralysis,

but the symptoms differ from Landry's paralysis, though the pathologic lesions are the same. Two of their three patients recovered, one completely. In the recovered cases there was a certain degree of muscular atrophy, and the absence of this in ordinary instances is, they think, due to the rapidity of the disease. It must be allowed that, excepting the anatomic changes as degeneration of the peripheral motor neurons, we must admit that atrophy and altered electric reaction would be inevitable were it not for the fact that death often occurs before there has been time for them to manifest themselves.

67. **Epilepsy.**—The treatment of epilepsy, recommended by Barr, consists in regular habits, and carefully selected diet, with frequent baths. He does not advise cold baths if the patient is opposed to it. The diet should be largely vegetarian, and the drugs he relies on are chiefly bromids, with arsenic to counteract the acne, omitting the doses sometimes so as to allow the system to recuperate. In nocturnal epilepsy he finds the single bromid with chloral valuable, and in anemic patients he employs arsenic, tincture of the chlorid of iron, while with girls he uses belladonna. In status epilepticus he first tries chloroform and if that does not act, gives morphia and atropia hypodermically. Surgical treatment does not commend itself to him. He mentions a case of a bright boy who was transformed, by trephining, into an excitable idiot, as an instance of the possible danger in such interference. He pleads, in conclusion, for the state care of epileptics in asylums and colonies.

69.—See abstract in The Journal of Dec. 31, 1899, ¶ 23, p. 1650.

73. **Legal Disabilities of Natural Children.** Spitzka's paper, arguing for the defense of the legal disabilities of natural children, is practically concluded in this number, but numerous notes will have to be finished in the succeeding one. The article contains much curious information.

82.—This paper was editorially noticed in last week's Journal, page 562.

89.—See abstract in The Journal of Dec. 2, 1889, p. 1425.

92.—Ibid., Feb. 10, 1900, p. 363.

97. **Treatment of Diarrhea.**—The chief point of Moore's article is the value of tannalbin in cases of fermentative diarrhea and in bowel complications in infectious diseases. He reports a number of cases of the treatment with this drug, usually in doses of 15 grains. He thinks it comes as nearly being specific for selected cases of diarrrhea as quinin for malaria, or mercury or the iodids for syphilis.

98. **Methylene Blue.**—The value of methylene blue in malaria is attested by Smithwick. He gives a table of results in fifty cases. He finds that in the hemorrhagic type the drug seems to be both a parasiticide and diuretic. In all, treatment was continued ten days after the last chill, and in only one patient was there a relapse. This responded to treatment, which is a contrast with the usual experience with quinin. From the reports of others and his own experience he deduces the following conclusions: 1. Methylene blue is a perfect succedaneum for quinin, and may be given whenever the latter drug is indicated in the treatment of malaria of every form and under all conditions with the same confidence that has always attended the administration of quinin. 2. Patients need not be selected on account of idiosyncrasies, as no bad effects ever follow the use of methylene blue, if given intelligently. 3. It is the remedy to use in malaria with hematuric complications, as it acts in a two-fold manner. 4. It is the remedy to be given in malaria occurring during the pregnant period, as it has no oxytoxic effect and will cause a freer action of the kidneys, which is also beneficial.

102. **Liver Lesions in Infants.**—The following is a summary of Freeman's article, which gives cases with autopsy results and is illustrated. 1. Descent of the liver along the right side of the abdomen, so that the right lobe reaches below the crest of the ilium, occurs not very rarely in infants, and particularly in those in whom the liver is enlarged. 2. Fatty livers occur very frequently in the infants and children who die at the Foundling Hospital, or in about 41 per cent. of all the cases. 3. The condition of nutrition of the child, as expressed by the absence of fat in general and wasting of tissue, apparently has no connection with the fatty condition of the liver, the condition of nutrition in the patient having fatty livers averaging about the same as in the whole number of cases. 4. Fatty livers occur rarely in the following chronic wasting disease: marasmus, malnutrition, rachitis and syphilis, unless such condition be complicated by an acute disease. 5. With tuberculosis, fatty livers occur not more often than with other conditions. 6. Fatty livers occur most often with the acute infectious diseases and gastrointestinal disorders. 7. The two cases of cirrhosis of the liver examined by the writer ran a comparatively acute course. The livers on section showed a marked hyperplasia of the so-called newformed bile-ducts. 8. Focal necrosis of the liver may be a lesion of measles.

103 and 104. **Intussusception.**—The treatment of intussusception is fully reported on by Kammerer. He regards the use of distension as somewhat perilous, the most serious objection, however, being our inability to recognize when reduction has occurred. In acute cases an attempt at reduction should only be made very early in the case, and once only and with complete anesthesia and relaxation of the abdominal walls. Hot water should be preferred to cold, and in very acute cases the method should not be employed. Laparatomy should be the next resort, and he believes the mortality would be vastly reduced if operation was resorted to as soon as the diagnosis was made. He believes that the lateral incision through the border of the rectus muscle is justifiable, though Treves condemns it. As regards reinvagination, he does not think it necessary to especially guard against it, but if this is thought best, he would prefer to shorten the mesentery by folding it in the direction of the long axis of the intestine, retaining the fold by several sutures. He does not advise fixation of the bowel itself. The operative procedure given as available for the abdomen is: 1. Resection of the entire intussusception, with end-to-end suture or the establishment of an artificial anus. 2. Resection of the intussusception after longitudinal incision of the sheath. 3. The establishment of an artificial anus or of a lateral anastomosis, leaving the intussusception untouched. The establishment of an artificial anus does not commend itself to him, nor is intestinal anastomosis advisable. Resection, either of the entire intussusception or of the intussusceptum alone, should be employed in irreducible cases. It is an open question as to which of the two is to be preferred. In conclusion he speaks of the fact that children bear operation better than is generally supposed, and he mentions cases from his experience. Gibson holds that success in intussusception depends entirely on the promptness of the operation, and shows, by statistics, the dangerous results of delay.

112. **Tuberculosis of the Conjunctiva.**—Eyre concludes that cases of primary tuberculosis of the conjunctiva occur in the proportion of at least 1 to 2700 and probably more frequently, and the lesion is usually unilateral. It occurs either as a caseating ulcer, or as an inflammatory new formation of the granuloma type—if as the latter it belongs to one or other of four clinically distinct groups. It is extremely chronic and exhibits no tendency to undergo spontaneous cure, does not usually tend to implicate the cornea until quite late in the disease, and the iris later still. The preauricular gland of the same side as the affected eye is infected early, and then the next glands in the series, viz., those below the angle of the jaw. If untreated, the conjunctival lesion will probably serve as the primary focus from which the bacillus tuberculosis will become disseminated to distant organs. Removal should be thorough, and should be undertaken as early as possible. Under such circumstances, like other localized tuberculous lesions, a permanent cure may be confidently expected. As to the microscopy of the disease, in the case of the ulcer, tubercle bacilli can generally be demonstrated by suitable means in the "scrapings;" but where the lesion is of the nature of a granuloma, it is rather the exception than the rule to detect the organisms in sections of the tissues, but in such cases the experimental inoculation of a portion of the diseased tissue into the anterior chamber of a rabbit's eye or the subcutaneous tissue of a guinea-pig will rarely fail to give a positive result.

113.—See abstract in The Journal of Sept. [illegible] 1899, p. [illegible]

114. **X Ray Ophthalmology.**—[illegible] reports several cases of the use of the X-rays in detecting metallic particles in the eye, and compares the value of this method with that of others, especially the X-ray stereoscope. He thinks the latter un-

suited for the wants of the private practitioner, while the X-ray is more practicable and manageable than is commonly supposed.

116. **Electrolysis in Corneal Ulcers.**—Cornwall reports three cases, and describes the treatment of corneal ulcers and fistula by electrolysis. In this method the voltage must be very low and the amperage not more than one-quarter milliampere. With a magnifying lens, the parts where the epithelial disturbance is greatest may be slightly touched with the end of the needle. The dispersion electrode must be as near as possible to the operating electrode.

121. **Twin Ganglion Cells in Retina.**—Greeff describes what he has found in the way of twin ganglion cells connected with each other in the human retina. He has never found them in the retinas of rabbits or dogs. From one nerve-cell there arises a protoplasmic process thicker than all the others, which runs without division, and retaining its thickness, to a neighboring cell. The length varies greatly. Sometimes cells lying far apart are thus connected. Under high magnifying it is seen to be composed of a great number of fine fibers, some of which arise from the substance of each cell and run to the other. The staining method by which these are detected is that of Dogiel, with Bethe's fixing solution. The author believes that these connections may be considered association tracts, and would naturally be found the more frequently the more highly organized the animal.

133. **Prolapse of Iris.**—From his own experience and study of the reports and opinions of others, Harlan concludes that the prolapse of the iris during the after-treatment of simple extraction is by no means so serious an accident as many authorities have considered it; also very small hernias may safely be let alone unless they interfere with the closure of the wound. Again the best treatment for a large proportion of more extensive prolapses is prompt abscission; though infective inflammation of the iris or conjunctiva may necessitate delay, and in a certain number of cases there may be a third choice of treatment, besides abscission and expectancy, viz.: replacement; this presupposes the absence of adhesive or septic inflammation.

136. **Astigmatism.**—The method described by Jackson is somewhat similar to the common test for astigmatism. The apparatus consists of a rotating plate with three lines, across it. The lines and spaces subtending the angle should be slightly over one minute.

138. **Injuries to Crystalline Lens.**—Mitchell's paper is a report of cases showing the effects of injuries to the crystalline lens.

139. **Entoptic Observation of Retinal Circulation.**—Weiland after noticing Norton's paper (see The Journal, xxxiii, p. 133), in which he claims to be able to see the image of the blood-corpuscles of the retinal circulation, and also the views of others on the subject, gives the results of his own experiments and draws the following conclusions: In the experiments with the cobalt glass we observe a phenomenon due to the circulation of the blood in the retinal capillaries; we do not see the blood-corpuscles themselves, nor their shadows, nor their light reflexes, but observe in the little bright bodies some relatively empty capillary spaces, produced by small temporary local stoppages of the circulation in the capillaries of the retina.

147. **Periodic Dipsomania.**—Remondino maintains that periodic dipsomania is due to some physical or psychic defect, and removal or change of occupation frequently destroys the tendency; that its periodicity may be due somewhat to a diathetic condition analogous to that of rheumatism or gout. In a majority of cases there is a tendency to self-limitation of the disease at certain ages, the age of strongest virility being the period of most frequent and serious attacks. Any physical condition disturbing the nervous system may be a factor in its causation, and it is more liable to occur in blond races. He believes it is due to ancestral habits of intemperance among these races. Our changeable climate favors its development, and occupation involving nervous strain, malaria, foul air, badly ventilated rooms, and other irregularities are all to be considered. The disease is liable to terminate in habitual drunkenness. Moral treatment is useless. Proper [illegible] attention to all hygienic laws, avoidance of irregular emotional strains, etc., are essential parts of the treatment.

148. **Alcohol and Suicide.**—Sullivan concludes that the suicidal impulse associated with alcoholism rarely appears until the intoxication has attained a certain chronicity, and in a very large majority of instances the chronic alcoholic makes the attempt during a bout of drunkenness; in considerably more than one-half of such cases there is amnesia of the act. In the suicidal alcoholic the chronic intoxication expresses itself, on the one hand, by a variable degree of dementia; on the other, by generalized discords of function—these latter in viscera which furnish the organic basis of the personality determine a depressed emotional tone, from which the suicidal impulse takes its origin. The generative organs, especially in women, are peculiarly susceptible to the alcoholic poison, and their disorders play a very important part in producing these emotional alterations of the personality, which precede and determine the suicidal tendency.

152. **Acute Alcoholism.**—Bauduy concludes that acute alcoholism is a self-limiting affection, resulting not from sudden withdrawal, but from excess and abuse of alcoholic "so-called stimulants," better called sedatives and narcotics in the doses in which they are taken, and that the expectant plan of treatment is the most rational. Again, opiates are dangerous, because they additionally derange digestion, and, acting as cardiac sedatives, tend to paralyze the heart, and, finally, because they check elimination, interfere with the normal secretions and digestion. Sleep is never to be attained at risk or hazard to the patient, but is to be expected as one of the harbingers of a convalescence not to be forced. In acute alcoholism, as in many other acute diseases, the *vis medicatrix* is in most cases fully adequate to produce the happiest results.

154. **Appendicitis.**—First noticing the very extensive literature of the subject, Eastman discusses the cause, pathology, termination, diagnosis and progress of appendicitis. He finds no two cases entirely alike. The appendix is a sort of catch-basin for all kinds of bacteria, and is not freely drained as are other parts of the intestinal tract; it is, therefore, especially liable to infection and disease. As regards diagnosis, the diagnostic tripod is pain and tenderness with rigidity of the abdominal muscles in the right iliac fossa, with a tendency to obstruction of the bowels; added to this in at least 75 per cent. of cases is the history of similar attacks. The pain is nearly always reflected above the umbilicus, to the superior mesenteric or solar plexuses of nerves. Patients and physicians are sometimes deceived because the initial pain is not in the region of the cecum. Two cases are reported and operations described. Eastman insists on the vital importance of operating on the patient during convalescence from the first attack, after the bowels have been freely evacuated, the kidneys have rallied from the congestion and the secretory functions are reestablished. The prognosis in appendicitis will be governed by when, where, and by whom the operation is performed. He emphatically negatives the advice to operate as soon as the diagnosis is made, and insists on considering the three following points well: 1, when to operate, considering the stage of the disease; 2, that a more expert operator, with a larger experience, might be secured later; 3, the patient could possibly be removed to a special hospital. Again, operating when there is blood-serum about the appendix may necessitate a drainage-tube and cause a hernia, which can be avoided by operating in the interval. When called to an acute attack, he urges non-use of the hypodermic with morphin. He believes that a special institution constructed and equipped for abdominal surgery has given and will continue to give the best results.

160. **Posterior Urethritis and Prostatic Abscess.**—Guitéras' paper discusses the whole subject of urethritis and of prostatic abscess, giving the symptoms and treatment of both. He speaks highly of hot rectal douching and massage in the latter, and says that even large exudates may be benefited by the treatment, and the organs reduced in size by this method.

163. **Santonin in Epilepsy.**—Lydston's attention was called, in his general practice, to the value of santonin in spasmodic nervous affections, and he thinks that it has an effect on the nervous system entirely independent of its parasiticide qualities. His experience has shown him, to his own satisfac-

tion, that on the average, epileptic patients show better results under santonin than under the bromids. It acts well in cases in which the bromids are not tolerated at all, gives distinctly beneficial results where they fail altogether, and is free from injurious effects, which can not be said of the bromids. Especially is it free from such effects as melancholia, mental hebetude, profound nervous and circulatory depression, and disfiguring eruptions. Such disagreeable physiologic effects as it produces are not severe as a rule, and are transitory. The dosage given in text-books is insufficient; his custom is to begin, in the adult, with a dose of from 2 to 5 gr. of the powdered drug. As the taste is not disagreeable, he is in the habit of giving it uncombined. The dose is gradually increased up to the point of tolerance. He finds that many patients tolerate 20-grain doses three times daily for some weeks. As a rule the dose is gradually increased to about 15 gr. three or four times daily. The peculiar twitching about the mouth, said to be characteristic of the physiologic action of santonin, has not occurred in the adult in his experience. The best test of the tolerance of the drug is its effects on the genito-urinary tract. The intensely yellow coloration of the urine and irritation of the bladder and kidneys are the most important clinical features. He does not know what the extreme dosage is, as he has never exceeded 20 gr., but he believes this can be safely passed in adults; still he recommends caution in its use. He does not claim that it is a specific in epilepsy, or to have produced permanent cures by its use.

164. **Chloretone.**—The advantages of chloretone as an anesthetic are supplemented by its antiseptic effects, according to Dewar, who reports cases of its use for this purpose. He believes that it will prove a most valuable remedial agent in its threefold nature as a hypnotic, antiseptic and local anesthetic, and that in each of these fields it will fill every indication better than any single representative of each of these classes.

167.—See abstract in The Journal of Dec. 2, 1899, p. 1420.

168.—Ibid., p. 1421.

169. **Rectal Trouble in Negroes.**—Jones states, in opposition to Mathews, that hemorrhoids are just as frequent in the negro as in the white race, and some of the worst cases he has ever seen were in the blacks. There is no reason why the negro should not have them. His appetite is like a circle, it has no end, and includes everything. There is a constant taxation of the digestive tract, and this results in hemorrhoids. Stricture in the rectum is more common in the negro than in any other race. The reason is clear—syphilis. Of twenty-one cases which he has treated, twenty were in the female. What holds good in stricture of the rectum in the female holds as regards *fistula in ano* in the male. The majority of the fistulous patients have been tuberculous. Cold abscess of the buttock is common, and pruritus ani is so common that it hardly needs mentioning here, while threadworms are frequent. Proctitis is one of the most frequent diseases, as a result of dysentery, which is more frequent in the negro than in the white, and syphilis is an added cause. He has seen little tendency for it to extend into the colon, and as yet he has not seen suppurative and gangrenous colitis in the blacks. He will not be so dogmatic as to say that it does not occur.

173. **Excision of Cervical Sympathetic.**—The anatomy of the cervical sympathetic is first described and next the effects of surgical excision in certain disorders. Allowing for the effects of shock as a curative influence, Suker still thinks that in Basedow's disease there is a more logical connection between the effects and cause. The three cervical ganglia furnish the cardinal organs affected in this disorder: the eye, heart, and thyroid gland. Exophthalmus is due to the inverted action of Mueller's muscle on the globe. This muscle is supplied by the sympathetic from the superior ganglion, and is the nerve of propulsion of the globe of the eye. Hence a resection of this nerve will cause the eyeball to recede. The thyroid secretions are under control of the middle ganglion, as are also the vasoconstrictor fibers. Cutting off their influence will therefore check their action. The cardiac, as well as the pneumogastric filaments take their origin from the middle and inferior ganglia. The removal of these two will therefore inhibit the acceleration of the heart's action. Finally the effect on the cortex, of exsection of this ganglion system, is supposed to be beneficial in goiter, by those who hold to the theory of cerebral anemia in Basedow's disease. These four points constitute the reason why the removal of the sympathetic ganglia produces a cure or amelioration in this disorder. As regards epilepsy, he admits that the benefit of the procedure is problematic.

176. This paper has appeared in several other journals, as an original: see The Journal of February 10, ¶ 98, p. 357.

FOREIGN.

The Practitioner (London), February.

Treatment of Pneumonia. Samuel Wilks.—The author first notices the liability of pneumonia being overlooked, whether occurring independently or as a complication. His opinion is that whenever it has passed the stage of red hepatization, recovery never takes place, and this stage may be reached within a very short period. His treatment has been varied, and he criticizes the symptomatic treatment so popular with many practitioners. He believes in the old theory of the value of antimony in certain forms of pneumonia, and whatever doubts he may have as regards this drug, he has none whatever concerning the value of opium in this disease; still he does not find it, in consultation, given by other medical men. As regards his own views, he says that when he sees a patient with pneumonia taking a dose of saline and 5 grains of Dover's powder every four hours, or if we have bronchial complications some carbonate of ammonia instead of the saline, he is satisfied. He also believes in the use of a wool-covered jacket or warm fomentation, producing perspiration, but thinks blisters harmful.

Some Methods of Treatment of Pneumonia. Hermann Weber.—The writer reviews his experience in the treatment of pneumonia in Germany and England, and concludes that the very different methods employed at different times show that no really effective treatment has existed. It is possible that an abortive treatment by means of antitoxin may yet be discovered, and in that idea lies our chief hope.

Relation of Pneumonia to Pulmonary Tuberculosis. R. W. Philip.—The author discusses the two questions, whether pulmonary tuberculosis is apt to be complicated by the advent of pneumonia, and whether the latter may determine the establishment of pulmonary tuberculosis. As regards the first, he answers it unhesitatingly in the affirmative. The clinical fact is often observed, and he has found rather frequently, in the autopsy of persons dying with pneumonia, the evidence of preexisting tuberculosis. Sometimes it appears that the course of pneumonia is undisturbed by the pre-existing disease, and it may even be lighter than usual. When the tuberculous disease is advanced, however, the occurrence of croupous pneumonia, while rare, is more serious; its mortality, according to Huss, being 33 per cent. The effects of pneumonia on preexisting tuberculosis seems to be slight, but we note at times a prejudicial change in the tuberculous subject, following the attack. As to whether pneumonia determines the establishment of pulmonary tuberculosis, he thinks the chances of evil in this way are small. In analysis of 1000 cases of pulmonary tuberculosis from this cause, some years ago, he concluded that in only .5 per cent. was there traceable a close sequence of tuberculosis on croupous pneumonia. He thinks it therefore rare as a precedent factor. The general opinion, on the contrary, may be due to faulty interpretation of pneumonia occurring in cases of slightly advanced and incipient tuberculosis. In a few where he has had the advantage of minutely investigating the remnant lesion after delayed resolution in croupous pneumonia, he has found it to be of non-tuberculous character. It must be borne in mind that occasionally tuberculosis is ushered in with symptoms and signs that may be mistaken for those of pneumonia. With the continuation of manifestations beyond the usual time limit, the continuation is sometimes erroneously described as one of delayed resolution. If, later on, true tuberculosis is established either in life or post-mortem, it is not difficult to understand how the mistake is made. He also remarks that there is much confusion regarding croupous pneumonia and acute exacerbations of pulmonary tuberculosis, which are sometimes diagnosed as pneumonia.

Surgical Aspects of Pneumonia. A. Pearce Gould.—The surgical aspects of pneumonia, discussed by Gould, are: empyema, pericarditis, [illegible]

[illegible] age. 4. Resilient chest walls. 5. Strong cardiac and skeletal [illegible] cases. The surgical treatment of abscess and gangrene consists in direct opening, evacuating the pus and removing the dead tissues. One of the chief difficulties is in localizing the lesion. This should be done under anesthesia and with the exploring needle. Pneumonia as a sequel to surgical operations, injuries and other diseases is considered, and the author doubts the possibility of infection by an infected inhaler used by an anesthetist. Sometimes the operation is done immediately during the incipiency of pneumonia and the anesthetic gets the credit. Bronchopneumonia has been a much more frequent sequel to operation than the croupous variety. It is liable to follow the aspiration of blood into the finer bronchi after operation on the mouth and larynx. In fact, it is the chief cause of death after these operations.

Presse Medicale (Paris), February 8.

Renal Functions in Uremic Conditions. F. Widal.—Bard established that the permeability of the kidney for methylene blue varies in interstitial and epithelial nephritis. In interstitial the impermeability is mainly vascular: before reaching the epithelium of the tubules or the endothelium of the glomeruli the stain has to pass the rings of sclerosis that surround the arterioles and capillaries, and consequently the permeability may be defective while the noble elements are still intact. In parenchymatous nephritis, on the contrary, the blue comes in direct contact with the epithelium without having to pass any barrier, and the blue is eliminated as or even more rapidly than in normal conditions. Widal relates several observations which demonstrate that uremic symptoms may occur even with normal renal permeability. In a case of uremic coma, the elimination of the blue was normal the following day, although torpor, dyspnea and cephalea still persisted. The permeability of the kidneys probably varies with different, even closely analogous, substances. Uremia is a complex phenomenon; it does not depend exclusively on the condition of the kidney, but also to some extent on the action of the heart and the condition of the circulation, determined by the central nervous system; also on individual susceptibilities and the arousing of certain neuroses under the influence of autointoxication. In incipient arteriosclerosis the elimination of the blue may be retarded four or five hours, which is sometimes an indication of hitherto-compensated arterial impermeability in the kidney, while the arterial hypertension is still but slightly increased. The contraction of the heart must be studied in connection with the renal permeability. When parenchymatous nephritis is complicated with interstitial, there may be abnormal elimination of the blue in connection with the *bruit de galop* and arterial hypertension. The methylene blue test, Widal concludes, is an interesting means of studying, at the bedside, some of the still obscure points of the functioning of the kidney in uremic conditions, although its results are somewhat unexpected at times.

Acute Traumatic Arthritis of the Knee in Children. A. Broca.—Arthrotomy, never resection, is Broca's advice in these cases, whatever their origin. Never incise forward, along the edge of the patella. Make a long incision each side, on the rear portion of the lateral faces of the knee, extending from the end of the subtricipital above, down to and beyond the articular interline. Then insert a very large drain under the patella. This may not drain the joint completely, but [illegible] for lavages.

Experimental Tuberculous Meningitis. [illegible] The conclusions of this extensive experimentation on dogs state that diffuse tuberculous meningitis can be induced experimentally either through the blood or by direct inoculation in the cerebrospinal fluid. The lymphatic system, as a route of infection, has no part in the mechanism of this infection. Single leucocytes, emigrating from certain cavities in the vicinity, may however, under the influence of a pathologic reaction in the cavities—nasal, ocular, auricular—favor the inoculation of this fluid by their migration. This experimental tuberculous infection produces a diffuse process in most cases, involving the pia mater. In a few rare cases the meningitis occurs in patches. The toxins secreted by the Koch bacilli are an important factor in the evolution of the process. The cerebrospinal fluid is an essential factor in the dissemination of the bacillus and its toxins. The cellular lesions of the subjacent nerve-centers, in the course of diffuse tuberculous meningitis, may serve to explain the motor symptoms observed during life. In the course of an extradural tuberculosis, the lesions due to direct bacillary infection may be supplemented by lesions of the spinal cord from compression. The elevations or granulations on the pia mater are not necessarily the result of polymicrobian infection. The Koch bacillus or its toxins are able, alone, to induce these granulations.

Berliner Klinische Wochenschrift, January 29 and February 5.

Surgery of Gastric Carcinoma. H. Lindner.—The question whether to ablate the glands is answered in the negative by Lindner, who states that in 28 cases of recurrence after extirpation of the carcinoma in the stomach, 15 were local; 12 at a distance, and in only one was a gland involved. He also considers that there is no reason to depart from established methods and make a resection instead of a gastroenterostomy when the former is still technically possible. He observes that this would be a step backward. He would also reject jejunostomy in place of gastroenterostomy.

Polyarthritis Chronica Villosa. M. Schueller.—The essence of this affection, according to Schueller, is a chronic inflammatory proliferation of the synovialis in the form of peculiar fimbriæ and villi, producing irregular external protuberances. It differs from arthritis deformans chiefly in the non participation of the cartilage and bone in the process. He was one of the first to have the courage to open the joint and extirpate the villi, and has now a record of twenty cases. There are two varieties, the hyperplastic and the ankylopoetica. The affection may persist for years, but never invades the cartilage. The general health is more impaired than with arthritis deformans. He has found nearly constantly a short dumb-bell bacillus in his cases.

Therapeutic Application of Moist Heat: Improvised, Self-Regulating Cataplasms. H. Davidsohn.—The principle of these appliances, which can be made small enough for a hand or large enough to cover the mattress, is a rubber tube, coiled back and forth with a narrow space between each coil, and sewed to a rubber cloth foundation. Hot water is then sent through the tube from a reservoir above, into a receptacle below, the temperature regulated at will. The weight of the body is not sufficient to close the lumen of the tube when applied under the patient. For hospital use the appliance is made of four or five tubes coiled separately, so that each member can be treated independently of the rest if desired. A separate rubber sheet and lengthwise coil can be laid over the part treated.

Malaria. A. Celli.—The substance of this communication was given in The Journal of March 3, p. 554. We note the further points that the malaria-bearing anopheles makes no noise and is less annoying than other varieties of mosquitoes, but it can pierce the toughest skin, and sting a number of persons in a single night. It is strange, Celli adds, how the traditions of generations in regard to the methods and hours of contracting malaria coincide with what we are learning in respect to the habits of the anopheles; also that getting chilled predisposes to contracting the infection. He notes that the highest mortality from malaria in Italy is in children between the fifth and fifteenth years. No race, he states is congenitally immune, but there are individuals who are constitutionally unsusceptible, and this immunity seems to be hereditary in some cases. Repeated injections of blood from a malarial subject fail to induce infection. There is also an acquired immunity from previous attacks, but this is much less stable and permanent than the organic one. Neither serum nor vaccin will confer artificial immunity, but this can be attained with certain drugs. Euchinin protects against quartan and spring tertian, and methylene blue against summer tertian, even injected with 1 to 2 grams of blood swarming with malarial parasites. No tree or plant has yet been found fatal to the anopheles, except the artemisia absintium. Grown in a closed room, this plant kills mosquitoes.

Cerebral Pressure in Typhoid Fever. H. SALOMON.—In the early stages of typhoid fever, Salomon has noted an appearance in the papilla nervi optici suggesting pressure on the brain, although not pronounced papillitis. In five cases the cerebral pressure was tested and found to be 220 to 250 mm. water and 180 mm. in another case. After the escape of a few centimeters of cerebrospinal fluid, the patients experienced great relief, and this improvement was permanent in nearly all. The pressure on the brain may be caused by a purulent meningitis with typhus bacilli in the pus. Boden described, last year, a case in which the bacilli were found in the serous contents of the ventricles. The pressure may be the result of the direct action of the toxins, even with a low spinal pressure. An intrameningeal effusion may be induced by the toxins. This latter hypothesis best explains the favorable results of puncture in the five observations described. The symptoms were no severer than usual in a moderate case of typhoid fever, but this experience indicates that the disease must be frequently a meningotyphus, that is, typhus with an acute serous meningitis in the early stages.

Centralblatt f. Bakteriologie (Jena), January 24.

Duration of Bacterial Existence. H. L. BOLLEY.—This communication, from the Government Experimental Station for North Dakota, announces that cultures of various bacteria were sealed in 1890 by fusing the ends of the tubes, and that all retained their normal appearance, and good growths were obtained from a large number, when opened four, six and nine years later. The typhus bacilli retained their vitality for 4½ and the pneumococci 5½ years. Spore-bearing varieties made especially rapid, strong growths. There was no disorganization of the culture or medium, even in one tube that contained the typhus bacillus in a bouillon culture not opened for two years.

Centralblatt f. Gynecologie (Leipsic), January 27 and February 3.

Technique of Steam Treatment. A. DUEHRSSEN.—Digital palpation after dilation of the cervix with laminaria is the only accurate means of excluding the possibility of a malignant neoplasm and retention of membranes, which counterindicate vaporization. In severe cases Duehrssen steams the uterine cavity for eight minutes, with steam at 100 C. in the kettle, introduced through a wide tube after ample dilation. The cavity becomes obliterated in nearly every case, with no inconveniences. The involution of an inflamed uterus is much hastened and the results have been highly satisfactory and permanent, especially in pure climacteric hemorrhages. In one case the uterus contracted from 12 to 6 cm. in six months, and menstruation then returned. The patient had previously been curetted twice and injected with iodin without effect.

Total Extirpation of Vagina and Uterus on Account of Carcinoma. A. SIPPEL.—The vagina and uterus were removed without disturbing the carcinoma, through an incision extending from the left side of the introitus vaginæ, to a point 3 to 4 cm. above the anus. The vagina shelled out easily.

Deutsche Zeitschrift f. Chirurgie (Leipsic), November, 1899.

Cubitus Valgus Femininus. HUEBSCHER.—This writer announces that measurements on 225 persons have shown that the fore and upper arms of men and boys, and of girls up to 12 years of age, are more or less straight. Girls over 12 and adult women have a cubitus valgus that may run to 30 degrees. The appearance of the cubitus valgus coincides with puberty, and Huebscher attributes it to the fact that women keep their arms bent more than men, and also to the development of the hips, which force the forearm outward. In scoliosis a difference of 10 degrees between the two arms was observed in some cases. This cubitus valgus should be borne in mind in operating on fractures of the lower end of the humerus. Fractures of and above the condyles are liable to leave lateral displacement, best avoided by primary fixation in extension.

Incarceration of the Intestines in Peritoneal Pockets. W. MEYER.—One case was examined post mortem and another cured by operation. In each there was a hernia parajejunalis, the first portion of the jejunum adherent to the posterior abdominal wall. There were no large arteries in the anterior margin of the hernial opening, and the mesentery of the small intestine was not adherent, but in consequence of the transverse course of the root of the mesentery, the hernia had worked itself into the retroperitoneal connective tissue of the right lower half of the abdomen.

Humero-Scapular Periarthritis. COLLEY.—Slight traumatism may start this affection, which consists essentially in a connective tissue alteration of the bursa subacromialis and subdeltoidea, while the joint is intact. It is accompanied by extremely severe pains. The muscles of the shoulder are found atrophied, and abduction restricted, while swinging and rotation are not interfered with. Early massage and passive movements are the treatment. In chronic cases the adhesions with the bursæ mucosæ must first be detached, in narcosis.

Jejunostomy in Case of Inanition from Ulcus Ventriculi. HEIDENHAHN.—Jejunostomy to one of the upper loops of the small intestine is recommended by Heidenhahn as the typical operation when the patients are too weak to stand a gastroenterostomy. He has done this in two cases with the most satisfactory results, leaving a drain in the small intestine, as Witzel suggests.

Deutsche Zeitschrift f. Nervenheilkunde, xvi, Nos. 1 and 2.

Diagnosis and Successful Surgical Treatment of Tumors of the Spinal Meninges. SCHULTZE.—Four observations are reported: the two first were correctly diagnosed and the tumor successfully extirpated. There was a longer or shorter preliminary stage of neuralgia, unilateral symptoms of compression of the spinal cord in the form of parasthesia and weakness, and finally manifestations of a transverse pressure-paralysis, and absence of the superficial abdominal reflexes. In one case the lesion proved to be an extradural tumor at the level of the fourth and fifth thoracic vertebræ. Another was an intradural fibrosarcoma at the seventh thoracic vertebra. The result of operation was favorable, as both motor and sensory disturbances almost completely disappeared. The two other cases were not operated on, but the diagnosis was confirmed at the autopsy: one an extradural fibroma, occluding the foramen magnum; the other an intramedullary glioma, extending from the conus medullaris into the dorsal portion of the spinal cord. Schultze considers intervention only justified when the diagnosis of a slowly growing, circumscribed, extramedullary tumor can be established. Neoformations extending upward, and of rapid development, exclude operation.

Monatsschrift f. Geb. u. Gyn., December, 1899.

Influence of Sugar on Delivery. A. PAYER.—A number of tests on parturients, reported in this communication, demonstrate that sugar increases the contractions of the uterus and hastens the birth, when labor is ineffectual, especially when administered during the stage of expulsion. Large amounts of sugar—100 to 130 gm.—given before the commencement of labor favorably influence the entire course of delivery. The sugar also seems to diminish the severity of the pains.

Wiener Klinische Wochenschrift, January 18 to February 8.

Hemolysin and Antihemolysin. R. KRAUS.—Certain blood sera, either normally or as immune sera, have the property of agglutinating and dissolving the red corpuscles of certain species of animals. Ehrlich showed, in 1898, that the tetanus bacteria can produce hemolytic toxins, and Madsen, last year, announced that two specific toxins are contained in the tetanus toxin: tetanospasmin and tetanolysin; also that each of these two has a specific antitoxin. The Institute of Serotherapy at Vienna has been investigating the products of other bacteria, and Kraus reports the results, which show that various micro-organisms besides the tetanus bacterium, produce a toxin which is hemolytic for the blood-corpuscles of several species of animals. The hemolysin is found even in one-day cultures of various micro-organisms (bact. coli, cholera, tetanus, diphtheria, typhus, etc.), but the strength varies, even in the same culture. The medium seems to be a factor in this result. The hemolysin affects the hemoglobin also in some cases. The test also demonstrated that the assumption of a specific character for the hemolysins and antihemolysins, is erroneous, as normal blood sera will neutralize the hemolysin, and the action of the hemolysin itself is not specific.

Lecithin in Milky Ascites. [illegible]

New Radical Operation of Varicocele. [illegible]

Multiple Stenoses of the Small Intestine of Tuberculous Origin. [illegible]

Restriction of Laparotomy in Favor of Vaginal Celiotomy. [illegible] and fixation of the uterus. He tabulates 2391 operations. about equally divided between the vaginal and abdominal [illegible] operation. In all cases of carcinoma operated on. the percent- [illegible] is a slightly better average than Krukenberg's statistics. He [illegible] German clinics for carcinoma of the cervix. The mortality [illegible] celiotomy, with its other advantages over laparotomy, place it far above the latter in selected cases. The objections of operating in the dark and difficulty in arresting hemorrhage. are all obviated by careful selection of the cases. and the technique which Schauta has been following for years. The [illegible] served for solid ovarian tumors. adherent or multilocular cystic and all malignant ovarian ones. for enucleations of myomata [illegible] nique of vaginal celiotomy one of the greatest achievements of [illegible]

Air Embolism with Placenta Previa. [illegible] observations are on record of sudden death from air embolism [illegible] ventricle was found distended with air. and a gaping vein in [illegible] been delivered. and the uterus was intact. Irrigation of the uterus followed; the pelvis slightly raised. After the irriga- [illegible] in fourteen hours after expulsion. From these observations Huebl establishes the foundation for a diagnosis: 1. Exclusion of narcosis and thrombus death. Air embolism occurs in [illegible] appear until days or weeks afterward. 2. A clucking sound over the heart. with tympanism evident on percussion; also the possibility of the entrance of air into the veins during obstetric maneuvers. This is favored by the abrupt change in the abdominal pressure. which may cause air to be sucked up into the veins. as also the deep inspiration that follows the cessation of a labor pain. The pressure in the interior of the uterus may also be increased. and thus air be forced into a gaping vein, or a combination of these factors is possible. In sudden death from this cause the right heart was always found distended with air. but no bubbles had entered the circulation. With protracted death. however. the right heart was filled with a mixture of blood and air. and bubbles had penetrated quite a distance into the circulation. showing that the air might have entered the heart gradually. Possibly artificial respiration in the attempt to revive the patient may have pumped more air into the veins. This could be avoided by applying an air-tight bandage and tying the lower limbs together.

Wiener Klinische Rundschau. January 7. 28 and February 11.

Localization of the Mathematics Center. [illegible] —Examination of 300 persons with a special talent for mathematics. has shown that the left frontal angle is more prominent. This prominence probably corresponds to an unusual development of the anterior end of the third frontal convolution. Like the speech center. this assumed mathematics center is predominant on the left side.

Simple Method of Effervescent Hydrotherapy. [illegible] like those at Nauheim. by combining sodium bicarbonate, softened to a paste. with a tablespoon of warm water, rubbed briskly over the body. and a linen sheet. wrung out of a weak solution of hydrochloric or tartaric acid wrapped outside. Hatschek enumerates the advantages of this procedure, which surpass in some respects the actual carbonic acid gas waters. For one bath for an adult. about 60 grams of the bicarbonate are required. and 100 of 25 per cent. hydrochloric acid or 50 or [illegible]

Two Cases of Tuberculosis of the Serous Membranes in Man. with the Macroscopic and Microscopic Picture of Tuberculosis in Cattle. [illegible] tive tissue. pedunculated tumors found on the pericardium or peritoneum were associated with other slight tubercular lesions in one case. and primary in the other. The tubercle bacilli were not very numerous. and were arranged in the tumors like actinomyces. Two other cases presented similar lesions, but no tubercle bacilli could be found in the long-stemmed tumor. Pelnar adds that cholangitis and pericholangitis tuberculosa hepatitis may appear as solitary. thick-walled cysts. the size of a walnut. with no other tuberculous changes in the liver.

Wiener Medizinische Wochenschrift. January 3.

Influence of Irritation on the Localization of General Affections of the Eye. [illegible] as conjunctivitis are in reality merely local irritation from anomalies in accommodation, ametropia, astigmatism or insufficiency. Every subject with persistent. frequently recurring or chronic conjunctivitis. has either hypermetropia. astigmatism, presbyopia or insufficiency." Eczema. in case of irritations of [illegible] fever are also liable to manifestations on the conjunctiva in such cases. Cataracta diabetica only occurs in subjects with ametropia or insufficiency. Refraction should be tested and defects compensated. as an indispensable measure in the cure of every eczema. keratitis or conjunctivitis.

Treatment of Cerebral Hyperemia. [illegible]—A threatening case of sunstroke. in which all other measures had failed. was relieved and the patient restored by wrapping the lower members and lower portion of the trunk in a sheet dipped in very hot water. and covering with blankets. The favorable effect was undoubtedly due to the profuse sweat induced by this means.

Gazzetta Degli Ospedale (Milan), January 21 to February 11.

Necrosis of the Testicle from Torsion. O. Bardella.—The scrotum was contused in three slight traumatisms and opened on suspicion of hematoma. One testicle was found twisted three times on its axis, and necrosed to such an extent as to require ablation. This makes the twentieth observation of torsion of the testicle on record. In some cases the torsion occurred without appreciable traumatism, the mesorchium being very short or absent altogether. Sasse asserts that the testis should be removed if the torsion is discovered and reduced before atrophy has commenced. The testis should be held with a stitch or two to prevent a repetition.

Development of Bacilli of Diphtheria and Anthrax on Egg and Coffee. G. Pacinotti. The Journal described (May 7, 1898, xxx, p. 1128) the green culture-medium produced by pouring white of egg on raw grains of coffee. The bacilli alter the color in a characteristic manner. Pacinotti again calls attention to the value of this combination as a differentiating medium. The decolorization is more marked as the bacilli have more need of oxygen, and is thus most pronounced with anthrax bacilli. The diphtheria bacillus commences to develop in eighteen hours, and in forty-eight produces gray spots in the green, with small white centers, which finally spread to cover the surface of the albumin, changing it from green to gray. The virulence is not diminished by this medium.

Stagnant Blood in the Heart at Each Systole. A. Stefani.—Experimental research with dogs with fistulæ, and Marey's cardiograph, shows that a variable amount of blood remains in the ventricles of the heart after each systole: stagnant blood. The amount of this increases with increased pressure if the heart is overtaxed, but not otherwise. The increased pressure seems to stimulate the myocardium and help expel the blood when the heart is in good condition. Stefani also found that dyspnea tends to increase the quantity of stagnant blood, and that venesection diminishes the amount, also that the innervation of the vagi tends to keep the heart in good condition. The quantity of blood taken into the heart depends on the *expansive activity of the myocardium*, independent of the *contractile activity* which expels the blood. The contractile activity is regulated by the vagus, and there are many arguments in favor of the assumption that this innervation is subordinate to the processes of assimilation. Stimulation of the vagus, by increasing the amount of blood taken into the heart, can undoubtedly influence the amount of stagnant blood, but this increase is produced, almost specifically, by suspension of the respiration. If artificial respiration is suspended in a dog under the influence of curare, with a fistula in the pericardium, the size of the heart at the close of each systole and consequently the amount of stagnant blood, become progressively larger, as the amount of blood taken in increases, while the amount expelled does not vary. Artificial stimulation of the vagus with the induced current increases the amount taken in, and also the amount expelled, in due proportion, so that the quantity of stagnant blood does not vary. Compression of the aorta rapidly leads to an increase in the size of the heart if the vagi have been divided, showing that the vagus innervation tends to protect the heart from overexertion. The influence of this stagnant blood in the heart is still a question, but there are many reasons for assuming that it is not beneficial. The facts reported suggest the query whether the benefit derived from venesection in pneumonia—proclaimed by many practitioners—may not be due to the diminution in the amount of stagnant blood, which has increased in consequence of the dyspneic condition. Stefani does not answer this question, but remarks that it deserves the greatest consideration.

Cure of Aneurysms of the Aorta with Subcutaneous Injections of Gelatin. A. Geraldini.—After establishing, by careful experimental research on six dogs, that the gelatin was completely absorbed and that it actually did promote the coagulation of the blood, Geraldini has successfully applied this method of treatment to four cases of aneurysm of the aorta. There were no inconveniences from its use, except transient smarting, and he recommends it in high terms, as absolutely harmless and a valuable measure in the relief of these unfortunates. He insists that the patient must remain in bed during all the time of the injections and for a while afterward, to allow the quiet formation of a clot in the sac. The formula is one or two grams each of gelatin and sodium chlorid to 100 grams of distilled water. The solution is heated to 37 C., and 10 to 20 c.c. are injected daily. The solution should be made fresh every two or three days, and, with a sterile solution, there is not the slightest general reaction nor disturbance of any kind. The injection should be followed by prolonged massage of the spot. The subjective disturbances gradually diminish and disappear, and the aneurysmal sac grows smaller and harder.

Case of Purpura Hemorrhagica Cured with Subcutaneous Injections of Gelatin. G. Senni.—In the observation described, all remedies had proved ineffectual and a profuse hematuria suggested extensive renal lesions, when subcutaneous injections of gelatin rapidly dissipated all the alarming symptoms, and restored the patient to health. Two other similar cures have been reported by Arcangeli.

Vaccination as a Therapeutic Measure in Whooping-Cough. G. Guercini.—In an extensive epidemic of this disease Guercini vaccinated 145 children; 102 during the acute period. Of the latter, 24 recovered completely in one to two weeks, with the disease under control from the first; in 72 the disease was much attenuated from the vaccination, but lasted three to four weeks. No benefit was derived in six cases, and the disease persisted eight to nine weeks. Of 43 who were vaccinated as a preventive measure, only 9 took the disease; and it proved mild, with complete recovery in four to six weeks. Of the remaining 108 children in his practice who were not vaccinated, eight died from pulmonary complications, and the rest recovered after a long and severe siege of the disease. The vaccinated children received no other treatment.

Phototherapy. Colombo.—Electric-light baths have none of the disadvantages of other sweat-producing baths; the head can be outside. Wisely administered—never longer than five to eight minutes—the effect, in the writer's experience, indicates a high place for this bath in the therapeutics of the future. He states that it stimulates all the functions of the organism, although the temperature is not elevated and consequently the circulation is not disturbed. This effect he attributes to the chemical properties of the ultraviolet rays. It is not necessary to induce more than a slight perspiration for the maximum effect in most cases.

Medizinskiya Prib. (St. Petersburg), June to October, 1899.

Compensatory Hypertrophy of the Kidneys. P. Jur[illegible] rabbits, dogs and guinea-pigs. The remaining one was found much enlarged in 60 per cent. after two months, and in 80 per cent. after a year. This compensatory hypertrophy was a genuine hypertrophy of the cellular elements, with the peculiarity that the cells which have the most work to do in the physiologic function of the organ were most strongly hypertrophied.

Scarlet Fever. K. Morkotun.—The writer noted, in his observations, that the urine contained albumin in cases complicated with suppurating processes. In one there was transient myxedema, evidently due to the involvement of the thyroid. In the desquamation stage the skin contained a number of micrococci, probably a species of streptococcus. The same cocci were found in the pus of an abscess. The presence of these cocci in the desquamating skin is probably the cause of the contagiousness at this stage.

Fatal Pulmonary Embolism After Fracture of the Leg. J. Svetchnikoff.—A young soldier, with a simple fracture of both bones in the lower third of the leg, had syncope a few hours after a splint bandage had been applied; temperature rose and death followed in forty-three hours. Nothing abnormal was found at the autopsy until the microscope disclosed fat embolism of the smaller vessels of the lungs and brain.

Case of Typhus Accompanied by Edema of the Meninges. O. [illegible] week of typhus, with indications of meningitis. Meningeal edema and chronic pachymeningitis were found at the autopsy, with other indications of congenital syphilis. The meningeal [illegible] typhus infection.

Westnik Obshch. Higieny (St. Petersburg), 1899, 2, 4 and 6.

Post Mortem Delivery. A. Sitenkow.—The writer reports two cases in which the corpse of a pregnant woman was exhumed on suspicion of murder, and the fetus found delivered with the placenta and complete prolapsus of the uterus. The accumulation of gases in the abdomen had evidently forced the fetus and organ in the direction of least resistance.

Injuries from Agricultural Machines. W. S. Klimenko.—The writer has had occasion to treat 165 injuries from agricultural machines, 18 fatal. He observes that threshing machines are particularly dangerous, and he advises a first-aid package as an indispensable adjunct to every machine, and that the foreman be trained in readiness for emergency injuries, as medical aid is seldom at hand on such occasions.

Hospitals in America. P. S. Alexejeff.—A recent trip through the United States and Canada impressed our Russian confrère with the satisfactory conditions prevailing in our hospitals, "which leave nothing to be desired." He comments with wonder on the gratuitous services of the medical attendants: "an ideal standpoint, indeed!" The only drawback to American hospitals, he adds, is the fact that the relatives can refuse to allow autopsies of persons dying in them, which must entail a great loss to science in many cases.

Societies.

COMING MEETINGS.

American Medical Association, Atlantic City, N. J., June 5-8.

Medical Society of the Missouri Valley, Hamburg, Iowa, March 15.

Medical Association of the District of Columbia, Washington, April 5.

Western Ophthalmological, Otological, Laryngological, and Rhinological Association, St. Louis, April 7-9.

Tennessee State Medical Society, Knoxville, April 10.

Florida State Medical Society, Orlando, April 11.

Mississippi State Medical Association, Meridian, April 11-13.

Medical Society of California, San Francisco, April 14-16.

Medical Association of Alabama, Montgomery, April 17.

South Carolina Medical Association, Charleston, April 18.

Medical Association of Georgia, Atlanta, April 18.

Louisiana State Medical Association, New Orleans, April 19-21.

Medical and Chirurgical Faculty of Maryland, Baltimore, April 24.

Texas State Medical Association, Waco, April 24.

International Congress of Medical Electrology and Radiology.—Dr. E. Doumer, 57, rue Nicolas Leblanc, Lille, France, is the general secretary of this recently organized Congress, to be held in Paris, July 27 to August 1. Subscriptions should be sent to Dr. Moutier, 11, rue Miromesnil, Paris.

Medical Society of the State of Tennessee.—The sixty-seventh annual meeting of this Society is to be held at Knoxville, Tenn., April 10, 11, and 12, 1900. Knoxville is the quadrennial home of the Society. Reduced railroad and hotel rates will be in force.

Philadelphia Neurological Society.—At the annual election recently held, the following officers were elected for this Society: president, Wm. G. Spiller; first vice-president, John K. Mitchell; second vice-president, F. Savary Pearce; secretary, Augustus A. Eshner; treasurer, Guy Hinsdale.

Ontario Medical Association.—The annual meeting of this Association will be held in Toronto, May 31 and June 1, 1900; the annual banquet will be held on the evening of the first day. Part of one day will be given to a discussion of inter-provincial registration. There will be a large instrument and pathologic exhibit. Members are requested to send titles of papers to the secretary as early as possible. The Association will convene under the acting-presidency of the first vice-president, Dr. Adam H. Wright, Toronto, the late Dr. J. E. Graham having been elected president at the last general meeting. The secretary is Dr. Harold C. Parsons, 97 Bloor Street, West, Toronto.

New York County Medical Association.—The next meeting will be held on March 19. The chief features of interest will be a report of a successful case of excision of the cecum, by Frederick Holme Wiggin, and a symposium on serum therapy, in which the following named will take part: E. K. Dunham, Wm. H. Park, E. A. de Schweinitz, R. J. Wilson, Howard Lilienthal and Herman M. Biggs.

Medical Society of Missouri Valley.—The following program is announced for the coming meeting of this Society, to be held March 15, in Hamburg, Iowa:

President's Address, by Jacob Geiger, St. Joseph, Mo.

"Tetanus Neonatorum," by A. E. King, Blockton, Iowa.

"Report of Case of Metritis with Perimetritis Simulating Appendicitis," by S. E. Cloud, St. Joseph, Mo.

"Floating Kidney," by C. C. Allison, Omaha, Neb.

"Bilateral Nephrorrhaphy and Operation for Chronic Appendicitis," by J. Cameron Anderson, Omaha, Neb.

"Pterigia, Their Pathology and Treatment," by M. F. Weymann, St. Joseph, Mo.

"Dangers of Nature's Cure for Senile Cataract," by Harold Gifford, Omaha, Neb.

"Report of Case of Perforating Ulcer of Duodenum," by J. E. Summers, Omaha, Neb.

"Leucocytosis as a Factor in Surgical Diagnosis," by Jno. P. Lord, Omaha, Neb.

"Report of Case of Congenital Absence of the Vagina," by Donald Macrae, Jr., Council Bluffs, Iowa.

"Lobar Pneumonia," by Jno. M. Bell, St. Joseph, Mo.

"Neurasthenia," by Clinton E. Sapp, South Omaha, Neb.

"Some Experience with Infective Brain Lesions in Children," by F. E. Sampson, Creston, Iowa.

"Schleich Solution: Further Observations," by R. M. Stone, Omaha, Neb.

A paper by S. E. Cook, Lincoln, Neb.

Report of Cases and Presentations of Specimens.

American Academy of Medicine.—The twenty-fifth annual meeting of the Academy will be held at "The Shelburne," on the Beach at the end of Michigan Avenue, Atlantic City, N. J., on Saturday, June 2 and Monday, June 4, 1900. After the President's Address, by G. Hudson Makuen, Philadelphia, the annual symposium—"The Medical Aspects of the Home"—will be presented: "What are the Essential Conditions for a Habitation to Develop and Maintain a Healthful Family Existence?" by Rosa Engelmann, Chicago. "Influence of Early Training of Manly and Womanly Qualities to Avoid Degeneracy," by J. Chester Morris, Philadelphia. "Artificial Lighting of the Home," by S. D. Risley, Philadelphia. "Influence of Medical Supervision of Children in Their Homes," by J. Madison Taylor, Philadelphia. "Physicians' Influence *in re* Vacation Schools," by Helen C. Putnam, Providence, R. I. "Defectives and Delinquents Inside and Outside the Family Circle," by James W. Walk, Philadelphia. The following miscellaneous papers will be read: "Is Co-operation Between Colleges of Arts and Sciences and Schools of Medicine Desirable?" by A. L. Benedict, Buffalo, N. Y. "Physiologic Psychology as a Necessary Element in Medicine," by W. J. Herdman, Ann Arbor, Mich. "Medical Education of To-day," by Bayard Holmes, Chicago. "Neglected Clinical Opportunities in American Medical Centers," by S. A. Knopf, New York City. Subject to be announced, W. L. Pyle, Philadelphia. "The Physician vs. Medical Proprietors and Medical Patentees," by A. Ravogli, Cincinnati. "Medicine in the Philippines," by Harry Park Ritchie, St. Paul, recently on medical duty with the U. S. V. in Luzon. Report of the Special Committee to formulate the conclusion reached regarding Specialism and Advertising, at the last meeting of the Academy.

Physicians' Club of Chicago.

Feb. 26, 1900.

SUCCESS IN MEDICINE.

This was the general topic for the evening, considered as follows:

WHAT IS SUCCESS IN MEDICINE?

Dr. Frank S. Johnson spoke on this subject, and said, in part: Literally taken, success is a following after, the sequel of an act or an effort. Two suggestive definitions are: "a termination which answers the purpose," and "a prosperous termination of anything attempted." Success can not, even in ordinary matters, be defined in exact terms—its estimate depends on ideals of attainment. It is after all an estimate of worth. Medical success has many phases, many grades; it is subjective when it represents individual worth and the realization of high purposes by the best means; it is objective when it represents public recognition and esteem. It is embodied in altruistic effort, in professional eminence, in prosperity. In its various phases it may represent one or all of these results.

The full measure of success for the individual is the accomplishment of all that his mind and his strength can compass. In this attainment, his work must be guided by his ideals, and driven by his energy. His ideals are the measure of his ambition, his energy and intelligence the measure of his power. Success is the following of strong, well-directed effort. For the highest form of success, his ideals should be lofty and impersonal, his aim to help his fellow-man, to relieve suffering, to accomplish the greatest good. This should be the ulterior purpose of the physician. This with strength and ability, will lead to true success, the highest form: a form which embodies self-respect, love of art, of science, and deeper reverential love of the wonderful creation, his fellow-man, whom it is his duty and his privilege to care for—a creation in whose structures and functions and psychologic phases he finds a challenge for his deepest thought and strongest effort. The desire to unravel its complexities, to understand the laws that govern it, and the forces that impel it, becomes the handmaid of his higher interest. All that science can teach or skill accomplish is consecrated to humanity. The personal limitations of such effort are those of bodily strength and individual necessity. This is success idealized.

With such incentives, high attainment is inseparably bound with unselfish purpose. Self-effacement is complete—the effort and result alike are measured by intrinsic worth—the motive is often as productive as the act. True success is rare. It may pass unrecognized, so accustomed are we to grand efforts and high achievements marred by selfish desire. Success as we see it and think of it is far more human. Its heralds are Fame and Prosperity. It follows ambition rather than ideals. Ambition, self-seeking, may accomplish perfect results, but with equality in skill, the higher motive permeating the physician's work will create responsive bonds of feeling and will stimulate more earnest effort.

Under material interests alone, the practice of medicine is reduced to the application of science, the practice of an art. It becomes an occupation. It is no longer a higher calling. Its objects are material only. When such ambition is the highest impulse, satisfaction can never be complete. In every age, results are limited by imperfections of knowledge.

Medical success is sometimes measured by prosperity alone—the material result of practice shorn of all else may stand as the sole outcome of a life's work, or it may be an incident in the pursuit of high ideals. To the credit of our profession be it said that the physician's life is rarely so selfish as not to be broadened in some degree by scientific enthusiasm or tinctured by human sympathy. Lack of all enthusiasm would preclude success. Lack of all sympathy would make the man abhorrent. It is true then that the greater the zeal-inspiring research and practice, the deeper the feeling that reaches out to suffering man, so much the more earnest will the work be, so much the better the result, so much the purer the success.

ELEMENTS OF SUCCESS IN MEDICINE.

DR. E. J. GARDINER discussed this topic. He said that it is very difficult to pick out any particular trait or characteristic with which a man achieves success. He presented a study of contrasts, selecting three prominent European physicians, each of whom was entirely different in make-up, personal attractiveness, skill, tact, etc., and yet all very successful practitioners. He then gave extracts from letters which he had received from prominent business men and well-known literary women. One wrote that the first essential of success is the actual skill and ability shown by the physician in fighting disease. The next important element of success lies in the physician's personal manner of speaking and of acting in the sickroom. Patients inwardly resent being regarded as so many bones, muscles and nerves. They appreciate certain kindliness and human sympathy which distinguish the physician from the veterinary surgeon. A prominent business man replied that the first element of success is social; the other scientific. One involves a knowledge of the world and of men and human nature, coupled with tact and adaptation; the other, a thorough and intimate knowledge of the human body and its disorders: this includes an insight to the disposition and temperament. A prominent business man and politician wrote that the principal element of success for the physician is the ability to make a correct diagnosis of his case. An eminent lawyer in Chicago wrote that, other things being equal, the man who could find out what ails the patient is the successful physician. A woman wrote that the main element of success in the physician is honesty. The speaker closed by quoting the famous saying of Michael Angelo: "Attention to trifles constitutes perfection, and perfection is no trifle."

ECONOMY OF TIME IN THE PRACTICE OF MEDICINE.

DR. WM. E. QUINE presented this phase of the subject. He said that one of the best ways to economize time is to do the work in hand, instantly. For him the term procrastination has a real and vital meaning. It is not only the thief of time; it is the thief of achievement, of practical success, of reputation. The importance of doing the work in hand, and of economizing minutes and hours, is not appreciated by ordinary mortals. It requires a person of rare and superior intellectual endowment to be able to utilize to the full the time that is entrusted to him. Economy of time may be exercised in the judicious selection of means of transportation from house to house. Physicians should study the quickest way of getting from one patient to another; the quickest way of getting into a house after the bell has been rung and the door opened; the quickest way of getting upstairs, attending to business, and dismissing irrelevant conversation; the quickest way of getting out of a house after he has transacted his business and done it with credit. He fully believes that if the medical practitioner would give attention to these apparently trifling details, it would bear a valuable fruitage. He knows of no better incentive to economy of time than that which is furnished by having fixed obligations, such as college or hospital engagements, etc., making it necessary for the physician to be at a particular place at a particular time. Punctuality is one of the very best guides to economy of time. Ability to economize it is largely innate. He knows of practitioners who will fuss and stew around and be as busy apparently in making six or ten visits a day as others would be in making twenty-five or thirty. He considers the physician who, in making a visit, will spend half an hour or an hour hobnobbing and trying to make himself agreeable, and as the expression goes, "solid with the family," incompetent. Dr. Quine referred to various unprofitable modes of investing time.

PROPER AND IMPROPER METHODS OF ADVERTISING.

DR. JAMES B. HERRICK divided advertising into three classes: proper, improper and doubtful methods. Those belonging to the first class are honest men; those of the second, dishonest, while the third are doubtful. He finds it difficult to draw hard and fast lines or to define exactly what is improper advertising. Improper advertising is dishonesty. The man who puts his name in newspapers and says that he can cure all cases of cancer is dishonest. This is an improper advertisement. The man who likewise advertises that he cures all sexual troubles is dishonest, and such an advertisement is distinctly improper. The man who reads a paper before a medical society, in which he states facts that are not established, in which he distorts statistics, and draws conclusions that are not warranted by the facts set forth, is dishonest. In reading such a paper he is attracting attention to himself and is doing something that is absolutely dishonest, and therefore is improper.

As to proper or honest methods of advertising, one could not walk along the streets without attracting more or less attention; he can not make a visit without in a measure attracting attention and thus advertising himself. For instance, a young practitioner, just commencing to practice, in due course of time receives a call to a patient. He studies the case carefully, makes a correct diagnosis, applies the proper remedy, and the patient recovers. Such a case advertises that practitioner to that family, as well as to the friends of the family and the people of the neighborhood. This is a strictly honest advertisement, because he has simply done his duty. If the case presented unusual features, it is his duty to tell his fellow practitioners regarding them, and in so doing he is honestly advertising himself.

There are many difficulties to contend with in considering the third or doubtful class. There is the doctor who is always talking about himself and about his cases. He goes from house to house, tells what he has done, the many cases he has treated and cured, and narrates the same thing to his colleagues and to medical societies. If such a man says what is true and nothing else, it is honest or proper advertising, but even then it is bad taste, and in the long-run it will not pay. [Dr. Herrick then drew a word picture of the doctor who continually says ill-natured things of his fellow-practitioners.]

The reprint question is puzzling. If it is proper for a physician to send out a hundred or two hundred reprints, why can he not send out five thousand, or sixty thousand? Where shall the line be drawn? It may not be dishonest to do this, but is it in good taste? That is the question. The line must be drawn somewhere, but exactly where?

As to inserting a business card in a newspaper, the speaker would not do it, yet this question has come up three or four times recently in considering the question of admission of candidates for membership to the Chicago Medical Society. He considers this no worse nor more dishonest than to have one's picture in a paper, with a long string of titles of every position that a man holds to-day, has ever held and still hopes to hold in the future, and an article which is not worth the paper on which it is written. He does not think there is very much difference between those two.

As to the newspaper interview, he has grown more charitable toward those whose names appear occasionally in newspapers. Some interviews are perfectly justifiable, as when a new method of treatment is advanced which is of interest to the public, or a discovery in medicine. He believes the people have a right to know from physicians what is the opinion of the profession regarding a discovery or discoveries, and he deems it perfectly proper for leading men to give their opinions, which will be of great benefit to the public. But he would advocate a signed communication rather than the garbled interview.

He has grown a little more charitable toward those men who have had descriptions of wonderful operations given in newspapers, because in many instances these descriptions can not be kept out of them. The surgeon, however, who purposely and intentionally describes an ordinary operation as wonderful, and gives the details to a newspaper reporter, is absolutely dishonest, and such a method of advertising falls into the strictly improper class. Not infrequently descriptions of cases and of operations are given in newspapers in spite of the protests of both physicians and surgeons, and not infrequently this is done absolutely without their knowledge.

FEES AND COMMISSIONS IN THE PRACTICE OF MEDICINE.

Dr. Alexander Hugh Ferguson spoke on this phase of the subject, saying that it is engrossing the attention of the profession everywhere. So much commercialism has been introduced into the profession, that the surgeon and physician must look after their own fees. In the practice of medicine, as in all other walks of life, the laborer is worthy of his hire. The work in hand must be properly done. The physician or surgeon who takes advantage of his client, as, for instance, in trying to get more out of a poor man than he is capable of paying or earning for the next few years is dishonest. No one should charge a fee which would be a hardship on a patient. One of $10 would be a hardship to a poor man whereas one of $10,000 would scarcely be felt by a millionaire. He opposes the division of fees, as a surgeon with the attending physician, saying that the latter, who either sends or brings a patient to a surgeon for operation, should be paid for his services apart from the fee of the surgeon. He condemns the giving of a commission. The surgeon who would charge a big fee for an operation, and then pay the physician who referred the case a commission, without the knowledge of the patient, is literally robbing the latter.

Dr. John E. Owens deprecates the giving of commissions, believing they should not be given or expected. Every physician who brings a patient to the city to have some operation done should be paid for his time and the expense incurred in so doing, but not by the surgeon. If the attending physician has not business ability enough to collect a fee for so doing, he could not expect the surgeon to do it for him. The competent surgeon is rarely overpaid for his work. There is no injustice in charging a rich man a big fee for expert work; while a moderate fee charged a poor man might work considerable hardship.

Dr. Harold N. Moyer believes that the evil of paying commissions is by no means universal, but that it is gradually expanding there can be no doubt, and with Dr. Ferguson, he characterized it as a dishonest and disreputable practice. To take a man's money out of his pocket and give it to another man without his knowledge smacks of the transactions of the confidence man.

Dr. Joseph Zeigler said, in speaking of two elements of success, that one is a thorough medical training, and the other tact. The physician must know what to charge. There are a great many roads to success. The most pronounced charlatans make a success, if by that term is meant the acquisition of considerable money. The practitioner with smooth manners and captivating ways makes a success. He expressed a profound contempt for those who advocate the giving of commissions. The work of the physician or surgeon would advertise him better than any other means that could be pursued, and is more successful in the end. The key-note of the whole subject lies in the word honesty.

Cleveland Medical Society.

Feb. 9, 1900.

ENTEROPTOSIS.

Dr. N. Rosewater read a paper on "Enteroptosis Relative to Disorders of the Digestive Tract and Circulation." He reported the case of a girl, 7 years old, who had always been speechless, due to a badly hypertrophied tongue, the left kidney floating and the right one palpable. There was gastroptosis and enteroptosis and incontinence of urine from infancy. The skin and extremities were cold and sweaty. She was treated by adhesive strap bandages to hold the viscera in place. There was no medication. Her speech, which was originally only a guttural sound—"guh"—is now perfectly normal, as is the tongue. The kidneys remain in place and are not palpable. The incontinence of urine ceased from the first bandaging; her digestion and circulation improved. The skin is dry and the extremities are warm. The writer asserts that a drag on the main abdominal vessels, arterial, venous or lymph or their branches, at or below the diaphragm, such as may occur in enteroptosis, can cause functional stenosis, resulting in increased heart action by increased thoracic or cranial pressure, and disturbances, such as hypertrophies, aneurysms, edemas, etc., as well as visceral and digestive disturbance from pressure, drag, etc., producing local anemias, stasis, hyperemias and nervous disturbances. Other cases are reported illustrating these disorders, etc.

Dr. W. H. Humiston said that, some years ago, when studying in Vienna with Pawlik, it was an exception when, in patients with pelvic diseases, he did not find a prolapse of the right kidney with very often an associated dilated stomach. He has found this same condition in the majority sent to him for pelvic disease, and the treatment of the latter is not satisfactory unless these displaced organs are taken into consideration.

Dr. R. J. Wenner was unable to see how any appliance or bandage could be used that would keep a prolapsed kidney in place permanently. In his own experience he has never found any good results from such appliances. In regard to the tugging on the aorta, of which the essayist spoke, he inquired as to the tone of the femoral pulse at such times. In the literature of this subject, in the last few years, some stress has been laid on the existence of the floating tenth rib as a stigma of inherited ptosis of the abdominal organs.

Dr. J. P. Sawyer said that simply determining the level of the lower border of the stomach does not indicate the degree of ptosis of that organ. The position of the upper border is one that, when determined, gives positive information. In ascertaining the relation of the stomach to the nervous phenomena mentioned by the essayist, the position reached by the lower border of the stomach, even if exceedingly low, is of very little importance when compared with the condition of the motor sufficiency of the organ. A factor of great moment in these cases is the inheritance of the neurasthenic tendency. In many cases of neurasthenia and hysteria the stomach is in average normal position, and in many cases its functions are well performed so far as can be ascertained.

DR. N. ROSEWATER, in closing, said that he had used an adhesive-plaster bandage made to fit, and kept it on for nine months, and his patients preferred it to the made-up harness. He has not noticed the condition of the femoral pulse in reference to the tugging on the aorta. He considers the position of the lower border of the stomach of some importance because it might indicate that the stomach is encroaching on other organs and causing disturbance of their functions by pressure. He has also noted that the lower the stomach falls the less likely it is that it can empty itself in the average time, which will give rise to various disturbing symptoms.

INTUSSUSCEPTION AT SEVEN MONTHS.

DR. F. S. CLARK read a paper on "Intussusception in a Seven Months Child; Operation and Recovery; A Second Obstruction Three Weeks Later Followed by Death." This infant was taken dangerously ill with a sudden pain, and in a short time had a temperature of 99 F. and a pulse of 160. The pain was paroxysmal and the straining severe. Blood was passed after injections. Under chloroform an unsuccessful attempt was made to reduce the intussusception by injections of water. At the end of the first twenty-four hours abdominal section was made by Dr. F. E. Bunts. Six inches of the ileum were found invaginated into the cecum. Shock during the operation was very marked, but recovery was perfect. Three weeks later much the same symptoms recurred but with less straining and no hemorrhage. The general symptoms became more grave and the child died in twenty-four hours, the conditions not warranting a second operation. At necropsy an adhesive band was found running from the ileum near the cecum over a loop of small intestine, which caused obstruction and death.

DR. F. E. BUNTS said this baby represented the usual course of intussusception very well. Diagnosis was difficult because of the absence of any tumor even when under anesthesia. When diagnosis can be made early, operation holds out considerable hope for relief. However, a small number recover without operation, and adhesions take place so rapidly that after the third day it would be very difficult if not impossible. Adhesions that are the cause of death are due to the inflamed condition that occurs during the period of intussusception. Operation for the second obstruction holds out no hope whatever, and he thinks it is the duty of the surgeon, when diagnosis of intestinal obstruction is made, no matter of what form, to make an abdominal section.

DR. L. S. CHADWICK had seen two cases of intussusception in the last six months. Both the parents objected to an early operation, and when it was performed at the end of twenty-four hours the result was unfortunate.

DR. M. ROSENWASSER said that in these cases the chief question is in making a correct diagnosis sufficiently early. Many occurring in the summer months are diagnosed as dysentery. Occasionally cases occur in which the pressure of a water-column will succeed in reducing the invagination. He reported a successful one under this method of treatment, in which the water was held at the height of seven or eight feet. When the intussusception is low down a positive diagnosis can sometimes be made by rectal examination. In nearly all cases there is one thing that aids in the diagnosis, i. e., the sphincter ani muscle is thoroughly relaxed.

DR. S. L. [illegible] mentioned the case of a child 14 months old, with intestinal obstruction, in whom no tumor could be found, and the only symptoms were the tenesmus, the passage of bloody mucus and the relaxation of the sphincter muscle. Inflating the colon with air did no good, but injection of a pint of warm water under considerable pressure relieved the obstruction at once.

DR. I. [illegible] noted that air inflation was much less safe than injection of water at high pressure.

DR. F. S. CLARK, in closing, said that the paroxysms of pain are very different from the colicky pains in diarrhea and dysentery. Only hypodermic injections of morphin would control the pain in this child. Yet despite the difference in cause, the symptoms in the two attacks were very greatly alike. The absence of hemorrhage in the last one was about the only symptom which was different from those in the first.

DR. W. H. HUMISTON reported a case of this condition in a woman aged 29 years, who had had two children and one miscarriage. On Nov. 8, 1899, she submitted to a criminal operation. Following the use of the sound she had chills, fever and the usual symptoms of peritonitis. When seen on Jan. 5, 1900, she was very anemic and had a temperature of 101 F., with a pulse of 100. The cervix was swollen, the uterus in normal position but enlarged and tender, and a large fluctuating tubal abscess was found on the left side. There was a slight, bloody, mucopurulent discharge from the cervical canal. Under anesthesia, a few days later, the abscess was found to be much smaller and only curettement was done. On the sixth day the peritonitis recurred with a rise in temperature. On January 27 the uterus and appendages were completely removed, per vaginam. Subsequent examination disclosed no decidual cells, but on the posterior wall of the uterus near the fundus was found a small excrescence, which, on microscopic examination, proved to be one of the rare instances of malignant deciduoma.

DR. R. J. WENNER thought the diagnosis of malignancy had not been established in this case, and he criticised the removal of the ovaries as well as the uterus. He believes that hysterectomy is not justified except in case of a positive diagnosis of malignancy, and said he had yet to see the first thoroughly well woman who had had both ovaries removed. While the patients may be relieved of much pain for a time, the after-effects in the way of various phenomena are usually quite serious.

DR. F. E. BUNTS asked the reporter if, in such an operation, after the uterus had been cut through, he pushed one-half of it back into the pelvic cavity, and if this is done does it favor the introduction of septic material into the peritoneal cavity?

DR. HUMISTON, in closing, said that the uterus was thoroughly cleaned out with alcohol and strong bichlorid solution. He would be glad to show Dr. Wenner a large number of patients from whom the uterus had been removed, who are perfectly well to-day. In these cases of chronic discharge of pus from the uterus, either from the organ itself or from a pyosalpinx, any temporizing operation is only partially successful. His best results and most satisfactory recoveries have been following the total removal of the tubes and ovaries as well as the uterus.

Detroit Medical and Library Association

Feb. 12, 1900.

INFANTILE NEPHRITIS.

DR. CHAS. DOUGLASS read a paper on this subject. He referred to the rarity of nephritis in infancy as recognized by physicians, stating that it is a matter of doubt whether this is due to the fact that it is so difficult to get a sample of urine from these patients, or that the disease is really rare. As the infantile organs have a capacity five times greater than the usual necessities of the body, we can easily see that many attacks of nephritis may be too slight to be recognized by edema. This would be particularly liable to happen when only one kidney is involved. The great diuretic power of milk clouds many of these attacks in infants confined to a wholly or partly milk diet. The Doctor gave a brief epitome of the literature on the object of nephritis, for the past forty years, stating that in all this there is little reference to the nephritis of infancy, most writers referring to the nephritis of childhood. As to the symptoms of acute nephritis, they are those of any febrile disease, and as these are so common, the attention of the physician is seldom drawn to the kidneys unless there is decided absence of urine. The only reliable symptom in infancy is edema. The Doctor related the histories of four cases of infantile nephritis which came under his notice during the past summer, giving the treatment he used and the results. He found that a diet of diluted cream produced the best results. Under a diet of beef extract or broth the patients did not show any improvement. In none of these cases did he attempt a medicinal treatment of the disease, but trusted entirely to the diuretic power of the dilute cream or milk. In each case the result was prompt and satisfactory.

THE JOURNAL OF THE
AMERICAN MEDICAL ASSOCIATION.
61 MARKET STREET, - CHICAGO.

SATURDAY, MARCH 10, 1900.

SPERMOTOXIN AND ANTISPERMOTOXIN.

Metchnikoff's recent investigations on the problem of antitoxins and their origin, and especially his reports on anticellular serum, to which reference has been made recently in these columns, have attracted a great deal of interest on the part of newspapers. Lengthy interviews have appeared, his private life has been described with great detail, and his discovery announced of a serum against old age. Whether the fountain of perpetual youth is to be discovered in the laboratory of experimental pathology is not for us to say, but certainly the recent demonstrations of Metchnikoff and several others, both German and French investigators, of the various reactions of organisms under the influence of toxins, hardly warrant the sensational statements of the press. And yet it can not be denied that these highly interesting researches throw light into obscure places in physiology and pathology. The intercellular struggles and the formation of various kinds of antitoxins, described by Metchnikoff and others, seem to open a new and rich field of study. This new method of investigation was undertaken largely as the result of controversies as to the mode of action and place of origin of bacterial antitoxins, such as tetanus antitoxin. It has been shown that the serum of one animal treated by injections of the serum of an animal of a different species acquires the property of dissolving the red blood-corpuscles of the second animal. Now similar facts have been determined as to other cellular elements, such as ciliated epithelium, leucocytes, spermatozoa. And against all these cellular poisons there develop specific antitoxins.

The most recent research of Metchnikoff[1] along these lines deals with spermotoxin and antispermotoxin. The testes of rabbits, finely divided and macerated in physiologic salt solution, were injected subcutaneously in guinea-pigs; the injection of the extract of two or four rabbit's testicles suffices to produce a marked spermotoxic action on the part of the serum of the guinea-pig. Normally this serum is not harmful to the spermatozoa of rabbits, except in much larger doses than the serum of the animals injected. This artificial spermotoxin immobilizes the spermatozoa of the rabbit in a few moments; when the immobilization occurs with moderate rapidity, the spermatozoa are clumped in small masses, the tails forming peripheral radiations. Solution of the spermatozoa was not observed. This spermotoxin is specific in its action, other cellular elements of the rabbit except the rabbit's spermatozoa not presenting any special changes under its influence; the spermatozoa of other animals are not affected by it.

Now, the subcutaneous injections of rabbits with spermotoxic serum quite promptly produce antispermotoxic substances. Spermatozoa, placed in a mixture of the spermotoxic serum of the guinea-pig and serum of rabbits treated with spermotoxic serum, remain mobile in every experiment, while those placed in spermotoxic serum only are rendered motionless. The antispermotoxin develops in the serum of castrated rabbits just as well as in that of the non-castrated, hence antispermotoxin appears to be elaborated by other cells than the spermatozoa. This was also shown by the fact that the spermatozoa of a rabbit that has been injected with spermotoxic serum and whose blood has acquired antitoxic powers, were immobilized by spermotoxic serum—the antitoxin is not the product of the sensitive cell. This is analogous to the experiments of Roux and Borrell, who produced cerebral tetanus in a rabbit rendered actively immune against tetanus toxin, the blood serum being antitoxic. In both instances the sensitive element is affected by the toxin in spite of the presence of antitoxin in the blood. Metchnikoff does not discuss, any further, the exact origin of antitoxin in this paper. It may not be entirely out of the way to suggest that in addition to their value as bearing on the broad question of toxins and antitoxins, in general, these experiments may contain the germ of some explanation of certain phenomena in connection with human sterility. The existence under natural conditions, of spermotoxic substances in individual animals including woman is not impossible.

ALCOHOL AND SCHOOL PHYSIOLOGIES.

In a number of states, at the instance of active temperance workers, laws have been passed prescribing instruction in the public schools as to the toxic action of alcohol. It is charged by some, and very recently by Professor Atwater, whose experiments—previously noted in THE JOURNAL—are known throughout the world, that the text-books used contain errors, notably in denying absolutely any food value to alcohol, with other inaccurate statements. He is reported as saying: "There are many errors in these text-books, sometimes the error consists in stating doubtful theories as attested facts; in other cases the principles laid down are partly true and partly false; in still others the statements are squarely opposed to all the latest and most accurate scientific research." He proceeds to say, further, that the impression these text-books convey—as the facts—is "that science teaches that alcohol even in moderate quantities is always harmful and never useful. This is untrue."

It is easy to believe that ardent advocates of temperance, seeing all the evils that result from the use of alcohol, have seized upon whatever apparently scientific facts seemed to support their cause, and have used them to the best advantage from their point of view. It is also true that many of the text-books prepared by strong advocates of their cause, not always the most competent, contain some such errors as Professor Atwater says they do. It is an unfortunate fact that zeal, even in a good cause, too often overshoots its mark, and the after-effects of errors in the teaching in regard to alcohol may be, as he says, disastrous and undo all the good that was attempted. This does not necessarily imply any intentional misrepresentation, but simply an indiscriminating seizing on apparently favoring facts that are not sufficiently established, in support of their contention. It is not generally recognized by the laity, or by some others, that there is nothing less certain than alleged scientific facts in regard to questions that are in dispute, like those of the economic combustion of alcohol in the system. If the popular physiologies would admit this, and confine their positive statements to the undeniable facts of the evil effects of alcohol, there would be no need of Professor Atwater's criticism. The teaching of these in the schools is a perfectly proper proceeding, but it should be confined to the positive truths and legitimate inferences. Even these latter, when supported by unnecessary erroneous statements, lose their force and are liable to be rejected in spite of the actual facts on which they are based. What is needed is a thorough revision of the text-books of physiology, if this is to be taught in our publc schools.

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[1] Ann. de l'Institut Pasteur, 1900, xiv, 1.

On the other hand, there is a danger in the Professor's criticisms, that he does not perhaps fully appreciate, but which is emphasized by some of the newspaper comments and reports of his remarks. He carefully guards his statements that alcohol is a food, but his testimony as to its dangers is neglected by some who quote him, while all that he says as to its possible value in any way is picked up and made the most of. It is, as has been said in these columns before, perilous to say anything in favor of alcohol, as misrepresentations and exaggerations are the certain results. All Professor Atwater may say to qualify his remarks as to the utility and advantage of this agent as a food will not prevent his being quoted as an advocate of its use as a steady diet. That he desires this is not to be supposed, hence his position as an honest investigator in this subject has its disadvantages, but they seem to be unavoidable. The temperance workers for their part will do well in the future to avoid the errors of accepting disputable statements as positive facts, and they can safely afford to treat the food value of alcohol as an entirely negligible quantity; it is not taken or given as a food, but for its effects on the nervous system, and these are not considered in Professor Atwater's studies. Let the text-books be corrected to agree with what is known, and there will be left enough undisputed facts to serve their purpose.

POLYMYOSITIS.

As a rule diseases of the muscles are not described systematically in the text-books, and when described they make only a small chapter, although these tissues may be involved in various morbid conditions, some congenital, others acquired. Thus, they may undergo atrophy or hypertrophy from various causes, may be the seat of inflammation, of new-growths, or of degenerative changes, of spasm or of paralysis. These conditions are, however, most commonly secondary or consecutive, in spite of the generally exposed situation of the muscles. Primary, or rather independent, affections of muscle have been described: 1. Dermato-myositis, in which also the skin is generally involved. This condition is attended with rheumatoid pains, stiffness and tumefaction of the extremities, febrile movement, firm edema, especially of the face, redness of the skin, impaired mobility, excessive sweating and enlargement of the spleen. The morbid process may involve the muscles of respiration and of deglutition, and usually terminates fatally. The disorder may pursue an acute, a subacute or a chronic course. The anatomic alterations and the histologic appearance are those of inflammation of muscle. 2. In hemorrhagic polymyositis extravasations of blood take place into the muscles, and the myocardium also is involved. Tumors may form in various muscles successively, with edema of the skin, and this also may be the seat of hemorrhage. Derangement of the action of the heart is generally present, as manifested by palpitation or tachycardia or cardiac insufficiency, and hypostatic edema, and finally, paralysis of the heart may occur. The disease may persist for months, and death is the usual termination. 3. Progressive ossifying myositis is attended with infiltration of the muscular tissues with lime salts or osseous matter, and resultant rigidity and loss of mobility. Multiform erythema may be attended with myositis and arthritis, and under such conditions has been thought to be of rheumatic origin.

A typical case of hemorrhagic myositis is reported by Bauer.[1] A coachman, 39 years old, had been seized eight weeks previously with severe and sharp pains in the muscles of the legs, and in the course of two weeks swelling became superadded. After the lapse of some four weeks, pain and swelling appeared in the right thigh, and two weeks later also in the left arm. The general condition was poor. Sleep was disturbed in consequence of pain; the appetite was impaired; slight fever was present; the face was reddened; but no edema was present. In the left arm, corresponding to the triceps muscle, there was a tender and painful, circumscribed swelling of considerable size, while the adjacent muscular tissue exhibited doughy induration. A similar condition was present in the upper third of the calf of each leg, and subsequently swellings appeared in the right popliteal space and on the flexor aspect of the right thigh. Areas of dark pigmentation, surrounded by a zone of violet hue, were present in the neighborhood of the right patella, the inner aspect of the knee-joint and the external aspect of the right elbow-joint. The apex-beat of the heart was not palpable, and the heart sounds were feeble. The liver and the spleen, and also the inguinal and epitrochlear glands were enlarged. The knee-jerks were increased. The temperature was slightly elevated and pulse and respiration were accelerated. The symptoms progressed gradually and death resulted from asthenia. Only on the day of death did the urine contain a trace of albumin.

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[1] Deutsches Archiv f. Klin. Med., Bd. lxvi, p. 95.

On post-mortem examination the muscular tissue in places presented a brownish-red appearance, with punctate and linear pigmentation, and in other places a waxy-yellow appearance. The pericardium contained an excess of turbid fluid. The epicardium over the left ventricle contained a considerable number of small ecchymoses. The wall of the right ventricle was in part brownish-red, and in part yellow. The wall of the left ventricle exhibited a prominence that on section proved to be a hemorrhagic extravasation. On histologic examination the muscle-fibers were found separated by hemorrhages, being in part normal and in part the seat of a degenerative process, with multiplication of their nuclei. In some places the muscle-fibers were separated by accumulations of leucocytes, the appearances of a hemorrhagic and purulent inflammation being created. The staphylococcus pyogenes was found in pure culture.

BRAIN WORK AND INSANITY.

Occasionally we read of the high tension at which men now live, such comments usually being called forth by the abrupt ending of the career of some busy man. This furnishes the text for a discourse on the rapidity of this age and a lecture on the advisability of conserving the nervous form and not over-using the brain. Not infrequently, statements are made that insanity is increasing and that this is due to the excessive employment of people in brain work.

In the first place, it is not positively known that insanity is increasing. Nothing can be predicated from the statistics obtainable in this country, on this question, but in England the records have been kept with considerable accuracy, and a careful study of their statistics would not enable one to say positively that insanity was on the increase. The whole number of lunatics in public and private institutions has increased in Great Britain, but how much of this is due to an earlier recognition of mental disease and a more prompt application of hospital treatment, thus bringing the cases into the record, and how much to a conservation of the lives of lunatics, due to improved care, it is impossible to state. That these two factors have largely increased the numbers on the register, is certain. If we knew how much to allow for these two factors, it would be possible to state whether or not there was an increase in lunacy. Increased longevity, due largely to a lessening of infectious disorders in the young, has increased the number of those at a life period when mental breakdowns occur. In a large number of these cases the insanity is secondary to vascular disorders dependent on advancing years. Even if we grant that there is an increase in mental diseases, it by no means follows that this is due to an increased use of the brain. The study of those admitted to the asylums shows that brain-workers are not well represented among the insane, relatively to the number that pursue an intellectual occupation. This is exactly what might have been expected from a consideration of the physiology of all organs.

When the life history of a man who is said to have broken down from overwork is investigated, it is found that mental work, as distinguished from worry, has been an unimportant factor. Undoubtedly certain occupations involving great anxiety do directly conduce to breakdown of the mind. The proper use of the brain in intellectual activity tends directly toward its preservation. The use of any organ improves its circulation, and any intellectual occupation that is well within the powers of the individual may be carried to almost any limit without producing dangerous effects. Where a person suddenly has obligations thrust upon him that call for intellectual activity to which he has not been accustomed, then the danger of breakdown is very great. The athlete gradually trains his muscles for a contest. Not by at once beginning extreme exertion, but by degrees he gradually increases his tasks until what was formerly difficult becomes easy, the circulation through his muscles is improved and he becomes stronger; this process is what is known as training. Exactly the same thing takes place in the use of the brain. By intellectual activity its circulation is improved; as an organ it becomes more efficient, and if the process is not pushed too rapidly it gradually preserves the organ and explains why those who pursue an intellectual occupation are in a measure protected thereby from mental breakdown.

REPORTING BIRTHS.

A specimen of foolish medical legislation is afforded in Colorado, in the leading city of which state a number of physicians were recently taken before a magistrate and fined for not making monthly reports of "no births." The Journal previously noted this (March 3, p. 569), and had already expressed an opinion that the reporting of actual births by the physician should not be demanded without compensation, but this requirement of reporting that there have been no births goes still farther and is altogether unreasonable and ridiculous. Physicians have enough to do for the public gratuitously in many ways, without having absurd regulations of this kind forced upon them. If they can not be trusted to report births, it is hard to see how any additional accuracy is to be obtained by making them contribute their negative statistics in this line. There is evidently a lack of common sense in a law that makes such requirements, and it suggests that physicians ought to give more attention to the legislation that affects them, if indeed they can not do something for the amendment of the intellects of their legislators.

"CHRISTIAN SCIENCE" AND THE MARYLAND LAW.

In their arguments against the proposed new medical law in Maryland the "Christian Scientists" made their usual claims of superiority to such little facts as infection, contagion, etc., before the committee that has the bill in charge.[1] According to reports their statements rather startled the legislators. One said that in a community made up of adherents to their belief, quarantine and health departments would be unneeded as disease could not exist. Another said infection did not exist, and still another that "Christian Science" could prevent contagion. Many other statements equally startling could be brought out if these and other quacks were properly interrogated before legislative committees, and the chance of their recognition in medical practice laws would be considerably diminished. It is the average legislator's ignorance of their character that makes him so open to their demands for exemption or recognition by medical practice acts. In Maryland leading physicians were on hand to combat and show up the pretenders, with, we trust, good final results.

RECOGNITION OF FOREIGN DIPLOMAS.

The State Board of Health of Nebraska has resolved to hereafter recognize no foreign medical diploma unless it is vouched for as genuine by the nearest consular representative of the country in which it is claimed to have been issued. The Board has been forced to this course by some recent impositions that have been practiced upon it, notably one where, after exposure through inquiries, the individual was cited to show why he should not be deprived of his certificate. As illustrating the character of the man, his defense is of interest. He appeared by counsel and pleaded that perjury was not a medical or professional offense; therefore the charge of unprofessional and dishonorable conduct did not stand. There is no reason whatever for medical boards in this country recognizing foreign qualifications when the foreigners do not recognize ours. When the further fact is considered that a foreign diploma does not, in the majority of cases, qualify the bearer to practice in his own country, there is still less reason why it should do so here. Taking into account, still further, the chance of its being fraudulent, as in the case mentioned above, it would seem futile to a degree to recognize these diplomas. Some boards in the country have refused to do this, and in one or two states the law admits outside diplomas as qualifications only where they are such in the state that gives them and reciprocal privileges are conceded. There is no reason why this should not be the universal practice and much why it should. It is not always more blessed to give than to receive in this particular matter of medical reciprocity. At all events, it will be well for examining boards to carefully examine credentials, and, where possible and legal, the candidates.

MENTAL DISTURBANCES OF CHRONIC PROGRESSIVE CHOREA.

The term chorea is applied to a number of disorders attended with involuntary movements, and which probably differ considerably among themselves. It would be better, therefore, if it were possible, to reserve the name chorea for that acute, self-limited disorder first systematically described by Sydenham, occurring particularly in early life, attended especially with jerky incoordinate movement, and, so far as known, unassociated with demonstrable organic lesion. Thus, the so-called chronic or hereditary chorea described by Huntington has no relation with acute chorea except in the involuntary movement. The chronic disorder further has been found to be dependent on chronic meningo-encephalitic changes, with atrophy of the cerebral convolutions. It is also, in contradistinction from acute chorea, attended with mental alterations, which are generally described to be of the nature of dementia. With this view Kattwinkel[1] takes issue, basing his contention on the conditions found in three cases carefully studied from the psychologic point of view. These observations seem to show that the mental disturbance consists rather in partial impairment of memory, and principally in want of attentiveness; and the question is raised whether they may be related to the conditions of life to which the unfortunate patients are necessarily exposed. The fact that they are commonly present in the ordinary form of chorea also would suggest that the second explanation is the more probable one.

THE RELATION BETWEEN PNEUMONIA AND PULMONARY TUBERCULOSIS.

It would naturally be surmised that lungs the seat of tuberculosis would be particularly predisposed to pneumonic inflammation, and vice versa; but the evidence that exists is, to say the least, not conclusive, and the question seems to be one worthy of more consideration than has been devoted to it, in order that a definite answer may be secured.

Philip[1] makes the statement that in his experience the supervention of pneumonia in the course of pulmonary tuberculosis is by no means uncommon, the reciprocal influence of the one disease upon the other being variable. Tuberculosis is not rarely observed in the lungs after death from pneumonia. On the other hand, in the study of one thousand cases of pulmonary tuberculosis in only .5 per cent. did there seem to be any close relation to pre-existing pneumonia. Liability to error in this connection may arise from failure to observe that a pneumonia that has been looked upon as having developed as a sequel of pulmonary tuberculosis has in reality supervened in an already tuberculous lung. In the second place, the results of delay in the resolution of the pneumonic process may be mistaken for tuberculosis. Finally pulmonary tuberculosis may set in acutely and simulate pneumonia, and if not correctly diagnosticated at the time, but recognized only later, it may erroneously be considered the product of an unresolved pneumonia.

PEPTIC ULCER OF THE ESOPHAGUS.

Ulceration of the stomach is a relatively common disorder, and is supposed to result in most cases from the digestive action of the gastric juice on portions of mucous membrane whose vitality is impaired by reason of blood-depravity, circulatory disturbances or traumatism. Usually a single lesion is present; occasionally there are several. The ulceration is situated most commonly on the posterior wall of the stomach, near the pylorus. Rarely the duodenum or the esophagus is also involved in the morbid process; while involvement of the stomach, duodenum and esophagus must be considered as unique. Such a case, however, has recently been placed on record by [illegible]. The patient was a man, 65 years old, who had long suffered from symptoms of chronic gastric catarrh, ascribed to alcoholic excess. At the age of 58 symptoms of esophageal obstruction made their appearance, but these improved under treatment with bougies. There was no history of the swallowing of corrosive agents, nor of unduly hot food, and no evidence of syphilis nor of tuberculosis. Death occurred amid symptoms of chronic nephritis and myocardial degeneration. The autopsy disclosed, in addition to these conditions, the presence of thrombi in both ventricles of the heart, chronic mitral and aortic endocarditis, chronic deforming sclerotic and atheromatous endarteritis, with mural thrombi of the aorta, hemorrhagic infarction of the lung, multiple hemorrhagic erosions of the mucous membrane of the stomach, two peptic ulcers of the stomach close to but not involving the cardia, two peptic ulcers of the duodenum, a large annular ulcer involving the lower third of the esophagus, with three deeper longitudinal areas of loss of tissue and hypertrophy of the muscular coat of the esophagus. Microscopic examination of the stomach, duodenum and esophagus disclosed the presence of a chronic catarrhal process and a thickening of the mucous membrane, with the histologic alterations of peptic ulceration. The esophageal lesions appeared to be the earliest and the duodenal the most recent. The ulcerative process was attributed to thrombosis that was found in the respective vessels.

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[1] The Journal, March 3, p. 539.

[1] Deutches Archiv. f. Klin. Med., Bd. lvi, p. 517.

[1] Practitioner, February, 1900, p. 145.

MENINGITIS AND MENINGEAL SYMPTOMS.

Epidemic meningitis is ushered in with a chill, pain in the back, vomiting, possible convulsions, rigidity of the neck muscles, explosive vomiting, headache, and photophobia. These symptoms furnish a comparatively significant picture and one which usually leads to a diagnosis of meningitis. The gravity of the situation is felt by the physician, and the friends of the patient are informed that the case is one of "brain fever." It is not an infrequent experience to have such a one change for the better very rapidly, just as in some other cases all of the symptoms may increase, the convulsive phenomena become more marked, the fever higher and the patient rapidly pass into a state of coma, and die with the general symptoms of cerebral compression. A remarkable variation of the severity of the symptoms in these different cases is furnished by an occasional one which comes to post-mortem examination. Here it is found that persons, who, during life exhibited the typical symptoms, were found to present not the slightest trace of this condition. It is not probable that a severe inflammation of the meninges could occur without leaving marked changes which would be apparent on close inspection. Such cases furnish a key which enables us to unravel the slight or abortive cases of meningitis which are met with in practice. In reality they are not cases of meningitis at all, but are due to irritations of the cerebral cortex due to a toxemia. Clinically, it is impossible to distinguish between such cases and those due to true inflammation of the membranes of the brain. One of the most important diagnostic points relates to the development of herpes. If such an eruption takes place on the skin, there is great probability that the disease is a true inflammation of the meninges. Another point is in relation to the development of spinal symptoms. If there are well-marked signs of involvement of the spinal meninges, it is presumptive evidence that there is an inflammation of the membranes of the spinal cord. In the absence of these and of skin eruptions, and the presence of preponderating cerebral symptoms, one can not with certainty differentiate between meningeal symptoms and those dependent on the phenomena of inflammation with pathologic exudates in the meninges. The termination of the case frequently clears the diagnosis. If the patient recovers without obvious structural change in the nervous system, the affection may be safely classed in the symptomatic group; paralysis, imbecility or a fatal termination always means a septic process with inflammatory exudate.

TRAUMATIC RUPTURE OF THE BILE-DUCT.

The various kinds of accidental injuries that it may fall to practitioners to treat are almost without number. While some are frequent, well-known and readily recognized, others are so rare as to be almost unique and correspondingly easy to overlook. One of the rarest is traumatic rupture of the bile-duct. It is therefore proper to note some of the more prominent features of the example of this injury recently recorded by Garrett[1]. A man, 21 years old, and carrying a beam on his shoulder, fell, striking his abdomen across the beam on which he had been standing; as he fell the beam on his shoulder glided down the back and exerted force opposite the anterior blow. Some shock followed gradually. The abdomen became tympanitic, but the tympanites was relieved by turpentin. There were no special symptoms until on the tenth day, when fluid was found to have accumulated in the abdominal cavity. Six quarts of yellowish-green fluid were withdrawn and a diagnosis of rupture of the gall-bladder made. Four days later four more quarts were removed, and again in three days. In the meantime the patient was walking about without much inconvenience. At the operation, on the twelfth day after the injury, the abdominal cavity was found again filled with greenish fluid; adhesions were present everywhere; the gall-bladder was empty and retracted; a rent was found "at the back of the upper part of the common bile-duct;" a funnel-shaped tract down to the foramen of Winslow was walled off with gauze. No attempt was made to suture the tear. At first the wound gave exit to large quantities of bile; the stools gradually acquired their natural color and perfect recovery with definitive closure of the wound took place. Walter Spencer has reported a rupture of the common duct in a boy, run over by a hansom-cab. Progressive emaciation and jaundice developed; death occurred on the thirty-third day, and the autopsy revealed the duct torn off near its entrance into the duodenum. Miles F. Porter studied a case that came under his observation on the thirtieth day after the accident. Ten pints of dark-colored bile were evacuated through a median incision; two tubes were inserted; the patient continued to fail and died forty-eight days after the injury. Post-mortem showed a

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Deutsches Archiv f. Klin. Med., B. lxvi, p. 571.

[1] Annals of Surgery, 1900, xxi, 227.

complete division of the bile-duct at about its middle, and a large subdiaphragmatic abscess. Kernes has recorded a case in which a laparotomy was made, the peritoneal cavity cleansed and closed and in spite of pulmonary complications the patient completely recovered. It is noteworthy that peritoneal infection does not take place readily in this interesting form of injury, thus giving the surgeon good opportunity to do what can be done to secure the re-establishment of the biliary passages. It is quite evident that the sooner this can be done the more promising the outlook. Undoubtedly an experimental surgical study of rupture or division of the bile-duct would throw some light on the process of reunion of the severed duct and the best method to secure union.

RIGID SPINE.

This peculiar symptom-complex has been variously termed rheumatoid arthritis of the spine, spondylose rhizomélique, etc., and is a fixation of the vertebral segments. In the moderate degrees of this affection, the patients move with their back "all of a piece." In stooping, it may be accompanied with some movements of the hips, but usually it is a flexion of the knees and not a bending forward at the hips. At first, certain segments of the spine, notably the lumbar and cervical regions present the most marked limitation of motion. Gradually these become fixed and sometimes extension and flexion of the head are impossible. Usually, however, this last movement is retained, but there is some limitation to rotation of the head and practically little or no movement between the segments of the vertebræ. A careful study of these cases has revealed a varying pathology. In some the bodies of the vertebræ are affected, in others the intervertebral fibrocartilages. Spiculi of bone are seen growing from the body of one vertebra to that of another, so that the spine is locked by a bony union in a firm ankylosis. The position of the spine may be erect on the hips when in this position, or, what is more frequent, the body is stooped forward and the patient is unable to assume an erect position. In extreme cases the body may be carried forward at almost a right angle, the patient walks with difficulty and his condition is most unfortunate. It is only when we meet with marked cases of this disease that a diagnosis is made, but without question, a large number may be found in whom the condition is not marked. It is attributed to advancing changes in old age, or the frequent diagnosis of rheumatism is made. One of the most striking peculiarities of this disease is its presence in cases in which the bones are not involved. In all varieties the movements of the ribs and of the extremities remain quite free. In other cases it seems to be associated with the ordinary rheumatoid arthritis, and to be an expression in the vertebræ of a process similar to that found in the extremities. An analysis of the cases so far published would show that they fall into three fairly-well-marked groups. In one we have symptoms similar to those grouped under rheumatoid arthritis, and other joints, particularly those of the hands and toes, are involved at the same time. A second group includes those cases in which the interarticular fibrocartilages are involved, or in which spiculæ of bone connect adjacent segments. A third, and perhaps the most interesting class, comprises those in which there is found, during the patient's life, the marked symptoms of bony ankylosis in the vertebræ, yet at the post-mortem no changes can be noted in the bones, cartilages, or ligaments of the spine. This group seems to belong to the purely nervous affections; the exact changes in the nervous system have not been determined.

SPECIFIC TREATMENT OF DIPHTHERIA.

While there can be no doubt of the therapeutic utility of the antitoxin in the treatment of diphtheria, this specific remedy is susceptible of still more extensive use than it has as yet been submitted to. Although the preparation is a comparatively expensive one, this fact should weigh lightly against its life-saving properties, and in many large cities even the poorest need not want for it, as it can be secured gratuitously from public laboratories for use in needy cases. The time has come when failure to use the antitoxin in the treatment of diphtheria must be considered no less malpractice than omission to practice vaccination as a prophylactic against smallpox, to use mercury and iodin in the treatment of syphilis, quinin in the treatment of malaria, salicylates in the treatment of rheumatism and atropin in the treatment of opium poisoning. The successful results reported from all parts of the world are merely corroborated by the results obtained in Australia, as exhibited in a communication on this subject by A. Jefferis Turner[1]. From carefully kept records of the Brisbane Children's Hospital, it appears that from July, 1889, to January, 1895, before the employment of the antitoxin was inaugurated, there were 303 cases of diphtheria received, among which 128 deaths occurred—42.2 per cent.—while from January, 1895, to August, 1899, there were 317 cases received, among which 40 deaths occurred—12.6 per cent. The results were less favorable in the earlier part of this latter period than in the later part, because small doses of weak serum were employed, but the results were better than they had been previously without the antitoxin. With increasing experience it was found that in mild cases seen early, from 600 to 1000 antitoxin units suffice, but in desperate and advanced cases, from 4000 to 8000 and even 12000 may be necessary. The mortality among 147 laryngeal cases treated prior to the antitoxin period was 59.2 per cent—87 deaths—while among 177 cases of the same class treated since the antitoxin has been employed. the mortality was 18.6 per cent.—33 deaths. Of the former, recovery occurred in 8.4 per cent.—12 cases—without operative intervention, of the latter in 38.4 per cent.—68 cases. Among 166 cases requiring intubation or tracheotomy or both during the pre-antitoxin period, there were 109 deaths—65.7 per cent.—while among 109 requiring the same procedures during the antitoxin period, there were 31 deaths—28.4 per cent. A summary of these results may be expressed as follows: Of 100 cases of diphtheria with laryngeal involvement treated before the use of the antitoxin, recovery ensued in eight without operative intervention, and in 33 after intubation or tracheotomy, and death occurred in 59; while of the same number of cases treated with the antitoxin in sufficient dosage, recovery ensued in as many as 40 without operative intervention, and in 45 after operation, and death occurred in only 15. Statistics like the foregoing would be wearisome repetition were there not a gradually diminishing few who remain unconvinced of the efficacy of diphtheria antitoxin, and a somewhat more considerable number who do not use this powerful therapeutic agent with the constancy it deserves and in doses sufficient to insure the best results.

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[1] Intercolonial Med. Jour. of Australasia, Dec. [illegible] p. [illegible]

PATHOLOGY OF TABES DORSALIS AND GENERAL PARALYSIS.

There is probably no question of modern neurology so encumbered with the weight of a superimposed pathologic structure built by many investigators as this of the essential lesions of tabes dorsalis and general paralysis of the insane. A few months only have gone by since Biswanger, who had made a careful examination of a large number of brains of persons dying of general paresis, announced that he believed that characteristic microhistologic changes pathogenic of this condition did not exist, while on the other hand Bevan Lewis, in the new edition of his text-book on mental diseases, reprints without much change the cut and dried opinions that have served the student of psychiatry for the past ten or fifteen years. In a recent discussion before the London Pathological Society[1], Dr. F. W. Mott presented a communication on this subject, which was widely discussed by most of the prominent London alienists and neurologists. He confined his remarks more particularly to that group of cases in which the coexistence, sooner or later, of tabes and of general paresis, is to be found. In many of such, the tabes is known to begin with mental symptoms, or cerebral disturbance develops during an attack of one of its crises; again a certain number of cases of general paresis show symptoms of tabes during life, and on autopsy yield the typical pathologic pictures of posterior sclerosis. Those of still another class begin as tabes and ultimately develop general paresis. Inasmuch as there are these interrelated syndromes which occur so frequently, and since in certain particulars the diseases show analogous forms, Mott has come to the interesting conclusion that pathologically the disease processes are identical. He believes that a progressive degeneration of the neuron with secondary sclerosis and inflammatory or sub-inflammatory conditions in the vessels or adjacent membranes is always to be found due to irritation caused by the products of degeneration, and a formative proliferation of the neuroglia elements. In tabes the degenerative process affects the first or afferent—the sensory—neuron almost exclusively, and the degeneration in the posterior columns is secondary, and corresponds, when complete, with that obtained by cutting the posterior roots. In general paresis the terminal neurons, those in the cerebral cortex, are degenerated. With reference to the syphilitic origin of these diseases, the opinion is expressed that whereas it was probable that syphilis was the most important element in their production, it was also certain that some cases did originate in patients who had had no syphilitic infection.

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[1] The Lancet, Nov. 25, 1899.

Medical News.

DR. THURSTON SMITH, Bloomington, Ind., will go to the Philippines as acting assistant-surgeon, U. S. A., with rank of first lieutenant.

THE NEW County Insane Asylum, Bridgeton, N. J., will be opened April 1. The patients of Cumberland County, now at Trenton, will be transferred to this new building.

CHARLES R. BARDEEN, A.B., Harvard, 1893; M.D., Johns Hopkins, 1897, assistant in anatomy in the Johns Hopkins Medical School, has accepted the appointment of professor of anatomy in the University of California.

DR. ALFRED REGENSBURGER, professor of dermatology in the College of Physicians and Surgeons, San Francisco, has left for Paris, where he will attend the International Convention of Dermatology and the Congress of Medical Jurisprudence late in the summer.

SIR WILLIAM MACCORMAC, president of the Royal College of Surgeons, who went to Africa at the beginning of the Transvaal War, as consulting surgeon, sailed for England on March 3. No reason is given, in the dispatches, for this action at the time it would seem his services were most needed.

DR. GEO. F. BUTLER, Chicago, will assume charge of the Alma Sanitarium, Alma, Mich., May 1, succeeding Dr. E. S. Pettyjohn, who resigns the superintendency. He will spent a year in rest and medical study abroad. Dr. Butler will continue with his work in the College of Physicians and Surgeons.

MARCEL BAUDOUIN, who some years ago founded the Institut de Bibliographie at Paris, now supplements this by publishing a monthly record of current medical literature, the *Bibliographia Medica,* "modeled on the *Index Medicus,* of which it will continue the scientific traditions" with certain improvements. The *Bibliographia* is to contain four thousand titles at least, in its eighty pages each month, and the subscription is $12 a year. The first number appeared February 15.

CARE OF SMALLPOX PATIENT.—A physician living at Lawrence, Mass., who recently cared for a patient with smallpox in a house belonging to the former, has presented a bill to the Board of Health for $10,153.30, itemized as follows: injuries to practice, $1500; medical services, $600; board, $108; board of nurse, $105; special cooking, $168; bedding and furniture destroyed, $56.50; loss of income, $600. The sum of $7500 is asked for the use of his house.

PILGRIMAGES FORBIDDEN.—The Russian Government has forbidden the annual pilgrimage to Mesopotamia, as the plague is known to exist in the provinces of Assyr and Yemen in Arabia, and sporadic cases at Mecca and Djeddah, while it is raging in India with greater intensity than ever. Cholera also has appeared in Arabia, but no other government has interfered to put a stop to the annual pilgrimages. The stream of pilgrims is already numerous. The *Sem. Med.* states that over nine thousand had crossed the Suez Canal on the way to Mecca by Dec. 31, 1899, and the movement is still at its height.

PRICE OF DRUGS AND THE WAR.—According to newspaper reports, on account of the war in South Africa, and partly also it may be from some commercial enterprise, the price of drugs has lately taken a great advance. Cocain, quinin, aqua-ammonia, fluid extract of ergot and iodid of potash, for all of which there is constant demand, have advanced in price, some of them more than double. Carbolic acid has almost doubled in price; this is said to be due to its demand for the production of explosives, which has diminished its export from Great Britain. The advance in these drugs has favored the general advance in others. The Chicago druggists deny the above statements, which come through the New York papers, as to the increased price of drugs at the present time.

Death Under "Christian Science."—Another case has been added to the already not inconsiderable list of deaths that have been attributed to parental ignorance or blindness and "Christian Science" treatment. The victim this time was the 13-year-old daughter and only child of a real estate dealer living in Jersey City, N. J. The child was ill with typhoid fever, and for a time was attended by two physicians and two trained nurses, but when the physicians refused to say positively that they could cure the child, the parents were persuaded to call to their aid some members of the First Church of Christ. These people proceeded to stop all medicines, and all food except what the child would take voluntarily, and spent their time in sitting in the back parlor "treating the child through the mother." Finally the nurses thought they detected faint signs of improvement, and besought the mother to recall the physicians. The mother consulted her "Christian Science" friends, with the result that the nurses were rebuked for having bothered the mother. After having lain for five days without nourishment or medicine, the little one died, and the physicians formerly in attendance very properly refused to make out a death certificate. The case was brought to the notice of Health Inspector Benjamin, who decided that the City Board of Health had no jurisdiction, but thought the matter might be reviewed by the county board.

Progress of the Plague.—The *British Medical Journal* of February 24 reports that 7 cases of plague have occurred in New Caledonia with 4 deaths, among whites, and 27 cases with 14 deaths among the Chinese and Kanakas. The disease was not recognized until Dec. 27, 1899, but is limited to one quarter of Noumea. Danger of infection is great on account of frequent communication by steamer between this port and the Australian colonies. No cases of plague have occurred in Oporto, Portugal, since January 16. In India, on February 6, the deaths in Bombay numbered 408 from all causes, the worst previous record for one day being 392. During the first week of February the deaths from plague declined from 478 to 391, this being the first decline recorded since the week ending Nov. 3, 1899, but it is probable that there was incorrect registration and the decline only an apparent one. In Mauritius, during the week ending February 15, 7 new cases of plague occurred and 7 deaths. The disease has entirely disappeared from the capital of Madagascar, where, from the outbreak, July 23, 1899, 52 cases occurred and 39 deaths, only one being a European. The plague continues to exist at Santos but is not severe. According to reports brought by the *Aorangi*, which arrived at Victoria, B. C., March 1, from Honolulu, three new cases of plague were reported there February 19, the first in ten days—two days before she sailed. The latest advices indicate that the plague has reached the United States from Honolulu. It is announced that the disease which was thought to be beri-beri, which found 17 victims on the Japanese steamer *Nippon Maru*, has turned out to be the bubonic plague. This is denied, however, and it is evident that as yet the nature of the disease is doubtful. A case of supposed plague has been reported in Chinatown, San Francisco, but this, too, is denied, and is yet in doubt. The steamer *Kilburn*, from Rosario, Argentine Republic, with 3 cases of bubonic plague on board, is reported to have arrived at Cape Town, South Africa. In Calcutta, the disease is said to be on the increase, 411 deaths having occurred during the past week. Buenos Ayres has also a number of cases officially reported.

Medical Service in the Transvaal.—The Princess Christian Hospital, a recent gift to the British Government, is being shipped from Southampton to South Africa. It will have accommodation for 100 beds, with operation, nurses', bathrooms, etc., and is of corrugated iron, to be hung inside with greenish-tinted canvass. A Roentgen ray apparatus and all the latest inventions for localizing foreign bodies accompany the other fittings for the operating-rooms, according to *The Lancet* for February 24, which also contains further news from Sir William MacCormac and other war correspondents. He describes the medical arrangement of General French's forces, as they were at Rensberg, where there was a complete field hospital fed by two half field hospitals, one at each flank of the forces. He says that the Boers had two very good hospitals at Colesberg, one a railway station, the other a church. A writer in the *British Medical Journal* of the same date describes "gutter" wounds of the skull. In these the skull is grazed to a greater or less depth but the wound heals rapidly and the grooving of the bone easily escapes detection. However, when the skull is even lightly touched there is liable to be a fracture of the internal table, and trephining for following cerebral symptoms reveals more marked underlying damage than was expected. Helmets worn by the men seem to afford considerable protection. Of the 508 deaths from disease in South Africa at the time of the writing, 240 were from enteric fever.

PENNSYLVANIA.

By the will of Emma E. Ramage $300 has been left to St. Joseph's Hospital, Reading, and $200 to the Reading Hospital.

MEDICAL STANDARD IN PENNSYLVANIA

After a conference held in Harrisburg, Pa., February 26, the following resolution was adopted regarding the standard required by the State Medical Council of Pennsylvania: "*Resolved*, That in the judgment of the Council, when the medical course of a literary course as proved by the examination of the student by the medical college, covers the entire work of the first year of actual medical study, such course may be accredited by the medical college as the first year of medical study prescribed by law."

Philadelphia.

Dr. Benjamin Lee has been appointed Sanitarian of the State Board of Agriculture of Pennsylvania.

By the will of Anna Bethary $1000 has been left to St. Mary's Hospital.

It is announced that a site has been chosen for the Children's Hospital of Germantown. The place selected is on Price Street above Evans.

A man has been arrested and placed under $500 bail for promiscuous advertising of obscene matter. He had seven carriers distributing pamphlets advertising a proprietary nostrum.

A meeting of the Board of Directors of the Pay Hospital for Contagious Diseases has been held and a site chosen. The sum of $700 was realized at the Reception recently given by the officers of this hospital.

A committee of students from the Woman's Medical College of Pennsylvania have sent a signed petition to the mayor, asking that members of their college be appointed to positions on the Examining Board of the Philadelphia Hospital (Blockley).

As a result of competitive examinations of the Philadelphia School of Anatomy, the first prize was awarded Dr. William J.

[illegible] of Asbury Park, N. J., for the best paper on that same topic. The second was awarded Dr. William [illegible] of [illegible], for the best practical essay, also on the subject.

Councils' Health Committee has determined to practice filtration. It will be on a small scale at first, and will be put in operation at a small public school of the city. $5000 has been appropriated for that purpose. This is supposed to be only a preliminary step in the inauguration of larger plans for the filtration of the city's water-supply.

WOMAN'S HOSPITAL.

The patients in the hospital on Jan. 1, 1899, numbered 53; admitted in 1899, 985; treated in 1899, 1038; treated in different clinics, 5425; visits to clinics, 20,496; new cases visited at home, 848; visits to patients at home, 2937; births in the hospital, 205; operations, 690; prescriptions, 28,369.

MORTALITY STATISTICS.

The number of deaths occurring during the past week was 509, an increase of 101 over those of last week, and an increase of 30 over the corresponding period of last year. The principal causes were: apoplexy, 27; nephritis, 45; cancer, 11; tuberculosis, 66; diabetes, 2; heart disease, 49; influenza, 3; appendicitis, 2; pneumonia, 96; peritonitis, 10; rheumatism, 2; septicemia, 6; suicide, 3.

MONEY FOR HOSPITALS.

ACCORDING to the promise of Congressman Joseph C. Sibley of Pennsylvania, that he would divide his salary for his two years' term among the five hospitals of his district, the projected hospital at Franklin has received $1000, and a similar amount went to hospitals located at Oil City, Warren, Bradford and Kane. At the end of his term each hospital will have received $2000.

LECTURES.

A series of "Emergency" lectures for the benefit of the Cuban Orphan Society will be given in this city at an early date, as follows: "The Care and Nursing of Fever," by H. A. Hare; "Practical Bacteriology," by D. Braden Kyle; "Immediate Treatment of Some Emergencies," by Edward Martin; "Poisons, Their Antidotes and Treatment," by J. A. Scott; "Common Disease of the Ear, Nose and Throat," by Ralph W. Seiss; "Hygiene of the Eye," by George E. de Schweinitz.

TRAINED NURSES.

An active effort is being made among trained nurses of this city, to have Congress pass a bill providing for the employment of graduate women nurses in the hospital service of the United States Army. The Alumnæ Association of the Pennsylvania Hospital seems to be at the head of the movement. A ten weeks' course for training nurses has been established by the Philadelphia Nurse Supply and Medical Dispensary, to give instruction, to young women, in the practical details of nursing, and to offer to mothers the opportunity of obtaining that information to the best advantage. Diplomas will be issued to those who comply with the requirements. The opening lecture will be given by J. Madison Taylor, March 19. Other lecturers are J. Chester Morris and J. W. O'Neill.

NEW YORK.

A BILL appropriating $82,000, for improvements at the Craig Colony for Epileptics, has been passed in accordance with the recommendation noted in these columns last week.

QUARANTINE POWER.

The assembly has passed a bill extending the powers of the Health Officer of the Port of New York. The act is designed to remove a hitherto existing conflict of jurisdiction between the quarantine commission and the health officer, and clearly defines the powers and duties of the latter. More discretion than he now possesses in dealing with persons and vessels placed in quarantine is given him, and infectious, as well as strictly contagious diseases are placed under his supervision. Special powers are conferred in regard to vessels arriving which have on board persons suffering from bubonic plague. It is also provided that the incarcerated remains of persons who have died of infectious or contagious diseases shall be kept by the health officer until claimed by relatives or friends.

INSPECTION OF SOCIETIES.

Governor Roosevelt has openly expressed himself as in favor of a proper law which will empower the State Board of Charities to visit and inspect the various societies for the prevention of cruelty to children. He does not, however, intend giving the Board the power to supervise such institutions and make regulations for their government. The bill now before the legislature, which is expected to accomplish this result, is the one drawn up by William R. Stewart, president of the State Board of Charities. As usual Commodore Elbridge T. Gerry has appeared, to oppose the measure with all his might. The very eagerness and persistency of his opposition would seem to most people to be an argument in favor of the legislation asked for.

New York City.

PLANS HAVE been filed for a new building, to cost $40,000, and to be erected by the city on Blackwell's Island, as a nurses' home.

A RECENT graduate of the Long Island College Hospital is an Austrian prince, Dr. Francis Auersperg. He has been living in New York City, but has just been appointed to the staff of the Bayonne Hospital.

INSANITY FROM "CHRISTIAN SCIENCE" TREATMENT.

In a communication that has been addressed to the Department of Charities, a physician of Brooklyn certifies that Rachel Kropnitzky, 15 years of age, is suffering from acute religious mania due to the influence of a "Christian Scientist," who attempted to cure her of deafness. The girl has been deaf for several years, and after treatment without satisfactory results, by a number of private physicians and at various hospitals and dispensaries her parents were induced to take her to one Julia Benjamin, a "Christian Scientist" healer living in the Borough of Manhattan. According to the statement of the mother, some ten visits were paid at the office of the alleged healer, who charged her $1 a visit. While undergoing the treatment she developed signs of mental aberration, and finally became violently insane. Prosecution will follow.

CONDITION OF DURYEA.

Once more there is new hope aroused in those who have so steadfastly watched at the bedside of Walter B. Duryea, the young man who fractured his cervical vertebræ while diving in shallow water last August. It was reported some weeks ago that in spite of the operation done last September, and the encouraging improvement noted soon afterward, the patient was steadily sinking, and must soon yield to the inevitable. It is now announced that one week ago Sunday he was able, for the first time, to sit upright and propel himself in an invalid chair, and that the attending surgeon, Dr. Robert Abbé, considers his condition better than at any previous time since the accident.

A LEPROUS PASSENGER.

The medical officers at the immigration bureau detected, among those passing before them, a case of leprosy in a young man who had just come from Bridgetown, Barbados. He is a quadroon, and, according to his own statement, was unaware of the nature of his malady. He said that he had had some skin affection for several months, and had been told by several physicians that it would disappear if he went to a colder climate. It was his intention to go to Canada. He was sent back to the steamer to be returned home.

FASTING FOR HEALTH.

Mention was made recently in THE JOURNAL of the self-inflicted fast of a feed merchant of this city. He fasted thirty-five days, i. e., from January 22 to February 26, during which time he drank, on an average, three pints of water daily, but abstained from all food. His object was to reduce his weight and improve his general health, and he stated at the outset that he would break his long fast as soon as he began to feel extremely hungry. When he broke his fast he began by taking two oranges, two-thirds of a cup of beef tea, half a cup of ordinary tea, five crackers and a dozen oysters. With the exception of the first two or three days of his fast he did not feel intensely hungry. He has been watched with much interest by Dr. Frank B. Carpenter and Prof. R. Ogden Doremus. His weight at the commencement of the fast was 207, and at its completion 164 pounds. At the beginning his chest measure was 43½, and at the end 38 inches. He says that he feels vastly better than before undertaking this prolonged abstinence from food, and this was also his experience in a somewhat shorter period of fasting which he imposed on himself about one year ago.

MARYLAND.

AN ATTEMPT is being made to emasculate the medical practitioners' bill, now before the legislature, by exempting the graduates of Maryland colleges from examination by the State Board of Examiners. It is sad to say that the opposition seems to come from one or more of the colleges.

THE PHARMACY bill, as reported by the Committee on Hygiene to the House of Delegates, allows the sale of patent medicines by merchants, and the registration as assistant pharmacists of persons who have had two or more years' practical experience in pharmacy.

THE LUNACY bill—the features of which were mentioned previously in these columns—will not, it now appears, pass. Its chief objects were to provide greater protection for the insane in their commitment to hospitals and to place the insane of the state more under the control of the lunacy board. The objection was chiefly based on the alleged publicity of commitment to which the law would lead.

Baltimore.

RECENTLY Drs. Howard A. Kelly, William Osler, William H. Welch and W. S. Halstead, of the Johns Hopkins University, were elected members of the Washington Academy of Sciences.

UNDER THE new charter of Baltimore, a vaccin physician is allowed to every two wards, so that it is now necessary for the new health commissioner to drop ten of the twenty-two present city vaccin physicians.

DR. JAMES BOSLEY has been appointed health commissioner of Baltimore, with a salary of $3500. Dr. C. Hampton Jones, the late commissioner, becomes assistant commissioner, with a salary of $2000.

THE COMMITTEE of the Maryland Public Health Association, having the matter in charge, has decided that the memorial to the late Dr. George H. Rohé shall be a bronze protrait tablet, to be set up in the building of the Medical and Chirurgical Faculty. A Rohé alcove will also be established in the library, to be devoted to works on hygiene.

ILLINOIS.

DR. J. L. SHEPARD, Galesburg, starts for Manila, April 1, as surgeon in the United States Army.

THE EVANSTON Woman's Club has petitioned Congress to establish a department of nursing in connection with the army and navy.

Chicago.

THE MEDICAL inspectors of schools have examined 4079 pupils, and of that number excluded 248 because of the danger of infection.

TEST IS to be made in the courts, of the Board of Education's regulation that pupils who have been absent from public schools more than four days shall not be readmitted without a medical examination by one of the board's inspectors

THE TOTAL mortality during the past week was 537. This is practically the same as the week previous, and thirty less than the corresponding week of 1899. Pneumonia and bronchitis show a marked increase, due to the extreme severity of the weather.

DR. ARTHUR R. REYNOLDS, commissioner of health, recently addressed a letter to the surgeon-general of the army, relative to the danger of importing bubonic plague by bodies shipped from the Philippines, and suggesting that such shipment be discontinued until the plague ceased to exist in the islands.

AN EX-CONGRESSMAN here recently secured a divorce from his wife on the grounds, as reported, that she believed in faith cure. He claims that she was so engrossed in this "cure" that she neglected to give him the attention she should have. The suit went apparently by default, no opposition being made by the defendant.

IOWA.

THE PRENTICE bill, which was to turn over the entire management of the Cherokee Asylum for the Insane to the Homeopaths of the state, failed to pass the Iowa legislature 63 to 37.

THE IOWA Methodist hospital people have purchased in Des Moines, the Callahan College Campus, of about eight acres, for $50,000, and propose to put as much more in in changing the old buildings and in other modern hospital ones.

THE WORLD'S Medical Congress and Paris Exposition Excursion, under the auspices of the Iowa State Medical Society, as planned by its secretary, Dr. J. W. Cokenower, Des Moines, is proving very popular, and many have secured transportation on the chartered *City of Rome*, which leaves New York June 30.

IOWA SHARED with her sister states in the smallpox scare, but fortunately only a few towns had any cases and, owing to strict quarantining, the disease did not spread and no deaths were reported. Youngstown, a small mining village four miles east of Des Moines, seemed to have had the most cases, yet all patients convalesced and quarantine will soon be removed.

TWO IMPORTANT amendments to medical bills are now pending in the legislature, one to prevent medical local, or itinerant, "quacks" from sending their agents over the country securing notes for "sure cures," etc., and the other to amend and to put in force the "five year" act which was passed a few years ago.

COLORADO.

Denver.

ADDRESS BEFORE DENVER AND ARAPAHOE MEDICAL SOCIETY.

In addition to the usual papers, "addresses" are now given at each meeting of the Society, on some important topic in medicine. They are limited to twenty minutes each and are not followed by discussions. This innovation has found favor with the profession. Two meetings were held in February, and the following addresses delivered: "Physiology of Digestion," by Dr. C. B. Van Zant; "Indigestion," by Dr. E. P. Hershey; "Notes on Fractures," by Dr. C. A. Powers, and "Practical Methods of Detecting the More Common Pathogenic Bacteria," by Wm. C. Mitchell.

A SCHEME EXPOSED.

One of the prominent daily newspapers in this state proposes to issue a work, entitled "Fifty Years of Medicine and Surgery in Colorado," to be published by subscription, and is circulating the prospectus among physicians, asking their indorsement of the project and getting subscriptions. As it has been represented that the work is in the interest of the profession of Colorado, the matter has been taken up by the Denver and Arapahoe Medical Society, and its Board of Censors has investigated it and reports that the scheme is a purely commercial one, which, in the form proposed, would be of little authoritative value to the public and of none to the profession, while the biographic portion, by including those outside the so-called regular profession, and being personally laudatory, would certainly depreciate the profession of the State in the estimation of the profession at large. Since the work already has the qualified personal indorsement of a number of Denver men, which may lead to the impression that it has the sanction and approval of the general profession here, the Society deems it proper to inform those interested of its adverse opinion, and to say that it has advised its own members to withhold their indorsement and not permit their biographies or portraits to appear in it.

NO SLOT TELEPHONES.

The nickel-in-the-slot telephone has been introduced lately into all drug stores. The physicians compose the bulk of subscribers to the telephone company, and yet patients and physicians were deprived of the means of intercommunication unless five cents were deposited in the slot. The county medical society appointed a committee to interview the manager of the company, and no toll will be exacted in the future from patients calling physicians, or from physicians communicating with them.

HISTORY OF THE DENVER AND ARAPAHOE MEDICAL SOCIETY.

This society has decided to celebrate its 30th year of existence in 1901. Dr. C. K. Fleming, the president of the Society, appointed a committee consisting of Drs. C. D. Spivak, W. P. Munn and W. C. Mitchell to search the records of the Society and to arrange and prepare for publication such historic data as will throw light on the growth and progress of the Society.

VICTIMS OF CHRISTIAN SCIENCE.

During the last few months the daily press has reported several deaths among the followers of "Christian" and "Divine Science" who have refused to be treated by physicians. The health commissioner fears that the death-rate of Denver, hitherto known to be the lowest in the country, will increase in an alarming ratio. That the public at large may be able to [illegible] claimed that this decrease in mortality is due to improved [illegible] by the Christian Science. It is understood that hereafter a separate account will be kept for the [illegible] [illegible]. According to the calculation of a prominent [illegible], if the Scientists continue to treat themselves, their clan in Denver will disappear from the face of the earth before the last remaining years of the nineteenth century.

CANADA.

The graduates in medicine from McGill, Montreal, in British Columbia, will give a scholarship of $100 a year to their alma mater.

Dr. H. D. [illegible], Charlottetown, P. E. I., has been appointed to the eye, ear, nose and throat department of the Charlottetown Hospital.

Canadians drank more and smoked less in 1899. Of tobacco, 20,000,000 pounds were consumed, compared with 17,562,735 pounds in 1898. Of liquors there were produced 3,443,065 proof gallons as against 1,753,186 for the previous year. The ratio is struck at so much per head.

There is considerable excitement in New Brunswick over the vaccination of children. One child died after being vaccinated, and the statement is being circulated that there was something wrong with the vaccin given out by the Board of Health.

Dr. Charles A. Peters, McGill, '98, has received an appointment on the medical staff of the British forces in South Africa. He graduated with honors and served as resident house physician in the Montreal General Hospital.

The Victorian Order held its annual meeting in Ottawa on the 1st. It was decided to withdraw the four nurses allotted to the Klondike. During the past year two local branches have been established in Hamilton, Ont., and St John, N. B., and besides this, eight district committees organized.

Dr. N. E. MacKay, Halifax, N. S., has issued a short but succinct circular to the citizens of that city on the infectiousness of tuberculosis, its treatment, and the means necessary to prevent its spread. As chairman of the city board of health, he is pushing an aggressive "campaign of education" in regard to this disease.

ADVERTISING ABORTIFACIENTS.

The following is given as a sample of pernicious advertising in the lay journals:

> **Married Women.**—If you are irregular or troubled with suppression, write to Mrs. * * * Bridgburg, Ont., and she will send you the formula that will relieve the worst case in two to five days. No pain. This receipt has brought happiness to hundreds of anxious women.

For some time past this, like similar advertisements, has been running in the columns of local papers throughout Canada, which claim to be respectable, boast of large circulations, and set themselves up as models of rectitude and propriety for an enlightened and intelligent public to emulate. Just how close to the wind these journals are sailing as regards complicity in crime, physicians can readily appreciate, and this flagrant debasement of the boasted power of the press is a sad commentary on intellectual progress. The nauseating display of the "cures" for gonorrhea, syphilis and lost manhood, daily paraded in our public press to the gaze of all, women and children as well, should surely call for strong and emphatic protest from medical men, and medical journalists in particular. The commercial instincts of the daily press which seem to connive at crime and debauchery through such reprehensible methods are incentives to unchastity and disgrace; and a well-organized crusade should be at once inaugurated by medical journalists against these disgraceful and disgusting advertisements.

MONTREAL'S DECREASING BIRTH-RATE.

The new city council, Montreal, immediately on its inauguration began to look into the health of the city. The searchlight was turned on the Health Department, and it was found that since 1896 no returns have been prepared, nor reports made, of the workings of this department, and the laxity in this respect has been causing considerable comment among the new members of the council. In 1872, the population of Montreal was 120,759, and it has gone on increasing until last year it numbered 280,251. The death-rate per 1000 for all those years is interesting reading. Commencing with 1872 and ending with 1899 it was as follows: 27.36, 39.03, 36.23, 33.33, 34.26, 35.05, 30.51, 27.43, 26.90, 27.18, 27.12, 25.60, 26.74, 46.71, 25.36, 27.96, 28.86, 26.60, 24.80, 24.24, 24.49, 24.96, 27.27, 24.81, 21.92, 22.48, 22.94, 22.04. In 1876, with a population of 133,000, there were 6558 births, or 49.53 per 1000 of the population. In 1884, with a population of 162,959 there were 6728 births, or 41.28 per 1000. Since that year the birth-rate has been as follows: 37.62, 45.37, 43.63, 42.91, 41.33, 40.09, 43.87, 42.05, 43.53, 44.25, 40.38, 37.40, 34.76, and in 1898, with a population of 272,089 there were 9433 births, or a birth-rate of 34.76 per thousand. During the past three years, in Montreal, eleven persons who died over 100 years old were, with one solitary exception, all females. It is further stated that between the ages of 70 and 100 years, more women die than men. In endeavoring to account for the decrease in the birth-rate, the medical health officer thinks that in cities where the struggle for life is hard, there is a growing tendency on the part of the masses of the population not to have large families and that this may be the cause of the decrease. The marriage-rate is also on the decline. In 1886 it was 10.52 per 1000, while in 1896 it was 7.40, and in 1897, 7.13, and in 1898, 8, and this with an increasing population. The new health committee intends to see that these reports be completed promptly in the future and that there will be no more running behind for three years.

MONTREAL'S NEW HEALTH BOARD.

It is the purpose of the new Board of Health of Montreal to make an enviable record for themselves during the current year. Regulations have been adopted and will be strictly enforced: Concerning the inspection of milk and the prevention of the sale of an adulterated article. Concerning the injurious adulteration of food products, and, providing for the seizure and confiscation of unwholsome foods. Concerning the inspection of the drains and sanitary arrangements of houses in course of erection, and for the condemnation and removal of defective plumbing. For the closing up of buildings no longer fit for human habitation. For the inspection of schools, manufacturing establishments, and "sweat shops," and for the improvement of the sanitary conditions therein. Concerning contagious diseases, and the punishment of doctors and others who hide such cases. For the eradication of nuisances that are harmful and dangerous to the health of those who live in the neighborhood of them.

THE WEEK AMONG THE MEDICAL STUDENTS.

There is probably not a medical college in all Canada, with the single exception of the Woman's Medical College in Toronto, which has not its representatives at the front; and when the stirring news arrived on March 1, that Ladysmith had been relieved, lectures were completely abandoned, and all forsook their books, to go out and parade and cheer for Queen and country. In Toronto the students from all departments of the several universities took possession of the streets, sang patriotic songs, marched to the law courts, the city hall and the legislative assembly, demanding patriotic speeches from all celebrities whom they chanced to meet. In the latter institution they invaded the chamber of the House when in session, headed by a brawny Scot with his bag-pipes, playing "Cock of the North," and on the adjournment of the house, proceeded to make laws for the province. In Montreal, however, the celebration and jubilation seem not to have been so congenial between the students from McGill and French Laval.

Correspondence.

Our National Department of Health.

Pemberville, Ohio, March 6, 1900.

To the Editor:—For a long time past I have noticed in our professional journals letters and reports of remarks made on the subject of a proposed national board of health to be established as an individual cabinet department. All these have been of considerable interest to me and, although the majority evince a deplorable ignorance of the public health functions even now being exercised by our Government, they are nevertheless a source of great satisfaction in that they show an awakened interest in the profession in this, our most important and altruistic duty to our land.

It is quite evident that but a very small minority of our professional brethren are informed as to the existence of the U. S. Marine-Hospital Service, and apparently a still smaller number are at all acquainted with the scope of its usefulness or with the fidelity with which it has performed its many diversified duties. Yet, perhaps this is not altogether unwarranted, for it has always been characteristic of this department to perform its duties without the blare of trumpets or a display of pyrotechnics to compel the attention and plaudits of an unheeding public. It is, therefore quite probable that when, during our late yellow-fever outbreaks and other threatening epidemic invasions, reports from marine-hospital officers were noted in the journals, the readers thereof assumed the term "marine" to be synonymous with "naval," and with that dismissed the thought. I must confess to having committed the same error until about five years ago, when I learned that the U. S. Marine-Hospital Service is a distinct entity, with no nearer relation to the U. S. Navy than it is to the Postoffice Department. For the information of those who may still be ignorant of the fact, it may be stated that the U. S. Marine-Hospital Service is a bureau in the U. S. Treasury Department, in much the same manner as is the Army Medical Service in the War Department. The medical corps of the Marine-Hospital Service would, if its work were more generally known and appreciated, be a source of the keenest pride to our profession and our nation; and, therefore, it is especially pleasant to me to be able, in my humble way, to help dissipate the clouds which apparently obscure the view of so many of our professional brethren.

At present the medical corps of the Marine-Hospital Service consists of about ninety medical officers, not including contract physicians at minor ports. The members of the regular corps receive their appointment from the President, after passing a rigorous, searching examination as to physical condition as well as literary and medical training. An average grade of 80 per cent. in all branches is required, and only those who have attended these examinations can form an adequate idea of their completeness and utter impartiality. No wonder, then, that the corps consists of a body of gentlemen who, as regards intellectual attainments and professional ability, are the peers, nay, the superiors, of any similar corps the world over. Obviously the work accomplished by such a body of men can be limited only to the boundaries set by law; and such is indeed the case. The quality of the work accomplished is beyond reproach. Perhaps I seem enthusiastic in my praise, but even were it true, the enthusiasm is that which is aroused by contact with unselfish devotion to duty, such as is shown by these officers under all circumstances; for of this I saw numerous instances during service as interne at one of the marine hospitals on the Great Lakes, and hence feel fully justified in my enthusiasm.

To quote from the Annual Report (1898) of the supervising Surgeon-General of the Marine-Hospital Service, the duties devolving on the medical corps are:

1. The management of hospitals and relief-stations for the care of sick and disabled seamen of the merchant marine of the United States. During the last fiscal year (1898) over 52,000 seamen received medical and surgical care at these hospitals and relief-stations.

2. The active management of the national quarantine stations, including the steam-vessels belonging thereto. These national quarantine stations, particularly in the South, are the refuge stations for neighboring local quarantines, and for a large number of years have done the greater part of the actual cleansing and disinfecting of infected vessels. In the last nineteen years their hospitals have, with but few exceptions, received and cared for all the yellow-fever patients taken from vessels entering United States ports. These national quarantine stations are eleven or twelve in number.

3. Inspection of local quarantines, under act of Feb. 15, 1893.

4. Investigation of reported cases of epidemic disease, including bacteriological examinations and local sanitary conditions.

5. The suppression of epidemic diseases and enforcement of the interstate quarantine regulations.

6. The collection and dissemination of mortality statistics and sanitary information. A medical officer is in charge of this division of the Bureau, and each week an edition of abstracts has been issued and transmitted to all quarantine officers of the United States, to State and local boards of health, collectors of customs, and to consular officers abroad.

7. Scientific investigation into the causes of disease. At Washington the service conducts a pathologic and bacteriologic laboratory, admirably equipped for the purpose, where officers of the Service may receive special instruction. Opportunities for similar work are also granted to properly accredited representatives of boards of health. Analyses of public water-supplies, as well as pathologic and bacteriologic diagnoses, are made here, and original research of a very high order is being conducted almost continuously by members of the corps; but these by no means complete the surprisingly large list of activities of this appropriately named "Hygienic Laboratory.

8. The examination of pilots for color blindness. In the year 1898 about 1100 pilots were examined.

9. Physical examination of the keepers and crews of the life-saving stations; professional examination of their claims on account of disability, and their treatment in hospital.

10. Physical examination and treatment of the officers and crews of the revenue-cutter service, both prior and subsequent to enlistment, and medical and surgical service under special detail on revenue-cutters engaged in Arctic cruising or on other long voyages.

11. Physical examination of immigrants under the law excluding those afflicted with contagious disease. The report of 1898 shows that over 230,000 immigrants were inspected during the year at various ports of the United States.

12. Service in the office of consuls at foreign ports to assure the accuracy of bills of health given to vessels. Recently, because of the progress of the bubonic plague, about fifteen medical officers have been detailed to various European ports to inspect the emigrants before they embark; also the vessels, their cargoes and their crews. When satisfied as to the sanitary condition of the vessels and their contents, their bills of health are indorsed and the vessels proceed on their journey. It will be remembered that similar action on the part of the marine-hospital service was instituted in 1893, when a general epidemic of cholera seemed impending in Europe and it was feared that the Chicago Exposition would become a source of great danger to the public health. The observations and reports of the medical officers detailed to the various ports at that time were quite conclusive as to the advisability, yea, to the very necessity of such inspection being made permanent. The writer firmly believes that it is but a matter of time until Congress will pass an act investing the marine-hospital service with this as a permanent function. Let us hope that that day is not far hence; because, when these inspections are made at the foreign ports, many cases not strictly contagious, but nevertheless equally undesirable as additions to our population, can be prevented from embarking, although not in the category of cases which our immigration laws compel the transportation companies to return to their port of embarkation when refused admission at our ports

13. Miscellaneous duties imposed from time to time by the Treasury Department.

When the marine-hospital service was organized in 1798, its primary object was the alleviation of the misery and wretchedness which was the common lot of the sick and disabled seamen in strange ports where public hospitals were then unknown. Since then Congress has from time to time imposed additional duties on the service, until now these completely overshadow the former, in spite of the enormous increase in the number of seamen to whom relief has been furnished. By reason of years of quarantine experience and repeated contact with outbreaks of yellow fever, smallpox, and the like, a large percentage of the medical officers of the service have become experts in the care and handling of these diseases, and thus a mighty defense to the country against these merciless foes to life and health. Is it not, therefore, a very reasonable conservatism which admonishes us to make haste slowly in the doing of anything which will threaten the disintegration of this invaluable branch of our Government or impair its efficiency? In these days we hear much said concerning the desirability of a national board of health, presided over by a special cabinet officer. So far as I am able to discover, the proponents deal too much in glittering generalities, and apparently give too little thought to the serious concrete conditions which lie at the bottom of the matter. We are told that having a cabinet secretary at the head of our department of health would lend it greater dignity and give more weight to its mandates. Why this should be so is beyond my comprehension, for in my opinion it is the act of Congress, and that alone, which definitely fixes jurisdiction and authority in such matters, and its dignity depends on the standard of intellectuality and efficiency maintained by the department.

But why have two national departments of health? The promoters of the bill recently under consideration disclaim any desire to terminate the existence of the marine-hospital service as such, and the writer has no doubt concerning the sincerity of this disclaimer, because the service is performing many duties which a board of health would not voluntarily assume. To be brief, we would reward the fidelity and efficiency of the marine-hospital service by relegating it to the rear ranks. For what purpose? To again try the lamentable experiment of 1879 to 1883, which proved so eminently unsatisfactory to all concerned. With what result? With the result of once more demoralizing the work now so consicenciously being done, without any compensatory advantages or gains; for with two departments the inevitable concomitants would surely be: frequent conflict of authority in minor and major matters and consequent friction, together with indefinite location of responsibility; and they are results of no small degree of importance and peril. Let us, then, give to this subject our serious consideration of all its phases and, in obedience to the calm dictates of our better judgment, put aside the temptation to further experiment and unite in our efforts to make our present department of health more comprehensive in the scope of its usefulness. This we can do by urging on Congress the passage of acts granting all further necessary powers to the marine-hospital service, and appropriations sufficiently liberal to carry them into complete execution. In this way we will avoid multiplicity of departments, the uneconomic expenditures necessary for their support, and confusion of duty and responsibility, while we will continue to maintain in its integrity a department which has so faithfully observed the spirit as well as the letter of its orders. Having shown such rare fidelity in the past, we may confidently anticipate that the marine-hospital service will reflect still greater glory on our country and our noble profession when intrusted with larger responsibilities.

It may be a matter of general interest that the marine-hospital fund is replenished from the receipts from the tonnage tax, and that this tax in the fiscal year 1898, amounting to about $844,000, exceeded the total expenditures of the service by over $88,000. This certainly bespeaks an exceptionally economic administration, considering the manifold duties performed by the service, especially during the yellow fever outbreak in the South in the fall of 1897, and during the Spanish War, when our intimate intercourse with Cuba raised serious apprehensions for the safety of our country's health.

In the preceding paragraphs I have but briefly referred to the salient points of the subject, which is too broad to be dealt with in detail in a letter, and trust that a recital of them will lead the acquisitive mind of the reader to give this highly important matter the consideration which it merits.

In conclusion, I assume to hold no brief for the marine-hospital service, nor do I assume that it stands in need of defense, but my sense of justice murmured at the apparent absence in our profession of a proper knowledge of the work being done by this medical corps and at the consequent lack of the appreciation which duty well done deserves; and if this hasty superficial sketch succeed in drawing more general attention to the high order of efficiency attained by this unostentatious company of defenders of the health of our great country, I will feel more than compensated in the enjoyment of that refreshing sense of satisfaction which comes to him who knows that he has given "honor to whom honor is due."

Very respectfully,

L. P. H. BAHRENBURG, M.D.

Department of Public Health.

MILWAUKEE, WIS., March 6, 1900.

To the Editor: It seems desirable at this time to call the attention of members of the ASSOCATION to the fact that the Committee on Department of Public Health is actively engaged in attempting to have passed, by the present Fifty-sixth Congress, the bill which has been indorsed by the ASSOCIATION at two or three of its last meetings. The bill now before the present Congress is known as the "Spooner-Ray Bill" (S. 1440; H. R. 6618), introduced in the Senate by Mr. Spooner of Wisconsin, and referred to the Committee on Public Health and National Quarantine, and introduced in the House by Mr. Ray of New York, and referred to the Committee on Interstate and Foreign Commerce.

This bill is in every way identical with the one which was presented, together with the report of the committee, to the ASSOCIATION at Philadelphia, Denver and Columbus, and at which times the ASSOCIATION voted to adopt it. As stated by the committee on these occasions, it was utterly impossible to find a member of Congress who would father a measure to create a "Department of Public Health with a Secretary in the President's Cabinet." The Chairman of the committee was one of the last to give up this idea and worked faithfully for it for a number of years, but found it absolutely impossible to accomplish this end, and was frankly told by members of Congress that if the ASSOCIATION insisted on that proceeding they would succeed in getting no legislation at all. It was finally agreed, and the ASSOCIATION adopted the report of the committee relating to this matter, that it was better to have a bureau of Public Health in one of the departments than to have no national public health organization at all. Again, there may be advantages in a bureau of public health that do not exist in a department. It is desirable to remove such an organization as far from politics as possible, and a bureau, with its head appointed once in six years, would be much less liable to be influenced by politics than a department with a secretary to be appointed by each incoming president. So far as the practical workings of the organization are concerned, there can be no possible disadvantage in a bureau; the same results will accrue, and perhaps better results than in a department, and it is doubted by many if very much honor will result to the profession by having it represented in the cabinet of the President of the United States. In fact, the medical profession has not been a profession that in times past has cared so much for honor in public places, and a high-sounding title, but has prefered to do its work in a manner suggested by the meek and lowly Nazarene, whose followers all true physicians are or should be.

The operations of the Spooner-Ray Bill, if enacted into a law, can not fail to be of great advantage to the sanitary advancement of the country. Providing, as it does, for a medical head, who shall be well qualified for the position, and an advisory council consisting of one member from each state and territorial board of health, it practically makes a national organization of sanitary experts who are to devise ways and means for best meeting emergencies of an unsanitary nature, as they may arise, and for the study and investigation of the causes and prevention of infectious diseases both in this country and abroad. It has been suggested that if the new "Department of Commerce and Industries" is created, the Bureau of Health provided for by this bill, as well as many other bureaus now in the U. S. Treasury Department, will be placed under the supervision of that new department, thus relieving the Treasury Department, and this can not fail to be a great advance in national functions, as well as to remove these various bureaus and services as far from strictly political influence as possible.

While it is true that much time has elapsed since efforts were first put forth by the ASSOCIATION to obtain some legislation of this kind, yet public sentiment was probably never stronger than at present, and the prospects never brighter than now for securing the passage of this measure, providing the members of the profession in the various states will now do their utmost to influence their members of Congress to vote for it. The bill will undoubtedly be taken up in the Senate first, and very soon, and now is the time to urge Senators to give their attention to the matter. After it passes the Senate, which we trust and believe it will, then the attention of members of the House must be called to the measure, and due notice of the progress of the bill will be given from time to time in THE JOURNAL. It is trusted and believed that if members of the profession, who are in favor of this measure, will use their utmost influence with their members of Congress, this bill can be passed during the present session.

It should be borne in mind that Bill, H. R. 1011, a bill to "Create a Bureau of Public Health," introduced in the House by Mr. Mahon, is not the ASSOCIATION bill, but is a measure highly objectionable, and possesses none of the features as adopted by the ASSOCIATION. By calling attention to the measure known as the "Spooner-Ray Bill" only, no mistakes will be made, as that is the only ASSOCIATION bill before the present Congress, and it is also the one indorsed by the American Public Health Association, the Conference of State and Provincial Boards of Health of North America, the New York Board of Trade and Transportation, and many other medical and business organizations.

U. O. B. WINGATE, M.D., Chairman.

Medicine in the Far East.

BOMBAY, INDIA, Jan. 25, 1900.

OBSTETRICS IN CHINA.

To the Editor: One of the most unfortunate consequences of the status of medicine in China is the helpless condition that the poor parturient woman finds herself in if any serious complication occurs during her labor. I saw a woman in Shanghai, who had been in labor for one week, brought into a hospital with an arm presentation. Version was performed and a dead child delivered, but the patient died three days later from sepsis. I saw another where the presentation was normal, but the disproportion between the diameters of the pelvis of the mother and the child's head were such that the latter could not pass, and where the poor woman had been in labor for six days. A craniotomy was done and the child delivered, but extensive sloughing of the bladder, rectum, and all the lower pelvic contents followed, and the patient lingered in great agony for four days and then died. At the woman's hospital in Shanghai, that is under the charge of Dr. Elizabeth Reifsynder. I saw some other cases that illustrate the butchery to which women are subjected if the unaided powers of nature will not effect their delivery.

In China the male physician never attempts to play the rôle of an accoucher. The dignity of his position, as well as the modesty of the women, prevents him from practicing this branch of our profession. All cases of labor in the Middle Kingdom are attended by a set of ignorant midwives. If the case be a difficult or prolonged one, these depend on prayers, charms and incantations to aid in the delivery of the patient. They never attempt version, and limit their manipulations for the delivery of a retained placenta to traction on the cord. The only obstetric instrument that they possess is a heavy, curved, sharp hook. In case of an arm presentation they pull on the presenting member until they sever it from the body, and then begin the extraction of the child with this crude instrument. They catch hold, in a blind manner, of anything they can reach, and pull it away, and by the time they have delivered the child, if they deliver it at all, they have generally succeeded in pulling away the lower segment of the uterus, opening into the peritoneal cavity and doing such other violence to the soft parts of the woman that she usually dies soon after her delivery, if not before.

Dr. Reifsnyder is one of the most celebrated obstetricians in all China, and is doing a noble work in her line. Her hospital for women and children is the cleanest and best arranged of any that I saw in that country. She runs it on a strictly nonsectarian plan and, hence, feels herself at liberty to beg everybody for money, of which she seems to have an abundance. She has a great many septic cases to deal with, that are infected before being admitted into her hospital. In the management of these cases, if seen early, she uses the blunt curette, once, cleans out the uterus, and irrigates it with a carbolic acid solution. After that she depends on the use of alcohol in some form as a stimulant, and uses no other internal medication. The Doctor has an immense number of out-door patients, and when I expressed my surprise that she could attend to so many of them, in so short a time, she said they were nearly all affected with either the ague, the itch, or worms, and that that fact greatly simplified her work. Patients come for hundreds of miles around Shanghai, suffering from malaria, and after a month's intelligent administration of quinin she sends them home so wonderfully improved that her reputation is being spread far and near.

A HONGKONG HOSPITAL

In Hongkong I visited the civil hospital, an institution where as cosmopolitan a class of patients can be found as one would be able to meet anywhere on earth. The building is a fine one and cost more money than any institution of its kind in all China. Dr. Atkinson is the physician and surgeon in charge, and I found in him the true type of the polite Englishman, with whom one feels at once at his ease and perfectly at home. I was impressed in this hospital by the peculiar manner in which the patients were divided in the allotment of the wards, where they were treated. Although they represented every shade of complexion from that of the blackest negro to a red-headed Irishman, there was no color line in this division as there would have been down in Dixie. They were arranged in wards according to the peculiar diet that each one would eat. Some Chinese will eat meat and some will not, so it took two different wards to accommodate these two classes of Celestials.

The Europeans had their own quarters, and the Sikhs had theirs. In Dr. Atkinson I found another strong advocate of the let alone treatment of typhoid fever; but I did not fall in love with his plan, especially after he told me that he lost 25 per cent. of all the patients treated.

The nurses in this institution are all importations from the British Isles, and have all had a thorough training. Beri-beri, diarrhea and malarial fever were the principal diseases from which the patients in this hospital were suffering.

Dr. Atkinson's mode of administering quinin in the treatment of the last named disease is somewhat different from that usually followed. He gives one dose only—5 grains—of the drug, in the twenty-four hours, and is indifferent as to what time of day he gives this, or its relation to the intermissison or exacerbation of the fever.

The best purely Chinese hospital that I visited in all China is the Tung Wah in Hongkong, and the most intelligent native physician I have met in all the Middle Kingdom is Dr. Chung-Kung-we, who is at the head of this institution. He was educated at the Chinese medical school at Tientsien, after passing a preliminary examination where there were more than 200 applicants for the position. Except in the matter of their not being able to dissect the human body, he claims that the course of study in this school is fully abreast of the best colleges in the western world. The Doctor is at the head of a movement that has for its object the permission to use the bodies of criminals for anatomical research.

BERI-BERI.

I saw in this hospital 40 cases of beri-beri. The disease is generally ushered in by a marked chill, and this is followed by a febrile stage that lasts from two to four days. The temperature now falls, and symptoms of a profound depression of all the vital forces ensue; accompanied by a weak circulation, and sometimes a profound shock. Following this are symptoms of paresis affecting the whole nervous system, but more especially the lower extremities. The Doctor divides the cases into the dry and wet, depending on whether or not they have a tendency to the development of general dropsy. The cases are treated entirely symptomatically. In the febrile stage they are given arterial sedatives and bromids. When symptoms of depression come on they are given digitalis, camphor and strychnin, and of the last remedy the patients are so tolerant that 10 grains at a dose is often given at short intervals. I accompanied the Doctor to see a body just dead from the dropsical variety of beri-beri. I never saw a more complete case of general anasarca. When we entered the room we found a Buddhist priest conducting a religious service over the remains. This consisted in the burning of incense, the placing of food and flowers at its feet, accompanied by much wailing on the part of the assembled relatives. As we turned to go away the Doctor remarked, "What stupidity!" I replied: "Then I suppose you are not a Buddhist?" "No," he said, "not a bit of it. I am a free-thinker, as all educated Chinamen are, and we look on all religions as bosh and nonsense and as only believed in because the mass of mankind have not yet advanced far enough in the intellectual scale to do their own thinking."

CHINESE THERAPY

Each patient, when he enters the Tung Wah Hospital, has the right to choose whether he will be treated by a native doctor, who uses only Chinese remedies, or Dr. Chung, whose modes are strictly western. Fully 70 per cent. of the 150 patients in the wards at the time of my visit chose to be treated after the manner of their forefathers.

I spent some time looking over the drug room connected with this hospital, and the prescriptions that are sent there for preparation, and the manner in which they are prepared. Arranged along one side of this room were about fifty charcoal burners, on top of which, in porcelain dishes, the prescriptions for the day were being boiled. I examined several of these and Dr. Chung read me off the contents. They were real shotgun mixtures. Seven was the least number of ingredients I found in any one of them, and some of them ran up into the twenties. As a part of every compound there were aromatics such as cinnamon, ginger, cloves, allspice and the like. To the combination of roots, leaves and barks that went to make up these prescriptions, there was added one pint of water, and after this is evaporated to about one-half by boiling, the whole residue is given to the patient at one dose, administered early in the morning, before he has taken any food, and no other medicine is given until the expiration of twenty-four hours. I found the dung of animals a frequent ingredient in these prescriptions, but these substances were usually mixed with some kind of gum, made into pills, and given in this form. Such sized pills as are given the patients could never be gotten down the throat of an Anglo-Saxon.

At the civil hospital I saw a case of hydrophobia that Dr. Atkinson had given up as hopeless. The patient was being treated by a Chinese doctor, whose remedy was a decoction of elephant's dung, and his futile efforts to get a pint of this disgusting liquid down the throat of his patient was one of the most sickening spectacles I ever witnessed. The old school Chinese doctor, while willing and anxious to dose his fellow countrymen with his nauseous medicines, is quite willing to turn his surgical cases over to Dr. Chung. I saw the latter do a lateral perineal operation for stone in the bladder, and as the stone was a large one I suggested the suprapubic operation as the most rational one. To this mode he most decidedly objected, giving as his reason that, about one year ago, a distinguished London specialist had operated twice for him after this mode of procedure, and both of the patients had died. Over one-half of all those who enter this hospital either smoke opium or take it by the mouth. In the case of chronic bowel troubles that play such an important rôle among the sick here, this fact greatly complicates the treatment, for with this class of patients the efficacy of this valuable drug is entirely lost.

RED CROSS HOSPITAL.

While in the city of Canton I made a visit to the Red Cross Hospital, one of the oldest institutions of its kind in all China. For many years this hospital was under the supervision of Dr. Kerr, a man well known all over the missionary and medical world for his piety as a Christian and his skill as a surgeon, and especially the surgery that pertains to vesical calculus. The Doctor has lately severed his active connection with this hospital and is devoting the last days of his life to the establishment of an insane asylum, for the treatment of a class of cases that, in China, are usually left entirely uncared for.

One of the attending physicians at this institution told me that Dr. Kerr had operated for stone more times than any man living or dead. However, the statistics of the Red Cross Hospital do not seem to verify that assertion; for by the reports before me I find that for the years 1895 to 1898, inclusive, there was an average of fifty lithotomies and twenty litholapaxies done each year, and of the former four patients died, and of the latter two were lost. Here, as in Hongkong, the operation for stone is done by the perineal route, and in the report referred to nearly one-half of the few patients whose calculus was removed by the suprapubic incision died. These bad results are undoubtedly due to some faulty technique, as well as some error in carrying out rules of clean, aseptic surgery, which is very seldom accomplished in China.

PREVALENCE OF VESICAL CALCULUS.

I am at a loss for an explanation as to the cause of the extreme frequency of vesical calculus in the Far East, especially in China, Ceylon and India, and no one with whom I have conversed on the subject seems able to enlighten me. Of one thing, however, I am well convinced, and that is, that in a country where clean surgery is so hard to do, lithotripsy is the best operation for a vast majority of these patients, and when surgeons become as skilled in the use of the lithotrite as Dr. Pank of Jeypore, or Dr. Anderson of Agra, cutting operations of all kinds will be largely dispensed with in the management of these patients in the Orient. In fact, after seeing the work of these two men, I believe that even M. Guzon of Paris, in whose clinical service I have had a considerable observation, could widen his field for the use of the lithotrite, greatly to the benefit of many of his patients, on whom he now does a lithotomy.

SURGERY IN CHINA.

The surgeons in the Red Cross Hospital in Canton claim to do more surgery than is done in any institution of the kind in all China. Their report for 1898 shows a total of 2000 operations, but as they count every tooth extracted, the real surgical operations that they do are greatly diminished. In fact, Chinese submit with great reluctance to any surgical operation of a serious character. While I was an attendant at the service of Dr. Boone at St. Luke's Hospital, Shanghai, a Chinaman was brought in with his leg so badly crushed that an amputation was thought necessary. The patient, however, refused to submit to the operation, and was taken away by his friends and put under the care of a native doctor. Dr. Boone told me that this was not an infrequent occurrence.

The rage to open the peritoneal cavity does not seem to have struck China, or if it has, there seems to be no opportunity to gratify this passion, for in the hospitals I visited, not a laparotomy a year is done. As for appendicitis, it either does not exist, or is unrecognized in the Far East, for I only saw one case in all my observations where there was any thought of operating for this very fashionable disease of the western world.

USE OF OPIUM IN CHINA.

I have tried, by every avenue to which I have had access, to ascertain to what extent the Chinese as a race are addicted to the use of opium. In the West, we associate this habit as practiced by the Chinese, with an opium den, where the drug is smoked. This is a wrong idea, for here at home it is only the Chinese who have some money, or can earn more than the common coolie, who can indulge in this luxury. The great mass of those who use the drug, use it in a more economical manner, that is, they take it by the mouth. The investigations carried on by the government show that the opium habit varies greatly in different localities. In some only one in five of the population use this narcotic, and in others, there are four out of five that use it. In a small Chinese hospital in Shanghai, 200 patients were brought in during the past year in a condition of deep opium narcosis, and of this number fifty died. Sitting on a bench in a public park, riding in a jinriksha on the street, or seated among his wares in a dealer's shop, it is not an uncommon sight to see a Chinaman fall into a deep slumber, from which he can only be aroused with considerable difficulty, because he is profoundly under the influence of opium. I think it can be safely asserted that one-half of all the adult males, and one-fourth of all the women in all China use this drug in some form or other. The strangest part of the whole affair is that those who indulge believe that it conduces to their health and longevity, and have no desire to break it off.

USE OF OPIUM IN INDIA.

In India, poor women who must leave their children in their houses and go to the field to work are in the habit of giving them opium to keep them quiet. At about 2 years of age the mother begins the task of breaking off this habit with her child, and during the next six months it is computed that 40 per cent. of these children die of bowel trouble. Among the adult males in all the vast Indian Empire, this habit of opium-taking is widespread. A man is classified as a one, two or three pi man, according to the size of the dose of opium he can afford to take daily. The idea that the use of this drug has a tendency to ward off disease is one that is widely entertained in India. Major Upcott, who is at the head of all the government railway construction in this country, told me that without the use of opium among the coolies he employs, it would not be possible for them to work in the malarial jungles through which he had to build the railroads. Consequently, he dealt out rations of opium to his laborers, just as he did their rations of rice.

W. S. Caldwell, M.D.

"Texas Medical Journal."—In our Current Medical Literature Department, in The Journal for March 3 (p. 549), through a typographic error the *Texas Medical News* is credited with certain papers which appeared, instead, in the *Texas Medical Journal* for February.

Deaths and Obituaries.

John A. Murphy, M.D., Cincinnati, O., died February 28, of heart failure. He was born in 1824, in east Tennessee, received his literary education in the old Cincinnati College, and in 1843 began the study of medicine. He graduated from the Ohio Medical College in 1846, and for the next year was one of the resident physicians of the Cincinnati Hospital. He went to Europe in 1853 to continue the study of medicine. He was one of the founders of the Miami Medical College, holding the chair of materia medica; he also held this position at the Ohio and Miami colleges in 1857. At the independent reorganization of the Miami College in 1865, he was elected professor of practice. In connection with Drs. Mendenhall and E. B. Stevens, he established and edited the *Medical Observer*. During the War of the Rebellion he was a member of the board appointed by Governor Tod to examine candidates for medical positions in the state regiments. For the next three years he was acting assistant-surgeon in charge of the United States Marine-Hospital for Cincinnati. For many years he was a member of the medical staff of the Cincinnati Hospital. He was at one time president of the Ohio State and Cincinnati medical societies. He retired from active practice about ten years ago. During the last year he has been a member of the board of trustees of the Cincinnati Hospital. At a meeting of the medical profession, March 1, suitable resolutions were passed testifying to the universal regret occasioned by his decease.

Allen A. Rawson, M.D., died February 26, at Corning, Iowa. He was born in Tiffin, Ohio, in 1831, and was a graduate of Rush Medical College, Chicago, class of 1855. He was the first physician to locate in Adams County, Iowa, and was prominent in educational matters in his district.

James Muir, M.D., Bardstown, Ky., died February 23. He was a graduate of the University of Louisville in 1850, and was in active practice until within a few weeks of his death.

Wm. Huff Ogier, M.D., died February 24, at Columbus, Ohio, aged 29 years. He was a graduate of the Bellevue Hospital Medical College, had been one of the surgeons of the Woman's Hospital in New York City, and had lately been associated with Dr. Wm. Pryor of New York as clinical assistant in the Policlinic and Post-Graduate School.

Thomas Kimlim, M.D., died February 24, at Quincy, Ill. He served in the Union Army during the Civil War. He was 62 years old, and practiced medicine in Trenton, Mo., for thirty-five years before removing to Quincy, when he retired from active practice. He was a prominent Mason and member of other societies.

Richard J. Moore, M.D., Pasadena, Cal., died February 23, at the age of 60. He was a graduate of the Keokuk (Iowa) Medical College, 1861, and served as surgeon during the Civil War. He practiced in Fairfield, Iowa, for a number of years, but had been a resident of California since 1887.

Elias T. Dorland, M.D., Buffalo, N. Y., died February 20, at the age of 68. He was a graduate of the University of Michigan, had lived in Buffalo since 1866, and was at one time president of the Erie County Medical Society.

Howard Stafford Bowie, M.D., died in Baltimore, Md., February 26, aged 54. He was a native of Maryland, and a graduate of the School of Medicine of the University of Maryland, class of 1870.

J. M. Hanger, M.D., Staunton, Va., dropped dead in his stable on February 25. He was 66 years old, and a native of Augusta County, Va.

Arthur Watson, M.D., died at Onancock, Va., February 25, at the age of 82. He represented the county of Accomac in the legislature for several years.

We also note the following deaths:

Leo M. Alexander, M.D., Marshall, Mo., February 26.

John B. Amman, M. D., February 27, at Scranton, Pa., at the age of 57.

Wm. Campbell, M.D., Port Huron, Mich., February 21, at the age of 86.

A. W. Graydon, M.D., a politician and former practicing physician in Cincinnati, Ohio, February 28.

W. A. T. Holmes, M.D., Kirklin, Ind., died February 24, of pneumonia, aged 61 years.

B. O. Hopkins, M. D., Burlington, Kan., at the age of 65.

DEATHS ABROAD.

Wm. McNeil Whistler, M.D., died February 28 in London, England, at the age of 63 years. He was a brother of the famous artist, a graduate of the University of Pennsylvania, and had been for a number of years practicing in London, largely in the specialty of laryngology. He was a lecturer on the diseases of the throat and nose, in the London Post-Graduate School, and a member of numerous societies in this country and Europe. Early in life he took a course in engineering, but later adopted medicine as a profession. He served in the Confederate Army during the Civil War.

The Journal recently reviewed (February 17, p. 421) an interesting communication on "Immune-Serum Against Spermatozoa," by W. Moxter, and we have now to announce the death of the young scientist from acute miliary tuberculosis.

L. Meyer, a prominent alienist and professor at Göttingen, died recently, in his 73d year.

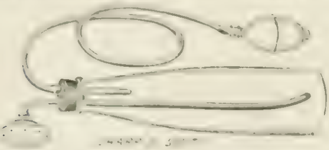
Miscellany.

Plague Doctor in 1721.—The physician who attended cases of the plague during the epidemics of the early part of the Eighteenth Century was obliged to carry a peculiar stick or cane to warn the public of his calling, and wore for his own safety a gown of "levant morocco," with hat and gloves of the same, the face also covered, with crystal eye-pieces for windows through which he looked out, and a long beak like a stork's, with two holes in the tip, filled with aromatic drugs and ointment. This costume is illustrated in Jean Manget's "Treatise on the Plague," published in 1721, and reproduced in *Echo Méd.* of February 18, which also quotes at length from a medical writer in the preceding century, who attributed his immunity to the plague—in spite of his constant care of plague patients—to his practice of smoking several pipes of tobacco a number of times during the day.

Self-Inflicted Wounds Among Troops in the Philippines.—A circular from Headquarters, Department of the Pacific and Eighth Army Corps, Manila, P. I., Jan. 10, 1900, publishes the following letter from Lieut.-Col. A. A. Woodhull, deputy surgeon-general, U. S. A., chief surgeon of the department: "Self-inflicted wounds of the hand and occasionally the feet, claimed to be accidental, usually occurring on outpost, are so frequent that I have the honor to suggest that all such cases be carefully investigated by a board of survey similar to that called in case of desertion, to determine the circumstances under which they actually occurred, and especially in relation to the line of duty. All of these men become disabled for military duty with usually a minimum amount of maiming for civil occupation, and thus secure discharge." The circular requires that all cases of this character, or cases in which it is believed that wounds have been self-inflicted, will be properly investigated and report made to the general commanding.

The Samuel D. Gross Prize.—No essay which the trustees deemed worthy of the prize having been received on Jan. 1, 1900, they announce that the prize will be awarded on Oct. 1, 1901. The amount is $1000. The conditions annexed by the testator are that the prize "Shall be awarded every five years to the writer of the best original essay, not exceeding one hundred and fifty printed pages, octavo, in length, illustrative of some subject in Surgical Pathology or Surgical Practice, founded upon original investigations, the candidates for the prize to be American citizens." The competitor who receives the prize shall publish his essay in book form, and deposit one copy of the work in the Samuel D. Gross Library of the Philadelphia Academy of Surgery. On the title page it shall be stated that to the essay was awarded the Samuel D. Gross Prize of the Philadelphia Academy of Surgery. The essays, which must be written by a single author in the English language, should be sent to the "Trustees of the Samuel D. Gross Prize of the Philadelphia Academy of Surgery, care of the College of Physicians, 219 S. 13th St., Philadelphia," on or before Oct. 1, 1901. Each must be distinguished by a motto, and accompanied by a sealed envelope bearing the same motto and containing the name and address of the writer. No envelope will be opened except that which accompanies the successful essay. The Committee will return the unsuccessful essays if requested by their respective writers, or their agents, within one year. The Committee reserves the right to make no award if the essays submitted are not considered worthy of the prize.

An Omission.—The accompanying cut should have appeared in Dr. John F. Owen's paper on "The Value of Formaldehyde



in the Disinfection of Buildings, Rooms and Cars," which was published in the issue of March 3. Reference to the appliance is made on page 520, top of first column.

Health and Proximity to Sewage Farms.—The health of the persons residing on or near the sewage farms around Berlin is carefully watched by the sanitary authorities, and the report for 1899, signed by Virchow, announces that the nature and course of the affections observed among the 7834 employees and their resident population do not differ in any respect from those prevalent in other rural districts, and that they are no more frequent. No field is taken for the purpose without careful study of the springs on the land, and the cultivation is made to bend to the necessity of keeping the best springs intact. Fifty-seven tests of the water draining off the farms showed the entire absence of the usual pathogenic germs.

Queries and Minor Notes.

THE "METROPOLITAN" DIPLOMA-MILL.

Prairie Grove, Ark., Feb. 23, 1900.

To the Editor:—The Board of Medical Examiners for this county wish to know the standing of the "Metropolitan," said to be a medical college in Chicago. An irregular practitioner in this (Washington) county has been fined and is again indicted for illegal practice. He disappeared for a short time and now returns, claiming to have a diploma from the above school. Under our law a record of a diploma from a reputable school legalizes the applicant, and, unfortunately, the county clerk is made the judge of the character of the school. E. G. M.

Answer.—See The Journal for Oct. 21, 1899, p. 1054, which will answer this question. The "Metropolitan" is a successor to the "Independent Medical College," which was suppressed last fall. It is simply a diploma-mill.

The Public Service.

ARMY CHANGES.

Movements of Army Medical Officers under orders from the Adjutant-General Office, Washington, D. C., Feb. 16 to 21, 1900, inclusive:

Walter K. Beatty, acting asst.-surgeon, from Washington, D.C., to the Department of California.

William C Borden, captain and asst.-surgeon, U. S. A., to report at Washington, D. C., for examination for promotion.

Edward C. Carter, major and surgeon, U. S. A., member of a promotion board at Fort Myer, Va.

Elmer A. Deane, acting asst.-surgeon, from the Department of California on the first available transport to Manila, P. I., for duty in the Department of the Pacific and 8th Army Corps.

William R. Hall, major and surgeon, U. S. A., appointed president of the board convened at Manila for the examination of candidates for appointment in the medical corps of the army.

James H. Hepburn, acting asst.-surgeon, from Washington, D.C., to the general hospital at Fort Bayard, N. M.

James M. Kennedy, captain and asst.-surgeon, U. S. A., previous orders directing him to proceed from San Francisco, Cal., to Manila, P. I., revoked.

Egon A. Koerper, lieutenant-colonel, deputy surgeon-general, U. S. A., retired from active service, February 21, 1900.

Louis A. LaGarde, major and surgeon, U. S. A., leave of absence granted.

Palmer H. Lyon, acting asst.-surgeon, from New York City to San Francisco, Cal., for duty in the Department of California.

Robert C. Macy, acting asst.-surgeon, from the Department of Santiago and Puerto Principe, Cuba, to Mobile, Ala., for annulment of contract.

James C. Merrill, major and surgeon, U. S. A., member of a board in Washington, D. C., to examine persons designated for appointment as paymasters in the army.

John L. Phillips, capain and asst.-surgeon, U. S. A., to report at Washington, D. C., for examination for promotion.

Walter Reed, major and surgeon, U. S. A., member of examining boards at Washington, D. C., and Fort Myer, Va.

Charles Roemmelt, acting asst.-surgeon, from Elmira, N. Y., to the Department of California.

Thomas C. Stunkard, acting asst.-surgeon, from the general hospital, Presidio of San Francisco, Cal., to Terre Haute, Ind., for annulment of contract.

Jerome B. Thomas, acting asst.-surgeon, from Brooklyn to Fort Slocum, N. Y., to sail with troops on the transport *Sumner*, reporting in Manila, P. I., for duty in the Department of the Pacific and 8th Army Corps.

NAVY CHANGES.

Changes in the Medical Corps of the U. S. Navy for the week ending Feb. 24, 1900:

Pharmacist R. Waggener, granted sick leave for four months.

Asst.-Surgeon J. R. Murphy, appointed assistant-surgeon.

Asst.-Surgeon Karl Ohnesorg, ordered to temporary duty at the Naval Academy.

Medical Director W. G. Farwell, commissioned medical director from Jan. 22, 1900.

Medical Inspector D. N. Bertolette, commissioned medical inspector from January 22, 1900.

MARINE-HOSPITAL CHANGES.

Official list of the changes of station and duties of commissioned and non-commissioned officers of the U. S. Marine-Hospital Service for the 7 days ended Feb. 22, 1900:

Surgeon F. W. Mead, granted leave of absence for 7 days from February 26.

Surgeon H. R. Carter, to proceed to Havana, Cuba, and resume duties as quarantine officer.

P. A. Surgeon G. M. Guitéras, upon being relieved by Surgeon H. R. Carter, to proceed to Mantanzas, Cuba, and resume duties as quarantine officer.

Surgeon J. C. Perry, detailed as chief quarantine officer of the Philippine Islands, and quarantine officer at the port of Manila.

P. A. Surgeon M. J. Rosenau, detailed to attend the meeting of the Medico-Legal Society at New York City, Feb. 21 and 22.

Asst.-Surgeon E. R. Edson, relieved from duty at the Reedy Island quarantine station, and directed to proceed to the Gulf quarantine station for duty and assignment to quarters.

HEALTH REPORTS.

The following cases of smallpox, yellow fever, cholera and plague, have been reported to the Surgeon-General, U. S. Marine-Hospital Service, during the week ended March 2, 1900.

SMALLPOX—UNITED STATES.

Alabama: Mobile, Feb. 17-24, 3 cases.

Florida: Jacksonville, Feb. 17-24, 2 cases.

Illinois: Rockford, Feb. 16-17, 2 cases.

Indiana: Evansville, Feb. 17-24, 3 cases; Indianapolis, Feb. 17-24, 2 cases.

Kentucky: Louisville, Feb. 15-22, 4 cases.

Louisiana: New Orleans, Feb. 17-24, 55 cases, 23 deaths.

Mississippi: Greenwood, Feb. 10-17, 87 cases.

New York: New York, Feb. 17-24, 2 cases.

Ohio: Cincinnati, Feb. 17-23, 1 case; Cleveland, Feb. 17-24, 20 cases; Youngstown, Feb. 17-24, 1 case.

Utah: Salt Lake City, Feb. 17-24, 1 case.

Virginia: Portsmouth, Feb. 17-24, 6 cases, 2 deaths.

Washington: Spokane, Feb. 17-24, 9 cases; Tacoma, Feb. 10-17, 9 cases.

SMALLPOX—FOREIGN.

Brazil: Rio de Janeiro, Jan. 12-19, 29 deaths.

Canada: New Brunswick—Restigouche Co., Jan. 16-Feb. 8, 78 cases; Gloucester Co., Jan. 25-Feb. 8, 39 cases; Northumberland Co., Feb. 1, 1 case; Westmoreland Co., Jan. 18-Feb. 8, 3 cases. Ontario—Amherstburg, Feb. 2-24, 1 case. Quebec—Gaspe Basin, Feb. 6-15, 4 cases.

France: Lyons, Jan. 27.-Feb. 3, 2 deaths; Paris, Feb. 3-10, 4 deaths.

Germany: Königsberg, Jan. 27-Feb. 3, 1 case.

Gibraltar: Feb. 11-18, 3 cases.

Mexico: Mexico, Jan. 28-Feb. 11, 24 cases, 19 deaths.

Spain: Corunna, Feb. 3-10, 3 cases, 1 death; Madrid, Jan. 20-Feb. 3, 21 deaths.

Straits Settlements: Singapore, Jan. 6-13, 1 death.

YELLOW FEVER.

Brazil: Rio de Janeiro, Jan. 12-19, 16 cases, 6 deaths.

CHOLERA.

Arabia: Oman, Jan. 11, generally prevalent and spreading.

PLAGUE.

Madagascar: Tamatave, Dec. 16-23, 1 case, 1 death.

PLAGUE—U. S. INSULAR POSSESSIONS.

Hawaii: Honolulu, Jan. 23-Feb. 19, 6 cases, 5 deaths.

CHANGE OF ADDRESS.

Erratum.—Through an error in The Journal of February 17, a change of the address of Dr. M. H. Blackburn, of Dover, Ill., was given. This should have referred to Dr. R. S. Blackburn, who has removed from Breeds to Ray, Ill.

J. L. Benepe, Willoughby Building to Imperial Hotel, Indianapolis, Ind.

J. T. Smith, 69 Washington Street to 184 Dearborn Street, Chicago, Ill.

A. Hoffman, Chicago, Ill. to Petoskey, Mich.

J. M. Edwards, 1127 W. Madison Street to Hotel Morrison, Chicago, Ill.

M. W. Bland, 1127 W. Madison Street to Hotel Morrison, Chicago, Ill.

S. W. Fain, St. Petersburg, Fla., to Dandridge, Tenn.

T. F. Beverige, Bridgewater, S. D., to 4155 Grand Boul., Chicago, Ill.

C. Parkhill, 1331 17th Avenue to Jackson Block, Denver, Colo.

C. W. Taylor-Goodman, Saginaw, Mich., to Seattle, Wash.

O. L. Suggett, Flora, Ill., to S. E. Cor. Jefferson Avenue and Olive Street, St. Louis, Mo.

The Journal of the
American Medical Association

VOL. XXXIV CHICAGO, ILLINOIS, MARCH 17, 1900. NO. 11.

Original Articles.

SYMPTOMATOLOGY, DIAGNOSIS, TREATMENT OF NEOPLASMS OF THE KIDNEY.*

BY L. L. McARTHUR, M.D.
CHICAGO.

Clinically the surgical tumors of the kidney include pyo- and hydronephrosis, cystic kidney and echinococcus. We therefore conveniently group and consider them with the true neoplasms. Reginald Harrison makes a practical subdivision of these tumors into those of congenital and post-congenital origin.

Congenital.	Sarcoma. Cystic disease. Hydronephrosis. Cavernous tumors.	
Post-Congenital.	Extrarenal.	Abscess. Cysts. Myxolipoma.
	Pelvis.	Adrenal growths. Hydro- and pyonephrosis. Villous tumor. Carcinoma.
	Gland and capsular.	Hydatid. Cystic. Tubercular disease. Lymphadenoma. Syphilitic. Lipoma. Fibroma. Sarcoma. Carcinoma. Secondary growths.

In the arrangement of the program the symptomatology, diagnosis, treatment, and prognosis have been assigned to me, to the consideration of which we will at once proceed, endeavoring to emphasize only the more reliable and constant points, asking indulgence if repeating much already well known to the Fellows. Two or more of the four cardinal symptoms are almost always sufficient to enable us to make a diagnosis: 1. Tumor in renal region. 2. Hematuria. 3. Pain. 4. Cachexia.

The most frequent first symptom to attract attention to the part is *enlargement*, noted as often by the patient or parents as by the physician, and, on examination by him, is found to occupy the renal region and to which he immediately applies his anatomic knowledge to determine: 1. Its relation to the peritoneum. 2. Its relation to the colon. 3. Its mobility with respiration. 4. Its relation to liver or spleen. 5. Its relation to the urine.

Having demonstrated to his own satisfaction that it is retroperitoneal, that the colon is in front or has been pushed aside by it, that it does not move with respiration and is not of hepatic or splenic origin, the conclusion is justified as to renal tumor, the nature of which may be any one of the above mentioned. No limitations as to size, shape, rapidity of growth or consistency of this swelling can be made, though variations in either particular may aid with other factors in approximating a correct diagnosis and therefore prognosis and treatment. Almost the sole symptom in children is tumor—pain being absent or vague, hemorrhage in microscopic quantities, and the cachexia apparent when the tumor has existed for some time.

The second symptom is *hematuria*. Authorities agree that in about 50 per cent. (Poncet) of the patients this is present, absent in the majority (Soulier), and it too may vary between only microscopic quantities to evident hemorrhages, perhaps more frequently small, and therefore well mixed with the urine. Blood being found in the urine, its source *must* be determined before reliable conclusions can be drawn, for any portion of the urinary tract might bleed. When the hemorrhage from the kidney is of the milder type, we occasionally find blood casts of the ureter resembling angleworms in shape and size; characteristic when found, and indicating a slow enough bleeding to permit clotting in the ureter. While stone is the most frequent cause of renal hemorrhage, the next most frequent factors are: 1, neoplasms; 2, tuberculosis; 3, renal angioneurosis (Klemperer), which must be borne in mind, as all may be associated with renal enlargement. The hemorrhages from the earlier malignant tumors are usually painless and often produce clots. Pain is not a very constant symptom; when present, it is usually after the growth has reached a size that its weight or its pressure contact may produce it. Dull and vague in character, radiating into lumbar and inguinal regions, it is only acute when inducing obstructive colic, and is sometimes referred to the bladder, groin or testes.

Cachexia, associated with the above symptoms, is usual and relatively early in the history. The blood count, hemoglobin estimate and study of the character of the white corpuscles assists in the differentiation between the inflammatory and neoplastic enlargements.

DIAGNOSIS.

In no department of surgery may the diagnosis be as facile or as absolutely impossible as here, for not only have we to exclude tumors of the adjacent parts—particular mention being made of those of the adjacent colon, spleen and liver—but we must bear in mind that we have no one constant symptom to guide, while we have congenital anomalies and such benign tumors as hydronephrosis to deceive.

Given, then, a tumor which we are reasonably sure is of renal origin, our first consideration must be its benign or malignant character. Aiding us in determining this will be (Rovsing): 1. Careful study of the clinical history of the case. 2. Exact and frequent examination of the urine. 3. Palpation with or without anesthesia. 4. Cystoscope, ureteral catheterization and exploration by sounds. 5. Direct exploratory incision.

The History.—Renal tumors of the first four years of life are almost invariably of one of the sarcomatous types, become evident generally within fifteen months after birth, and are most discouragingly fatal in their end results. Belonging as they do to the embryonal type of tissue, they are usually of short history, rapid growth, attain large size, involve neighboring tissues and are prone to recur; hence operative interference is contraindicated except very early in the course. Fischer, in 30 nephrectomies, saw not one permanent cure. Czerny, in 150 cases, saw only 5 patients cured, and living, after five years. Albarran saw 11 in 97, cured one year after.

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*Read before the Chicago Medical Society

In the young, again, we may occasionally differentiate between the *probable* sarcoma and the *possible* cystic disease, hydronephrosis or vascular growths: 1, by history; 2, by uranalysis by—in female at least—urine segregation; 3, by blood examination; 4, by rapidity of growth; 5, by ureteral catheterization, the latter in some cases of hydronephrosis—as Wertheim has called attention to—sometimes giving a sudden free stream of urine from the catheter and causing the tumor to disappear.

Beyond the age of childhood the history aids still more in our diagnosis, as the hydro- and pyonephrosis will usually have had a preceding history to guide, a possible constitutional infection (syphilitic, relate case), ascending (gonococcus) or primary, autoinfection, e. g. (bac. com. coli.), a mechanical cause for the retention and dilatation, or a trauma. Hildebrandt, from a study of the Göttingen clinical material, drew the following conclusions: 1. "If the tumor is very large, a carcinoma is improbable." 2. "Very slow growth speaks decidedly against sarcoma and carcinoma, but decidedly for the strumas (adrenals) and angiomata."

Echinococcus cysts are very slow in development, the habits and environments of the patient giving hints to probability of tumor's nature.

Examination of Urine.—While the statement of Obolinski, that "neither the uranalysis, pain nor palpation teaches which kidney is diseased," may have been true in the past, in these days of the Harris segregator, the Nitze cystoscope and Kelly ureteral catheter, but few cases can escape a thus carefully made examination.

It must be borne in mind that ureteral catheterization is not absolute in its results. Thus, there may be a single horseshoe kidney with two ureters; or failure to secure urine from one side be no proof against existence of an intermitting hydronephrosis. Again, the passage of the ureteral catheter into the pelvis of the kidney, and detection say of a stone, is not proof that the accompanying renal enlargement is due solely thereto, as several times stones have been found associated with pelvic carcinoma and are believed to have a similar causative relation to that which gall-stones show to malignant disease of the gall-bladder.

When the uranalysis presents the characteristics of the "atrophic" kidney, associated with renal enlargement, we have most frequently to deal with the polycystic kidney, and confirm diagnosis by palpation, remembering that this is usually bilateral and therefore inoperable. The urine having been secured from the separate kidneys, always by the segregator, *if the gross urine is purulent, septic*, or containing evident bacteria, as Albarran, Desnos and others have reported ascending infections from ureteral catheterizations—much valuable information may be drawn both as to the diseased side and the functional capacity of the opposite.

As has been stated, about 50 per cent. of neoplastic growths are associated with hematuria. About 20 per cent. betray—after repeated examination—neoplastic fragments. Echinococci hooklets may be found here—or even the daughter cysts—52 times in 63 cases. Especially when blood is found should the stain for tubercle bacilli be made, as this is a frequent cause both of hemorrhage and renal enlargement, the bacilli being more easily detected between hemorrhages. When pus is found, the stain for bacillus commune coli should be made, since it is a causative agent in many pyonephroses (Guyon).

Palpation.—König's dictum: "The normal kidney is not sensitive to palpation." "A sensitive kidney is a diseased kidney" holds true in those renal enlargements of retention characteristic of cystic degeneration, but many of the renal solid growths are free from tenderness. The kidneys undergoing polycystic change present a characteristic feel of multiple oval nodes, while the majority of renal growths are of even, smooth outline, without notch or edge, such as liver or spleen furnish. While I can not agree with Israel that every tumor of the kidney, of the size of a walnut, should be detected by palpation under anesthesia, the perhaps *most important* service the physician can do these patients is to detect the presence of a growth while yet small, as these furnish the successfully cured cases, and have rendered it even possible in non-malignancy to resect the diseased portions, thus conserving much kidney substance to the patient. In sixty-three cases of hydatids, the tumor was palpable eighteen times. (Roberts.)

As to exploratory incision and puncture, cases which are justifiable for exploration are also justifiable for operation at the same sitting. I should advise against two anesthesias—hence we are brought to the question of treatment.

TREATMENT.

Greig Smith's very satisfactory division of tumors of the kidney in their treatment as those appropriate for one of these operations, in practice is most satisfactory, namely: 1. Puncture. 2. Nephrotomy. 3. Nephrectomy. He says: "Puncture, nephrotomy, nephrectomy, overlap; any one of them may be indicated for the same condition, and indeed all of them may be properly performed in succession for the cure of this condition."

"Renal puncture is indicated for: 1. Simple cysts. 2. Hydronephrosis. 3. Hydatid cysts.

Nephrotomy is indicated for: 1. Cases where puncture fails. 2. Pyonephrosis. 3. Suppurative nephritis and pyelonephrosis. 4. Tubercular kidney. 5. Calculous disease.

Nephrectomy should be resorted to: 1. Where nephrotomy fails, or would be useless. 2. In certain neoplasms of kidney. 3. For fistulæ. 4. For degenerated kidney.

I do not here propose to give descriptions of the numerous methods of procedure, but can not refrain from calling earnestly to your attention a few points that have developed in my own work to the dignity of importance.

1. Some years ago I had the honor of preparing a paper, for this Society, in which I advocated a then new method of perforating the abdominal wall, which unfortunately was postponed in its reading by the intervening summer vacation from May to September. During that July, through an article in the *Annals of Surgery*, this method had come to be known as the "McBurney incision," or method of separating the muscular fasciculi. An identical procedure I am gratified to note is at last being recognized both in England and America, as applicable for approach to the kidney—as well as other abdominal organs. One will be surprised both by the room permitted and the perfect falling together of the parts after the operation, as well as speedy union.

2. Bitter experience has taught me that in nephrec-

tomy, whenever possible, the renal pedicle should be temporarily clamped and cut. Only after the removal of the tumor is it satisfactorily feasible to properly treat the separate elements of the pedicle. Slipping of ligatures otherwise applied is very prone to occur.

3. On the right side, avoid traction on or occlusion of the vena cava. Even temporarily shutting off the returning blood-supply to the heart makes a dangerous, even fatal, shock. I had a death thus.

4. Never do a nephrectomy until sure of both the existence and functional capacity of the opposite side. In the early days of the Harris instrument, I did a nephrotomy on a patient, with Dr. Eisendrath. The patient's opposite kidney secreted a normal urine both chemically and microscopically. There was fatal post-operative anuria, and the post-mortem showed a congenitally infantile kidney. I had failed to estimate the functional capacity, because then ignorant of its importance, drawing the illogical conclusion: normal urine, therefore normal kidney.

5. Study the clinical history carefully. In a case transferred to the surgical department of Michael Reese Hospital, a superficial study of the history seemed to point emphatically and clearly to a pyelonephrosis of the right kidney. Pain, fever, large tumor, purulent acid urine, gonorrheal cystitis and urethritis was apparently so clear that no segregation of urine was made. Lumbar nephrotomy revealed an extremely thickened and enlarged kidney, a full finger depth to the pelvis, with normal urine in the pelvis, and no pus in the wall. Later, more careful examination revealed the temperature to be a syphilitic eruptive fever, and the tumor a syphiloma of the kidney. Recovery was complete under appropriate treatment, with return of the kidney to normal size.

6. Every renal operation that can be done without entering the peritoneal cavity is a safer one, and should be selected.

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RENAL CALCULI.*

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Telluric conditions were at one time looked on as of considerable etiologic importance in the formation of calculi but, at present, their influence in this direction is considered practically *nil*.

Hirsch[1] says that "climatic influences, geologic formation and character of the drinking water as causal factors in the formation of stone find no support in the facts."

Attention was next directed to the method of living, food, etc., of the individual himself, and as a large majority of the stones are of uric acid composition a uric acid diathesis was invented and a near relationship sought between lithiasis and gout.

Concerning the association of gout and stone, Virchow[2] says that the common opinion that uric acid kidney and bladder stones have to do with the occurrence of gout is untenable, and that their coexistence is accidental.

Bouchard[3] finds that in 1000 cases of gout, there were but 87 of uric lithiasis, and in 1000 cases of uric lithiasis but 103 of gout. This would not indicate any marked etiologic relationship.

Concerning the question of diet, method of living, etc., Senator[4] says: "The old idea that the method of living and the food, particularly a rich nitrogenous diet with wine and beer, and lack of exercise, play an important rôle in the origin of lithiasis, at least, generally speaking, is not in accord with the actual conditions."

Von Noorden[5] says: "Only extreme changes in the diet, which are practically impossible to carry out, influence perceptibly the uric acid output," and Klemperer[6] says that bodily exercise increases the amount of uric acid.

The older theories of uric acid formation and the uric acid diathesis were based on the erroneous idea that uric acid was an "ante" product of urea and due to defective oxidation.

The researches of Horboczewski and of Kossel have shown that uric acid, and the other alloxur bodies, have their origin in the nucleins of the body and, therefore, bear a direct relation to the formation and destruction of the leucocytes, which are the great nuclein bearers. Hence the older theories were abandoned, but only to make way for others founded on the newer theories of the origin of uric acid.

The chief factor in formation of stone was now considered to be the presence in the urine of uric acid in excess, which, on precipitation and crystallization, formed the stone. Unfortunately, for the theory, uric acid was found to be not necessarily in excess. Moreover, in those conditions in which uric acid is present in excess we very seldom find stones. For instance in leukemia, when there is a remarkable destruction of leucocytes with often an enormous excess of uric acid in the urine, we almost never find stone, in fact but a single case of urate stone in the kidney in a leukemic subject has been reported.[7] Again, uric acid stones are most common in the adult between the ages of 30 and 60, and very rare in childhood, although the relation of uric acid to total nitrogen in the urine is seven to eight parts per hundred in the child and only one to three per hundred in the adult. It has also been found impossible to produce a kidney stone experimentally by the exhibition of uric acid in considerable quantities, for prolonged periods of time to animals. Ebstein and Nicolaier[8] were unable to produce calculi in animals by giving oxalic acid and its salts, although nephritis and contracted kidney were produced. Something more, therefore, than the mere presence of a large amount of uric acid in the urine is necessary to stone formation. It must be precipitated from solution, and even precipitation alone is not sufficient, for uric acid and urate crystals are frequently passed suspended in the urine and, in that condition known as phosphaturia, cloudy urine holding phosphates in suspension may be passed for long periods of time, yet phosphate stones do not form. Analysis of all kinds of stones shows, in addition to the crystallized body forming the chief component, an organic or albuminous body in considerable amount which acts the part of a cement, thus causing the small crystals to adhere together so as to form stones.

The origin of this albuminoid body was sought in the so-called "stone-formation" catarrh of Von Hemsbach, a catarrhal condition of the kidney pelvis supposed to precede the formation of the stone. Ebstein considers a nucleus of pus, blood, detached epithelial cells, etc., about which the salts of the urine may crystallize, as a necessary antecedent to the stone. That such a foreign body alone is not sufficient to give origin to stone formation is shown by a study of cases of subcutaneous injury to the kidney attended by hematuria.

Maas[9] has collected 71 patients with such subcutaneous injury to the kidneys. Of these, 15 died as a direct result of the injuries received and are thus excluded from consideration; 19 died as a result of the injuries or complications following, but at more remote intervals. In but 1 of these were stones found. This one died on the forty-first day. One oxalate stone was found in a large cavity filled with cloudy, bloody fluid and coagula, and six small oxalate stones in a cyst in the walls of which was found kidney tissue. Of 37 who recovered from the injuries, 1 passed a little gravel or sand eight months after the injury and was well thereafter. In 1, in whom an abscess followed the injury with a resultant permanent lumbar fistula, a mulberry stone developed and was found at autopsy twenty years after. The kidney was changed to a mere cyst. One in whom an abscess formed at the time of injury, with permanent lumbar fistula, passed several small stones through the fistula at intervals of seven years. Of the 56, therefore, but 4 developed stone, and of these 4 patients, 3 were certainly infected.

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*Read before the Chicago Medical Society.

It is of interest to note that in one who died of nephritis 1½ years after the injury a large decolorized blood clot was found in the pelvis of the kidney extending into the ureter, but no stone nor deposit of urine salts whatever was found. This clot had remained in the kidney, as a foreign body, 1½ years, without causing precipitation of salts about it. This agrees with Tuffier's experiments on the introduction of foreign bodies into the kidneys in animals. So long as the kidneys remained aseptic, no stones formed, even when the animals were fed urates and oxalates.

The fact that certain constituents of the urine are thrown out of solution by changes in temperature and reaction of the urine led to the supposition that stone formation was simply a matter of precipitation. Abundant evidence soon showed this to be an error. Even the presence of a foreign body to act as a nucleus is not in itself sufficient. Ebstein claims that exfoliated cells from the interior of the kidney not only act as nuclei for stone formations, but the acid reaction of the dead cells changes the soluble urates into insoluble acid salts. But in post-scarlatinal nephritis, where we meet with extreme degrees of exfoliation of cells, stone formation does not occur. It is thus evident that further search must be made for the cause of stone.

Galippe,[10] in 1886, found bacteria in the center of several renal calculi, and suggested a causal connection. Begoine[11] reports a renal calculus with a center of bacteria. Lennander[12] reports a case of renal calculus composed of oxalate center with urate cortex, also a yellowish mass composed of urates, coloring matter belonging to the urobilin group, an albuminous body and zooglea masses of the colon bacillus.

I examined a urate calculus, the size of a small pea, which I obtained from a child 2 years of age. In the center of the calculus was a small light brownish mass the size of a pin's head. This mass, treated with distilled water, dried on a cover-glass and stained, showed numerous small cocci, resembling the staphylococcus in size and shape. A small uric acid calculus passed with acute renal colic by a man, treated in the same manner, showed a similar coccus and masses of a short bacillus with rounded ends. An oval-shaped uric acid stone the size of an almond, which I removed from the kidney of a woman, showed rather short bacilli singly and in small masses, which took the stain rather poorly. In this connection, it might be well to mention similar work done on the concrements of other organs of the body.

The work of Gallipe, Gilbert and Dominici, Fournier, Cushing, Peterson, Herzog and others has demonstrated the causal connection between bacteria and gall-stone formation. I have, myself, in cholelithiasis, demonstrated the presence of the colon, the typhoid and, in one case, an unidentified bacillus. Loison has found the streptococcus in salivary calculi. The filiform fungus of Graefe has been found in lachrymal stones. Chiari has shown bacteria in rhinoliths. Nimier and Shattuck have found bacteria in pancreatic stones, and believe the latter were of bacterial origin. Otoliths have been observed in cases of purulent discharge and pneumoliths and broncholiths in septic dilatations of the respiratory tract. It will thus be observed that bacteria have been found in concrement formation throughout the body. The occurrence of phosphatic stones in kidneys, the seat of septic processes, has long been correctly attributed to the decomposition of the urine produced by the bacteria present. Based on this fact, kidney stones have been divided into two classes: primary stones or those which form in kidneys not the seat of a septic process and hence not considered of bacterial origin, and secondary stones or those which form in kidneys already the seat of a septic process and of acknowledged bacterial origin. Albarran[13] says: "In the secondary calculi the microbes furnish a double cause. They decompose the urea and produce the organic matter which binds the salts together."

The so-called primary stones are composed of uric acid, urates, oxalate of lime and bibasic phosphate of lime. The rarer forms of cystin, xanthin, indigo, etc., will not be considered. It is the belief of the author that these primary stones are likewise of bacterial origin, and that the composition of the stone depends, not alone on the composition of the urine at the time, but also on the kind of microbe present. The urine is an extremely complex fluid. How our knowledge of this fluid has increased, during the past few years, may be surmised when it is stated that Foster, in his physiology of 1880, mentions fifteen constituents of the urine, while Bouchard's Pathologie Générale, 1899, mentions forty-four, about three times as many.

I have made a number of experiments for determining the influence of certain bacteria on the production of different precipitates in urine. The urine is acid in reaction, as is well known, owing to the presence of monosodium phosphate; the amount of this present has much to do in determining the nature of the precipitate.

If to a quantity of freshly drawn urine in a test-tube, acid phosphate of sodium be added, in a short time beautiful crystals of uric acid will be deposited at the bottom of the tube. However, if to a control-tube of the same urine, prepared in the same manner, a drop of formalin be added, no uric acid whatever will be precipitated. This restraining action of the formalin on uric acid precipitation is very interesting. Only a minute quantity of formalin is necessary, and if too much be added insoluble quadri-urates are directly formed.

The effect of inoculating urine with the colon bacillus, and maintaining at the body temperature in a brood-oven, varies somewhat according to the amount of sodium phosphate present and as to whether a mono- or dibasic salt. In very acid urine the crystals formed are large spear-pointed dibasic calcium phosphate. When less sodium phosphate is present, acid urates or uric acid may form. As the colon bacillus does not decompose urea, the urine remains acid or even becomes more strongly so. Urine inoculated with the staphylococcus pyogenes aureus deposited large dumb-bell crystals of acid ammonium urate. One of the most important features of the formation of these crystals is their accumulation in masses. This tendency is due directly to the growth of the bacteria and their agglutination to form zooglea masses. These latter become infiltrated with the characteristic crystals so that little clumps of considerable size are formed, composed of the crystals, bacteria, epithelial cells and granular matter held together by an agglutinating substance produced by the bacteria. Such masses adhering to the wall of the pelvis of the kidney, or resting in some nook of a calyx, may form the starting point or nucleus of a calculus. About this nucleus the salts of the urine crystallize, the particles being held together by an agglutinating framework of organic matter.

If we turn now to the clinical aspect of the case, we find substantiation of the assertion that all renal calculi are of bacterial origin. It is a well-established fact that the kidneys eliminate microbes whenever they are present in the blood, and usually without themselves becoming invaded by the microbes. The experiments of Biedl and Krans[14] in this direction are very interesting. The condition known as bacteriuria, in which bacteria—frequently the colon bacilli—are eliminated in the urine for considerable periods of time, is not uncommon. While the kidneys are not the source of the bacteria in all cases, they are in many, and Nicolayson[15] calls attention to the frequency of bacteriuria as a cause of enuresis diurna in children, and mentions Rovsing's two cases in which the bacteriuria was accompanied by small renal calculi. Baginsky[16] states that he has found the colon bacillus in the urine of infants suffering with intestinal troubles, and that the bacilli at times cause a pyelonephritis. He has found masses of the colon bacilli in the pelvis and canals of the kidney.

Finkelstein and Posner[17] have also found little clumps of colon bacilli in the urine of infants. Senator[18] says the uric acid infarcts of the new-born disappear if the child lives and develops well, but "in weak, badly nourished infants, especially such as suffer from vomiting and diarrhea, an infarct mass may be the starting-point of a stone in children." The connection between intestinal disturbances and the appearance of the colon bacillus in the urine in infants has just been mentioned.

Eichhorst [19] mentions the case of his own son, age 10 years, who, shortly after an acute attack of vomiting and diarrhea, with fever, passed several small, sand-like concrements with the urine. Ebstein,[20] in speaking of the connection between acute infectious diseases and stone formation, mentions two cases of uric acid stones following influenza or la grippe, and Alison[21] also calls attention to the association of uric acid stones with influenza. In the pregnant and puerperal state, infection of the kidneys is prone to occur. Vinay[22] particularly directs attention to the pyelonephritis of pregnancy, and Reed[23] has recently mentioned a case due to the colon bacillus. The importance of this is shown by the fact that, in women, many with renal calculi note the beginning of their trouble shortly after a confinement. This association was shown in one of my own cases; in one reported by Lennander[24] and two by Rovsing.[25] My own case was the uric acid stone already mentioned, in the center of which was found the short, rounded-end bacillus.

In Lennander's case, in addition to the stone, was found a brownish mass composed of a fibrinous, albuminous body, urates, coloring matter of the urobilin group and zooglea masses of colon bacilli. In both of Rovsing's cases agar gelatin cultures made from the sterile-obtained urine developed the colon bacillus.

The child from whom I obtained the small calculus, already mentioned as containing a coccus resembling the staphylococcus, had suffered some months previously from a burn which suppurated for some time.

Rovsing (*l. c.*) mentions the case of a man from whose urine a pure culture of a white staphylococcus was obtained, which decomposed urea; also one of a woman from whose urine was obtained a culture of a staphylococcus which did not decompose urea and a bacillus resembling the colon bacillus. Bartlett[26] reports a case of a calculus of the left kidney in a man who had suffered for years with general digestive troubles, and from whose urine was obtained a streptococcus of undetermined variety.

The foregoing illustrations have been selected from the class of so-called primary stones, as the dependence of secondary stones on bacterial decomposition of the urine has long been recognized.

Based on the above-mentioned facts, experimental and clinical, I think we are justified in making the statement that practically all kidney stones are of bacterial origin. The subdivision of kidney stones by Albarran, into primary and secondary stones, the former being considered of non-bacterial origin, and the latter of bacterial origin, however, is of great practical value, as will be seen later, if we base the classification not on the character of the stone, but on the state of the kidney. In primary stones the bacteria are eliminated by the healthy kidney. They develop in the urine in the tubules, calyces or pelvis, where they lead to the stone formation, as above described, without invading or setting up pathologic changes in the kidney proper.

In secondary stones the kidney is already the seat of active bacterial invasion, and the stone formation is subsequent thereto. The great danger of primary stones is that they may determine bacterial invasion of the kidney, in which case they thereafter partake of the nature of secondary stones. Kidney stones may exist at any time of life, from early infancy to advanced old age, but are most common between the ages of 30 and 60. The symptoms may be discussed under three heads: 1. Pain, including tenderness. 2. Changes in the character of the urine. 3. Abnormal urination.

The pain is of two kinds: acute intermittent paroxysms which are so familiar to all under the name of renal colic, and the dull, more or less constant ache in the lumbar region or the lateral abdominal region. This pain is usually increased by exercise, and may radiate in most any direction, downward to the bladder, upward to the costal region, across the abdomen or into the thigh. Morris, in his "Renal Surgery," mentions some very interesting and instructive cases, showing the bizarre character which the pain of renal calculus may, at times, assume. One of the most important features of the pain is the fact that it may rarely be located on the side of the body opposite to the kidney affected. Such a case is mentioned by Tuckerman.[27] The pain and tenderness were both on the opposite side. Battle[28] mentions a similar case. Persistent pain in the latero-lumbar region, or radiating in any direction from this region, which is otherwise unaccountable, should always excite a suspicion of renal calculus. Tenderness over the region of the kidney, or along the ureter, is often present and may be of some importance in determining the side affected.

Under the head of urinary changes, we may mention the presence of blood, pus, epithelial cells, crystals and bacteria in the urine. The character of the hematuria is of some diagnostic importance. A sudden macroscopic hematuria is probably not due to a stone in the kidney. We more commonly meet with microscopic hematuria. The rather constant presence of a few red blood cells in the urine discovered only with the microscope, which quantity of blood may be increased by exercise, such as dancing, riding, driving, etc., to visible proportions, is quite characteristic of kidney stone. The hemorrhage is due to the local action of the stone on the walls of the cavity which contain it, and is proportionate to the roughness of the surface of the stone and its degree of mobility. A small movable stone may excite considerable bleeding, while a very large fixed one almost none. Pus in the urine is simply indicative of an infection of some portion of the urinary tract. With the exception of the secreting cells of the kidney, we are unable to determine, by their appearance, from what part of the urinary tract the epithelial cells have had their origin. The rather frequent or persistent presence of particular crystals in the urine, in considerable amount, may give us a hint as to the character of the stone present.

Bacteria in the urine are of diagnostic importance, aside from determining the kind of infection, only when taken in consideration with other symptoms. It will be seen that the urinary changes in themselves are not diagnostic of renal calculus, for the simple reason that we are unable to tell, from their mere presence alone, from what part of the urinary tract the pathologic products have had their origin.

In order to be certain of their origin, it is necessary to collect the urines directly from the kidneys, either by catheterizing the ureters or the use of the urine segregator. The former procedure is difficult, and to the majority of physicians impossible. The use of the latter instrument is much simpler, and has afforded valuable information, not only as to the location of the pathologic process, but as to the kidney involved. The value of uranalysis in the diagnosis of renal calculus has been well stated by Rovsing (*l. c.*), who says: "A careful examination of the sterile-obtained urine is of the greatest importance. If we find the urine perfectly normal in a patient, with pain simulating renal colic, we may, with almost certainty exclude nephrolithiasis, for a calculus that produces pain gives rise to pathologic elements in the urine, albumin, epithelial cells, red and white blood cells, crystals, sometimes casts, etc. A bacteriologic examination must always be made, whether pyuria or hematuria be present, to exclude confounding with tuberculosis, which, in the beginning, often announces itself with hematuria, with or without renal colic, and later is accompanied with pyuria." While, as stated, a stone which gives rise to pain almost always gives rise to pathologic elements in the urine, it should not be forgotten that we may have a stone fixed in the parenchyma of the kidney, giving rise to pain for years without the appearance of any pathologic elements in the urine, as has been reported by Muller.[30]

Dr. L. L. McArthur was probably the first in this city to recognize a renal calculus by means of the X-ray. Since then the value of this agent in the diagnosis of kidney stones has been repeatedly demonstrated. It should be remembered, however, that the X-ray is of value only in a positive sense, that is, when an unmistakable shadow of the stone is cast. The presence or distinctness of the shadow depends on the nature of the stone. Oxalate of lime stones cast the darkest shadow, white urate ones are often invisible. If no stone is visible, therefore, by the X-ray, it is no evidence whatever that no stones are present, as numerous reported cases in the literature demonstrate. Makins[31] mentions a case in which there were sixteen stones in the kidney, yet no evidence of their existence was visible on the plate. It is highly probable that improvements in plates, apparatus and methods will greatly enhance the diagnostic value of this discovery.

A very important point in this connection is the frequency with which both kidneys are simultaneously affected. This has been variously estimated at from 10 to 50 per cent. The statistics of Albarran, which place the percentage at 16, or about one case in six, are probably not far from the truth. The importance, therefore, of always carefully examining the urine of each kidney separately in every case of suspected stone, is apparent.

Before proceeding to the treatment we will briefly mention the dangers to which a patient is constantly liable who is the subject of a renal calculus. In primary stones there is the constant danger that the kidney may become invaded by microbes, thus producing a septic local or general nephritis, which not only tends to the destruction of the kidney as a secreting organ, but is a constant source of infection to the system. The stone may partially or temporarily obstruct the ureter, leading to the production of a hydro- or pyonephrosis, with eventual destruction of the kidney. Complete obstruction of the ureter may occur, causing sudden and complete anuria, a condition of the greatest danger to the life of the patient. With these dangers constantly present it needs no argument to support the statement that every case of kidney stone is a serious condition that demands radical treatment. So far as the medical treatment is concerned, I know of none except it be symptomatic.

The possibility of dissolving a stone in the kidney seems as remote as that of dissolving one in the bladder, a hope long since abandoned by surgeons. The usual alkaline springs that have enjoyed a favorable reputation in these cases are often productive of more harm than good, and Rovsing (*l. c.*) quotes cases in which he thinks the stones were undoubtedly increased in size rather than diminished by the treatment. Albarran[32] says: "When the diagnosis is made one ought to interfere." The stone should be removed and there is, at present, no other way except by operation. It will be impossible to describe in detail all the points connected with the operation for kidney stone. The points will be but briefly dwelt on.

The kidney should be approached by the lumbar route. After being thoroughly freed, it should be carefully palpated. If no stone be felt, it should not be concluded that none exists, but the kidney should be freely incised along its convex border so that the interior of the pelvis can be thoroughly explored. Needling is quite unsatisfactory, and any kidney that has given sufficient trouble to warrant its being cut down upon demands a careful examination inside as well as out. Zondek[33] says that the blood-vessels of the kidney do not divide exactly in the sagittal line, but a little posterior thereto. He recommends that the incision be made accordingly, as at this point the hemorrhage will be the least. A kidney should not be incised unless it be under the complete control of the operator, so that the hemorrhage which arises may be easily controlled by pressure. It is not advisable to clamp the renal vessels during the operation, as there is not only danger of injuring the vessels in the attempt to adjust the clamps or by too firm pressure, but experiment has shown that if the kidney be deprived of blood for more than fifteen minutes, degenerative changes in the secreting cells are liable to ensue. Every portion of the interior of the kidney should be carefully examined so that nothing escape detection. When found, the stone or stones should be gently removed, so as not to lacerate the kidney tissue. If too large to be removed entire, it should be crushed and removed piece-meal. The interior of the kidney should then be flushed with warm, sterile salt solution, so that no portion of the stone may remain behind to furnish the nucleus for a recurrence. The patency of the ureter must always be demonstrated. The hemorrhage should be controlled by hot water and pressure, and care taken that no blood clots be allowed to remain in the pelvis, as they may form the nuclei of new stones, as reported by Tuffier.[34] The incision in the kidney is now closed with catgut, and the external wound closed with the exception of a small gauze drain leading down to the kidney, as a provision against leakage. Should all go well, at the end of forty-eight hours the gauze drain should be removed and the wound completely closed. This is the operation of nephrolithotomy in a kidney not the seat of bacterial invasion. When the kidney is already septic, as in secondary stones, primary suture is impossible and drainage must be established. However badly the kidney may appear to be involved, primary nephrectomy in these cases is seldom advisable. It will be impossible to enter into the details of the various operative procedures that have been instituted for the relief of the numerous complications, such as ureteral calculi, strictures of the ureter, sacculated kidneys, abscesses, etc., which may be present in these cases. When both kidneys are affected, it may be necessary to do a double operation, as mentioned by Wagner,[35] Pinner,[36] Godell and Turner (quoted by Wagner).

The mortality of operation for stone in the aseptic kidney, as given by Albarran (*l. c.*), is a little over 3 per cent.: in septic kidney over 10 per cent.

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PATHOLOGY OF RENAL NEOPLASMS.*

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During the past ten years great progress has been made in the pathology of renal growths. Uncertainty and confusion existed in our knowledge of their nature previous to that time. At present the diagnosis of renal tumor or cancer will not suffice. Microscopic examination must be carried out in every case, and growths should not be reported in the incomplete manner formerly the custom. We now know that the tumors or new growths of the kidney belong to two groups: The benign, including the fibromata, the lipomata, adenomata and angiomata; and the malignant, that includes the carcinomata and sarcomata. An intermediate class is formed by the so-called Grawitz tumors, which may occur in a circumscribed form as benign or in a more diffuse manner as a malignant tumor. These various forms will be taken up in detail later.

In regard to the frequency of renal tumors, one author found only six cases of primary renal growth in 1400 autopsies. Virchow gives ½ of 1 per cent. as the rate of frequency. The kidney is an organ but seldom involved by secondary growths. Kelynack, in 195 cases of malignant disease, found secondary deposits in the kidney in 8 per cent. of the cases of sarcoma, and in 14.5 per cent. of those of carcinoma. These metastatic tumors do not reach any considerable size, and are generally not numerous. They might therefore be left out of consideration for surgical purposes in speaking of renal neoplasms. In regard to the frequency of the different forms, in 306 cases occurring in both sexes at all ages, there were 187 sarcomata, 142 carcinomata, 15 fibromata, and 12 adenomata. We thus see that for clinical purposes we might leave out the benign forms of new growths.

The etiology of renal neoplasms, like that of growths elsewhere, is still in darkness. Embryonic defects play a distinct rôle. The development of the kidney is very complex, and the inclusion of muscle fibers, both striped and unstriped, of bone and cartilage can be easily explained, some cells of the mesoblast being included in the primitive kidney. This explains the frequency of renal sarcomata in children. The growths arising from adrenal inclusions have been referred to as Grawitz tumors above. Heredity and traumatism seem to have but little influence in the etiology of renal new growths. A direct and not infrequently observed relation between calculi and carcinomata undoubtedly exists. They have been met with in association in a number of cases, and there is sufficient evidence to indicate a clear etiologic connection. Floating kidney has also at times been given as a cause for new growths, but without much evidence in favor of it. Race seems to have no influence. Renal tumors seem to occur more frequently in the male than in the female sex. In regard to age, Kelynack found that the tumor occurred below the age of 10 years in over 52 per cent. of 160 cases, and of these in about 60 per cent. below the age of 5 years. In regard to size, Spencer Wells has described a tumor weighing sixteen pounds in a child of 4 years. The average weight of twenty-four growths below the age of 10 years was about eight pounds, and of nineteen above the age of 21 years, five pounds. In the average number of cases the general outline of the kidney is retained. This is not the rule, however, for in the nodular form of carcinoma the organ is enlarged at one pole only, while in the diffuse form it is symmetrically enlarged, and consequently much more difficult to diagnose. In all the varieties necrosis, fatty changes and hemorrhages are very likely to occur and the latter clinically in the form of hematuria. Both sides are affected in equal number. The sarcomata are generally soft, although they may be cystic; the carcinomata harder and more elastic. Renal growths may spread by direct continuity of tissue, by the lymphatics, or by the veins. The growth most frequently pushes aside the organs and tissues of the abdomen, frequently causing ulceration of hollow viscera. Growth into the pelvis of the kidney, into the perinephritic tissue and along the vessels of the hilum frequently occurs quite early. The secondary growths are generally found late, and are not extensive. They occur most often in the liver and lungs.

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*Read before the Chicago Medical Society.

In regard to the duration of renal tumors, the maximum time for sarcomata is 2½ years, the minimum six to eight months. The adrenal inclusion tumors in carcinomata may exist for years.

Pneumonia or secondary growths in the heart or lungs are the most frequent cause of death. The benign growths are of little importance, and I will simply mention the different varieties; fibromata, that occur in the form of pea to bean-sized, firm, whitish nodules; lipomata, which are either in the pelvis or below the capsule. True lipomata are extremely rare. The other varieties of benign growths are the angioma and the adenoma. The latter change very rapidly into carcinoma. The sarcomata form the majority of renal tumors. They may occur in fetal life, although most frequent in children, as stated above. They grow rapidly, and often without symptoms. They are usually of a round or spindle-cell type, and not infrequently striated and nonstriated muscle-fibers occur. These latter are due to the inclusion of some of the primitive muscle plates. Myxomatous changes and cyst formation are quite common. Angiosarcomata occur, but are quite rare. Carcinomata occur either as alveolar, glandular, or as papillomatous forms of tumor. They may be diffuse or nodular. They originate from the epithelium of the tubules and are subject to the same degeneration as elsewhere. They do not generally grow as large as the sarcomata, are more frequent in men above 50 years old, although a form of this variety of new growth may occur in children. Epitheliomata may arise from the pelvis of the kidney, usually from a papilloma.

The relation of renal growths to the suprarenal capsule has attracted considerable attention of late years since Grawitz, in 1883, described a form of tumor which had always been called a lipoma, as a new growth due to the inclusion during embryonic life of portions of the suprarenal tissue within the kidney. He proposed the name aberrant adrenal tumor. These may remain quite small, and only be discovered at the autopsy, or may grow very rapidly, as in the case reported by Dr. McArthur and myself, produce metastases, and we have all of the characteristics of a malignant growth. Their structure resembles that of the outer zone of the suprarenal body in having cells arranged in rows containing drops of fat and glycogen. In closing this brief description of the tumors of the kidney, I would like to call attention to the fact that much remains to be investigated in this field. Every tumor should be carefully described and subjected to microscopic examination, and confusion will no longer exist in regard to renal neoplasms.

DISCUSSION ON PAPERS OF DRS. M'ARTHUR, HARRIS AND EISENDRATH.

Dr. Maximillian Herzog discussed the peculiar mixed tumors of kidney. He pointed out that we are indebted to Birch-Hirschfeld for having first successfully cleared up the confusion which prevailed as to these new growths, and then quoted, at length, the views of this author regarding the histogenesis of these neoplasms, and also those of Wilms, who contested the theories of Birch-Hirschfeld. Dr. Herzog then narrated his own views as to the histogenesis of these tumors, considering it necessary to enter very briefly into a discussion of the development of the myotomes and of the Wolffian body. These structures are developed from the early mesoderm, which is first differentiated into the myotome and the lateral plate. Between these structures there is formed a thin bridge known as the nephrotome. In the latter the transverse excretory tubules of the Wolffian duct are formed. While these tubules develop, the nephrotome becomes entirely cut off from the myotomes. This is in short the normal course of events.

With reference to the embryonal, renal adenosarcomata of childhood, he assumes that they owe their origin to an inclusion which is formed in the following manner: The nephrotome is not cut off at the normal site, but in such a manner that a part of the myotome is severed from the main mass and remains in connection with the nephrotome. The separation may take place so that only a part of the myotome proper is cut off, or a part of the sclerotome may likewise be taken along. If the former is the case, we have the matrix for striated muscle fibers only; if the latter occurs, we have also the matrix for cartilage. If, now, it is assumed that a part of the nephrotome (Wolffian body), to which tissues of the myotome have become adherent by an abnormal process of embryonic separation, becomes included in the permanent kidney, we have a matrix containing all those embryonic elements which occur in the mixed renal tumors, namely, striated muscle-fibers, cartilage, other connective-tissue elements, and epithelial glandular structures. The latter are derived from the excretory tubules of the nephrotome.

This explanation appears to Dr. Herzog the most feasible one, in that it will account for the character of these peculiar renal neoplasms without being compelled to take refuge in metaplastic processes unheard of in tumor formation.

The material forming the basis of his studies concerning mixed neoplasms of the kidney, and to which he now calls attention, consists of three tumors.

The first case was one operated on by Dr. Denslow Lewis. It was an enormous tumor weighing 5½ pounds, removed from a girl, 16 months old. This, from a histologic standpoint, presented the most perfect type of a mixed embryonal renal tumor or the embryonal renal adenosarcoma of Birch-Hirschfeld. The glandular epithelial structures were beautifully developed and the connective-tissue elements contained a preponderance of striated embryonal muscle-fibers. In some parts the tumor looked like a pure rhabdomyoma.

For the second tumor which he showed, he was indebted to Prof. L. Hektoen, who had diagnosed it as an embryonal, renal adenosarcoma. This tumor came from a child about 2 years old. Histologically the neoplasm showed epithelial, glandular structures, and various connective-tissue elements. Striated muscle-fibers were not found, in spite of a careful search for them.

The third tumor was from a child 9 months old, who came under the observation of Dr. Frank Churchill, and was operated on by Dr. M. L. Harris. He had examined the tissues of this tumor from thirteen different places, yet he had not been able to find any epithelial glandular structures, but only connective-tissue elements of very heterologous types, yet without any striated muscle-fibers. This third tumor, like the two preceding ones, presented those clinical features as they were enumerated above, as characteristic of the embryonal mixed tumors of early childhood. It therefore clinically belonged to this group; yet histologically it presented that type the possible occurrence of which Birch-Hirschfeld predicted in his article on the embryonal adenosarcomata of the kidney, a type characterized by a most extensive embryonal connective-tissue proliferation, yet without epithelial glandular structure, which would therefore have to be classified as an embryonal renal pure sarcoma. The third case presented a tumor of this type.

Dr. Weller Van Hook said that before an operation is undertaken on a kidney, the normal one, and the supposedly abnormal one also, are to be considered. For a knowledge of the abnormal one and its condition, the surgeon depends partly on palpation, but very largely on the urinary findings. In the latter he spoke of hemorrhage, which is of particular importance. The urine should be frequently examined for weeks. Having established the presence of blood in the urine, even in microscopic quantities, it is very important to determine its origin. Any examination of this kind is not complete without a cystoscopic one. As illustrating the every-day importance of the use of the cystoscope, he detailed two instructive cases.

In 1892, without having heard of the work of Fenger, he incised the skin and aponeurosis, separating the muscles over the left kidney, which proved to be normal, in a case in which the right kidney was tuberculous. In 1893, Dr. Fenger published the report of a case on which he had operated in 1890 by this method, determining the presence, size, and the proper consistency of a supposedly normal kidney. He spoke of this because in all cases since then, in which he has thought it desirable to remove the kidney, he has palpated the supposedly normal kidney in this manner. An incision two inches in length in a patient who is not more than ordinarily fat can be made, and the kidney easily palpated without running the risk of subsequent hernia. The risk of infection is slight.

Dr. E. Wyllys Andrews said that neoplasms of the kidney of the type under discussion were essentially insidious in their development. They have been repeatedly mistaken in diagnosis for other forms of abdominal tumor. The cachexia characteristic of these growths in other locations is frequently absent in kidney neoplasms. The tumor is not always easily palpable, and in many instances it is overlooked simply because a careful examination is not made. When such a tumor is found, it is usually rounded, and somewhat easily palpable. Pain is a symptom of value in the diagnosis. It is of a dull, aching character, and not increased by walking. It may be absent, however, in some cases. The treatment of these renal neoplasms is surgical. He thinks one can hardly overestimate the value of the Harris segregator. It is an instrument easy to use, and it gives positive results in a large proportion of cases, with very little risk to the patient.

Dr. Gustav Kolischer disagreed with Dr. Harris that we can rely for diagnostic purposes on pain and dulness in the region of the kidney, also the examination of the urine, collected and separated from each kidney by ureteral catheterization, or by the use of the Harris instrument. Many cases are met with in which the urine can not be collected satisfactorily from each kidney, hence the surgeon is unable to draw any definite conclusion from the small amount of urine passed. The greatest value of ureteral catheterization, or, better still, ureteral sounding, lies in whether the ureter is permeable or not, or whether there be a stone in the ureter or in the pelvis of the kidney. Cases occur in which it is impossible to locate the exact seat of the pain, for the reason that it radiates all over the chest, stomach and abdomen; at the same time, the patient may be in such a critical condition as to call for immediate interference. Sounding of the ureters in such cases is a valuable diagnostic measure. Dr. Kolischer then, by means of sketches, showed what can be accomplished by ureteral sounding. It is possible to push a stone back into the pelvis of the kidney, rendering it accessible for surgical interference later. In his opinion, ureteral catheterization can be resorted to successfully only by experts. The same is true of the Harris segregator. The latter instrument should be used only by skillful and trained hands, because the urinary organs are not to be trifled with.

Dr. Edward H. Ochsner discussed the historic aspects of adenoma of the kidney and of the so-called adrenal tumors described by Grawitz. The aberrant tumors of Grawitz cause severe systemic disturbance; the principal symptom is greatly increased arterial pressure. The patient rapidly becomes very sick, and dies usually with a hemorrhage into the brain or other important structures.

Dr. James B. Herrick said that adrenal tumors not infrequently produce bone metastases in the same manner as tumors of the mammary gland, of the prostate, and of the thyroid, so that in case of bone metastasis, where the primary trouble can not be exactly located, the region of the kidney should be interrogated for possible tumor of the adrenal.

As to the diagnosis of renal neoplasms, some authors place considerable stress on the occurrence of varicocele on the right side as indicative of pressure on the spermatic vein, while others give it a passing notice. In renal tumor there may be a distinct systolic bruit or murmur, sarcomata rich in blood-vessels may give rise to a very loud systolic bruit, and with a palpable tumor aneurysm might be suspected. A tumor of the kidney may simulate an aneurysm by pulsation. The distinct [illegible] of renal tumor rich in blood-vessels.

A few weeks ago Dr. Murphy showed him a case in which there was a large mass in the left side of the abdomen, in front of which was the colon. The patient, a man, 40 years of age, had had some hematuria, and showed distinct secondary anemia and cachexia. This mass enlarged very rapidly as the symptoms only dated back two or three months. He has never seen, in any case of aneurysm, a more perfect expansile pulsation than there was in this large mass. From the hematuria, the location of the mass—which reached to the median line and bulged between the flanks—the cachexia, and the relation of the mass to the colon, it seemed to be a large tumor of the kidney.

Dr. Bertram W. Sippy has had occasion to look up the subject of tumors of the kidney very thoroughly from a clinical and pathologic standpoint, and, so far as he knows, there have been only four cases reported in which adrenal tumors of the kidney have been accompanied by greatly increased arterial tension. Two cases, which he observed post-mortem in Vienna, were accompanied by cerebral hemorrhage sufficient to cause death. The arterial tension was high in these. Neisser has reported a case in which the arterial tension was very high, likewise Dr. Holmes. He did not consider increased arterial tension a very valuable diagnostic sign, because in twenty-nine cases reported by one author no clinical manifestations were noted.

Dr. Frank Billings does not think the treatment of renal calculus is purely surgical, for there are many cases which, by the grace of God, and the drinking of lots of water, get well, and nothing further is heard of them after the first attack. It is not unusual, in taking the histories of patients, to have them say that they have suffered from renal colic years before, and have escaped further attacks. He has had, in his own experience, patients who suffered from renal colic at intervals of every two or three years, but who, under a systematic course of hygiene, careful dieting, plenty of fluids, as diluents, would cease to have these attacks, and he believes that such hygienic treatment is scientific and not entirely symptomatic. While he has not looked up his case histories, nor would he care to state exactly how many cases have been operated on, yet he believes that he has had more recoveries from such treatment as he has mentioned than from operative intervention.

Dr. Harold N. Moyer saw at least a dozen cases of renal calculus in the years of his earlier practice that were not operated on, and the patients are well to-day.

Dr. L. L. McArthur, in closing the discussion on his part, emphasized the use of the ureteral catheter in septic conditions of the bladder. The segregator should be used rather than take the chances of infecting one kidney which it is hoped is normal.

Dr. Daniel N. Eisendrath narrated a case that was operated on by Dr. McArthur and himself with unfortunate results. A man came to him three years ago, presenting all the symptoms of renal calculus. Operation was advised, but refused. The man was placed on medical treatment for nearly two years, at the end of which time he returned with pyuria. He was very much emaciated, and had chills and elevation of temperature. The urine was carefully examined with the Harris segregator, with a view to determining the working capacity of both kidneys; apparently each kidney secreted the normal amount of urine, although the urine secreted from each side contained some pus corpuscles. The percentage of urea was normal, and there was no albumin other than that which could be ascribed to the presence of pus corpuscles. Operation revealed several large stones in the pelvis of the kidney with quite an amount of detritus. Later the man developed anuria, and died. Post-mortem examination showed a kidney considerably smaller than normal on the opposite side. In addition to one large calculus, the six or seven smaller ones removed varied in size from a pea to a marble, each one of which showed the characteristic phosphatic coating over the urates, showing that medical treatment had resulted in an extra deposit of the previously existing calculi.

Dr. M. L. Harris, in rebuttal, stated that Dr. Kolischer had misunderstood him. He did not say in his paper that the only value of catheterizing the ureters was in collecting the urine from each kidney. [illegible] regarding this point in his paper.

THE PHYSICIAN AS A WITNESS IN COURT.*

BY WM. J. HERDMAN, M.D., LL.D.

ANN ARBOR, MICH.

In order that we may get a condition which seems to demand remedial measures well before us, the first thing to be done is to make a careful diagnosis. If all the papers we have heard and the symptoms we have witnessed are to be taken as evidence, the medical expert witness is certainly in a bad way. He needs a thorough course of rational treatment, and that quite speedily, if he is henceforth to perform any function in the healthful activities of human affairs. His defects are of long standing, and are apparently due to some radical defects in his organism. It is a *constitutional* disorder, we would say, and needs strong alterative treatment.

In addition to such evidence as each of you could furnish from your personal experience and recollections, I will present the testimony of some who have put themselves on record and have had abundant opportunity to observe the condition of this witness, and have earned the right to speak with authority about him. One says: "The expert is a topic of the time, he has also been a problem for a long period, and he is almost becoming a scandal[1]." Another says "When it comes to the testimony of experts, that is the subject of everybody's sneer and the object of everybody's derision. It has become a newspaper jest. The public has no confidence in expert testimony[2]." And a third says: "Expert evidence so-called or, in other words, evidence of the mere opinion of witnesses has been used to such an extent that the evidence given by them has come to be looked upon with great suspicion both by courts and jurors, and the fact has become very plain in any case where opinion evidence is admissible, that the particular kind of an opinion desired by any party to the investigation can be readily procured by paying the price therefor[3]." Still another says: "It is generally safer to take the judgment of unskilled jurors than the opinion of hired and generally biased experts,"[4] while a fifth says: "Skilled witnesses come with such a bias on their minds to support the cause in which they are embarked that hardly any weight should be given to their evidence[5]."

This language, which is that of advocates and judges, characterizes a system. "It virtually calls that system a vice. Indirectly it argues and almost demands the abolition of that system. The court has not the power to abolish it but the court has done all the court could to degrade it[1]."

But words of condemnation of the present situation do not emanate from lawyers only. Members of the medical profession are none the less outspoken in denunciation of it. One prominent physician in the East has recently written: "Need of reform is undeniable, and the courts do not exercise sufficient care in fixing the status of medical witnesses. The strictures of legal writers, courts and others are just so far as the existence of demoralization goes. As the law is administered many persons can be found who are ready to arrogate knowledge and position they do not deserve. The dignified alienist of experience and reputation is confronted by the impostor, whose glib manner and bizarre 'popular science' sometimes impress the susceptible juryman as does the proprietary medicine advertisement and whose experience of medicine and its exponents is confined to the quack or the cure-all[6]."

The united medical sentiment of the West is expressed in the following: "the displays of medical expert testimony in recent noted trials are not creditable to the medical profession, have not promoted the cause of justice, and have not protected the interests of society nor aided in the suppression of crime[7]."

This glance at opinion put on record as to the present status of the expert witness in general, and of the expert medical witness in particular, reveals the condition as altogether bad. And I know quite well that the words I have chosen to quote express but mildly the convictions reached by each physician regarding the abuses to which the present practice of employing expert medical witnesses has led. You have all been treated, as I have often been, to the mortifying exhibitions it has given rise to in court, and you have turned with disgust from the palpable evidences of weakness, cupidity, or ignorance in a fellow creature, which it has revealed, or have been convinced of the utter futility of aiding the cause either of truth or justice by such testimony as could be elicited under these conditions from a confessedly honest and competent witness. The court, the advocate, the expert witness himself, the jury, the plaintiff, the defendant and the interested observer have again and again raised their voices in protest against the mockery of the present method of expert testimony.

What is then to be done? Shall the practice of employing opinion-witnesses be abolished? There are not wanting those who would willingly adopt this course if it was one that was at all possible.

There are diseases which at times become so loathsome and distressing, both to the patient and to his friends and attendants, that we would fain subject the offending portion of the body in which the disease resides to prompt removal by the surgeon's knife. But the part or limb diseased may be vital to the welfare of the body, and it can not be sacrificed. By means of it the healthful and perfect operation of that body can alone be maintained. More rational if less radical measures must be sought, through which restitution may be brought about and the proper function of the part established.

"There can be no doubt that the function of expert witnesses is a most valuable one and is in fact indispensable to the proper administration of justice in the courts[8]." When properly chosen, he is a storehouse of truth of a certain order, and to that storehouse we must go when truth of that special nature is needed. He alone can furnish it.

Since, therefore, we can not, if we would, abolish the expert witness from the court, we must set ourselves about correcting the abuses which have grown out of the practice of employing him. This we can do only by seeking to determine what is his true function, and by observing thereafter the conditions necessary to maintain it.

The expert witness is an opinion-witness. He is defined in the "Century Dictionary" as "a person who by virtue of special acquired knowledge or experience on a subject, presumably not within the knowledge of men generally, may testify in a court of justice to matters of opinion thereon, as distinguished from ordinary witnesses who can in general testify only to facts." The medical expert witness is then one who presumably possesses special acquired knowledge and experience in certain of the subjects which come within the science and art of medicine and surgery, and is thereby qualified to speak with authority thereon and to express an opinion which will coincide with the generally accepted views of the medical profession on the questions raised.

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*Presented to the Section on Neurology and Medical Jurisprudence, at the Fiftieth Annual Meeting of the American Medical Association, held at Columbus, Ohio, June 6-9, 1899.

In the meaning of the term which designates him as expert, he must possess at least acquirements equal to the average of those members of his profession whose opinion he assumes to express. Since he is called to give an opinion on the application to the case in question of the laws and principles of the science and art of medicine, he is a witness whose utterances partake somewhat of the nature of judicial rulings. He is to this extent an associate of the trial judge in setting forth the principles and rules which should govern the jury in arriving at just conclusions on the facts brought out by the trial.

The judge on the bench lays down the rules of human law, as they have been established by precedence and practice in the most enlightened countries, *while the chosen representative of the medical profession has for his function to state the rules and principles that should determine decisions and guide conclusions in dealing with facts within the realm of medical science.* It is the duty of the medical expert to discharge this special function with judicial impartiality and fairness. Without fear or favor he should be guided solely by the requirements of his professional knowledge, in stating his opinions, and purge them from all taint of bias or leaning toward the interests of either party in the suit. This is the attitude that truth and justice demand of him, and it is because of his failure to maintain this attitude, either by reason of personal unfitness or of opportunity, that the expert medical witness has been brought into disrepute.

The reasons why the expert witness does not discharge his true function are not far to seek. We will mention a few of them:

1. *He may not be a suitable selection.* Perhaps by reason of ignorance, although he may be a man fairly well qualified, in a general way, to discharge the duties of his profession, he may be wholly unfit to express an opinion on the question to be decided. So wide has the field of medical science and practice become that no one man, however learned and capable, can compass its entire extent, any more than a lawyer, however able, can be fully conversant with all branches of the law. The principles involved in the medical question at issue may be fairly well understood by all thoroughly instructed medical men, but when the question calls for opinions that can be formed only on the experience in some special field of practice, their value depends largely on the nature of the experience and practice which the witness has had. A surgeon is seldom fitted to express an opinion on a question involving the minute anatomy or pathology of the nervous system, or the neurologist to decide as to the most approved method of treating appendicitis. But quite as often the chosen witness is unfit by reason of dishonesty. We will not stop to discuss who is responsible for bringing into a court a witness of this character to serve the ends of justice. That he gets there in the guise of the medical expert is unfortunately too often the case. He may be a dishonest man, though capable, willing to "use the livery of the court of heaven to serve the devil in," or he may be a pretender and a fraud, with no just claim to pose as an exponent of medical science or to express an opinion as its representative, and yet he may be used to gain a point or influence a jury on matters requiring exact medical knowledge.

2. *He is acting under unnatural conditions.* The present practice of obtaining the opinions of experts renders those opinions valueless and misleading. If the expert is ignorant or dishonest, his opinion is of necessity either worthless or harmful. But the capable, honest man in the capacity of an expert medical witness seldom has an opportunity, under the present practices which prevail in the courts, to exercise his true function, and when that function is perverted the result can not be other than disappointing. Called by one side of the case, to bolster up with his medical knowledge the view which the interests of that side require, and given only such evidence as will support that view, none but a one-sided opinion can follow. The medical expert here assumes the rôle of the counsel and not that of the judge. Acting in a partial capacity, while an impartial decision is expected of him, can lead to but one result—disregard by judge and jury of the opinion expressed, and contempt for the author of it. No credit accrues to the man who allows himself to be placed in a false position and prostitutes his learning to ignoble ends or the propagation of what he knows to be half-truths, nor can the ends of justice be reached by such procedure.

If the object in placing the expert witness on the witness stand was for the purpose of obtaining from him the truth and the whole truth for the enlightenment of the court and jury, as far as his special knowledge can elucidate the question at issue, even then the circumstances would be unfavorable to the calmest judgment and clearest and most deliberate opinion of which the witness is capable. The training of the physician is seldom such as to fit him to express his thoughts in the clearest and simplest language before a curious and mixed audience, the most of whom are not familiar with the technicalities of his profession. Disconcerted by the method and manner of interrogatory or cross-examination, his mind is not in the condition customary to his habits of thought, and he is liable to make replies that convey impressions to his hearers very different from his true beliefs or intent, and this when he has the desire to be entirely frank and honest in all that he may say. But in addition to this he is, as a witness, still further embarrassed by the consciousness that he is placed there in the character of a defender of a half-truth or biased opinion. In this attitude of mind he is compelled to run the gauntlet of a strong array of legal talent hostile to his position and bent on destroying the weight of his authority or opinion. Under these circumstances the sorry spectacle which the medical expert often presents, and the incongruity of the testimony he offers, should not be at all surprising.

Even among members of the medical profession there is the greatest difference in the capacity of the individuals for maintaining the scientific attitude of mind. That is a state of mind wherein all facts bearing on the question in hand are sought for and each allowed its proper weight of influence in determining the conclusion reached. Training, habits of thought and action, preconceived opinions, all enter in to warp the judgment of even the most prudent and well-meaning.

Again, while medicine and surgery is rapidly increasing its claim to recognition as an exact science, and in many of its fundamental questions there should be no disagreement among the well-trained and well educated members of the profession, there is still much ground untilled, and in this latitude abundant opportunity remains for honest difference of opinion which it would be against the interests of truth at this stage of progress to attempt to reconcile. When to this state of things are added conditions which of necessity compel [illegible] in the mind of the most sincere and honest man, it need not surprise us that under such circumstances we obtain directly opposite opinions from men of equal learning and reputation in one profession when they are employed as experts.

Having now, I trust, established a rather clear diagnosis of the deplorable condition of the expert medical witness, and having pointed out some of the main causes that are responsible for that condition, the question arises: what are the remedies? The treatment must be somewhat radical, but the remedies, if they are desired, are at hand. They are these: 1. Let competent and honest men be chosen for medical experts. 2. Place them under conditions favorable to a judicial state of mind, and give them the freest possible access to all the facts on which they are expected to base an opinion.

In applying this treatment, the court, lawyers and physicians must act in concert. Both lawyers and doctors have taken part in casting reproach on the situation as it is, and there has been a disposition on the part of the members of one profession to hold the members of the other responsible for all the abuses that have grown out of it. The truth is, each must shoulder a share of the responsibility. The lawyer has created a demand for opinion-evidence in support of a one-sided view of facts, and the physician has been only too prompt to furnish it. The honor and dignity of both professions will be enhanced and the cause of justice promoted if they will unite on the purpose to bring about the needed reform.

Competent and honest men in the medical profession, worthy to act as medical experts, can usually be found within the jurisdiction of any court where such evidence is required. But how shall such selection be made? Whose province shall it be to designate those who are competent to act as experts, and how shall they be chosen? Various plans have been suggested for accomplishing this, none of which have seemed to me quite fair in all details or adequate to meet all the requirements. The practice in other countries may serve to enlighten us somewhat as to the direction our efforts of reform should take, but the difference between the conditions in this and any foreign country would prevent us from adopting outright any plan elsewhere in operation.

"In France the court may order an investigation and report by experts whenever it deems it advisable. If the parties can not agree upon the experts the court appoints them. They are at least three in number, and are generally, though not necessarily, selected from a list of specialists termed *experts assermentes.* The order directing the investigation contains a statement of its precise object and appoints a referee, or *judge commissaire.* Barristers, or *avocats* are not allowed to appear before the experts, but the parties are represented before them by solicitors (*avoués*) and sometimes by persons specially skilled in the matter of the investigation. The report must be signed by all three of the experts; and if there be a dissent, the dissenting opinion and the reason for it are set forth in the body of the report. The judges, however, are not at all bound by the report if it is opposed to their convictions."

"In Germany since 1870, under the code of civil procedure for the German Empire, after the issues are framed on which expert testimony is sought, the parties may agree upon the experts, and the court appoints those agreed upon, but it may confine the parties to a given number of experts. Sometimes the court submits to the parties the names of a number of experts and allows each side to object to a certain number of them and then appoints those remaining. There exists in Germany a class of officially appointed experts on certain subjects, and in trials which concern these subjects such experts have the preference in appointment, unless there exists some special reason why they should not be appointed."

In Prussia it is said to have been the custom to appoint a physician and surgeon for every county. In addition there was a medical college in each province, to which an appeal lay if the experts disagreed or the parties desired it. In addition to this there was an appellate medical commission for the whole kingdom.

But in Germany, as in France, the court is not constrained to follow the expert opinions, and if it is not satisfied with them it may order a new expert opinion from the same or from other experts[9].

In this country, within recent years, several attempts have been made to secure from the legislature of one and another state, action on bills that have been carefully prepared with the view of correcting some of the evils now attending the employment of the expert witness. The initiation in this action has, I am pleased to say, been taken in some instances by physicians, in others by lawyers. Six of the medical societies of Chicago, instigated by the mortifying exhibitions made by expert medical testimony in the Cronin and Prendergast cases, recently appointed a joint committee of eighteen reputable physicians to draft a bill which was presented to the legislature of the State of Illinois for passage, backed by the recommendation of the Illinois State Medical Society. The provisions of that bill were as follows:

> Be it enacted by the people of the State of Illinois in the General Assembly represented. That the judges of the circuit and superior courts of the State of Illinois, be and the same are hereby authorized to appoint in the month of January of each year, persons who shall act as expert witnesses in the medical and other sciences in giving opinion upon evidence, as presented in a hypothetical form, of criminal causes that may be on hearing in the courts presided over by the said judges. Such expert witnesses shall hold their said appointments for one year or until their successors are appointed and qualified. They shall be entered as expert witnesses upon a list of such witnesses kept by the circuit clerk, and the said clerk shall issue a certificate of appointment as such expert witness to the person appointed as above.
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> Such expert witnesses shall be citizens of the State of Illinois and shall be known in the communities where they reside for their professional competency and personal probity, and if physicians they shall have been at least five years in regular and active practice. When expert opinion is desired in any cause pending in a criminal court, the trial judge presiding in such cause may, at his discretion, summon for duty under this act, such expert witnesses to the number of three. Such expert witnesses shall be paid for their services by the county in which the trial for which they are summoned is held, in such sums as may be named by the judge.
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> It shall be the duty of such expert witnesses to give an opinion on the evidence as presented in hypothetical form in the case in which they are called. Such experts shall be subject to cross-examination by both prosecution and defense; but such cross-examinations shall be limited entirely to the subjects embraced in their opinion.
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> In criminal cases previous to trial, if the state attorney deems it advisable to have expert opinion he shall state to the court having jurisdiction of the cause, and the judge receiving such statement may summon expert witnesses to serve under this act.

Recent discussions on the subject of expert testimony in joint meetings of lawyers and doctors in Philadelphia and elsewhere in Pennsylvania, and the frequent allusions made in the medical and legal journals, to the need of reform, have resulted in a measure which has been brought before the present session of the Pennsylvania Assembly, and purports to have legal authorship.

This act calls for the appointment of one or more experts by the court. But such appointment is only to be made on petition of one or the other party to the suit, and, as we understand it, by mutual agreement. The experts are to be chosen by the court, either from names selected by the parties to the suit, or by the judge himself; or even, in some cases, two experts are to be chosen by one or other of these methods and a remaining expert is then selected by these two. In cases in which such official experts are appointed, the parties shall not have the privilege of calling their own experts as heretofore: but in cases in which no official experts are called, then the old method of each party calling his own experts shall prevail. In other words, the new rule permits the creating and choosing of a board of experts to be entirely optional and by mutual agreement. This, in itself, we think, defeats the purpose of the whole act, and would inevitably lead to a resumption of the old practice with all its solecisms and abuses.

An admirable provision, however, of this act, is that the official experts shall not, under penalty of fine or imprisonment, make known their opinions to either party, or to any person, before the trial. They must either be present at the trial, or must read a copy of the testimony, before giving their opinion. They are not to be called by, or to sit with, either party, or help him to prepare his case, but are to be called during the trial at a time determined by the court. They may, however, be cross-examined by either party. They may suggest to the court questions to be asked witnesses, but such suggestions may or may not be accepted by the court at its discretion. Either party has the privilege of moving to strike out an official expert's opinion on the ground of incompetency—a question to be decided, of course, by the court, subject to exception and appeal.

A most important section in this proposed act is the one abolishing the use of hypothetic questions, and requiring experts (whether official or not) to base their testimony on facts.

These official experts are to be paid by the county, or at least the money is to be advanced by the county, which can, in some instances, reimburse itself from the party to whom are adjudged the costs. This means, practically, that the county guarantees the fees—and in most criminal cases would really pay them.

The first earnest attempts to secure some betterment of the status in court of the expert witness through legislation were made as far as we know in the State of New York. Some of the severest strictures on the conduct of the medical expert witness have emanated from the New York bench, and the better element in the medical profession of that state, smarting under what they have had reason to regard as unjust criticism of the profession and its members, where the system was at fault, have made strenuous efforts in recent years to bring about improvement in that system. So far these efforts have failed to get on the statute book any enactment embodying the suggestions made. But, nevertheless, their endeavors have been educative and have done much to reveal to all thinking minds the true situation, and will in time prevail. The measure proposed by a committee of the New York State society provides for the appointment, in criminal trials, of medical experts by the *court or presiding judge*.

who shall appoint such expert witnesses, not exceeding three in number in each case, to pass upon all hypothetical questions. Said experts shall have access to all evidence, and to the person of the defendant, in the presence of all the experts called, as well as have power to examine medical witnesses as to their knowledge of the facts, and also to hear expressions of their opinions relative to the significance of observed facts, when willingly given. It should also be provided that the judge may hear proposals from counsel as to the appointment of experts in any given case. The expert or experts shall submit to the court, for transmission to the jury, a report in writing attested by their oath, setting forth their conclusions, together with the facts upon which they are based. The report shall be signed by all the experts taking part in the examination, providing they agree upon the essential points at issue, if not, a dissenting report or reports may be made by individual experts, the same as opinions are handed down from the Appellate courts. In case of a disagreement as to the essential points; the judge should have power to dismiss the report, together with the experts making such report, and appoint other experts should he deem it advisable. If counsel demand it, these experts may be sworn as witnesses, and cross-examined in such manner as the presiding judge may deem pertinent and necessary to the case.

The experts so appointed shall be persons of repute, holding a certificate of qualification as hereinafter described, in the particular branch of medical science to which the question calling for expert opinion relates. Compensation for such service shall be fixed by order of court, at a rate which shall be reasonable for professional services of such a nature, and paid in the same manner as other court expenses.

The above named certificate of qualification is to be issued by the Board of Regents, and filed in the County Clerk's office in the county in which the holder of such certificate is a resident, such certificate to be obtained in the following named manner:—

The applicant for a certificate of expert qualification shall furnish reliable evidence to the State Board of Medical Examiners, that he is legally qualified to practice in the State of New York, and is of good standing in the medical profession, that he has not less than 5 years' experience in the practice of the special branch in which he desired to qualify as an expert. On the passing of such examination to the satisfaction of said Board, there shall be issued to him, in the same manner as a license to practice is now issued, a certificate of qualification to give expert testimony in the particular branch or branches therein specified, and when properly filed, all physicians holding such certificate shall be eligible for appointment by the courts or may be called by the defense as expert witnesses. The testimony of any medical witness called by either plaintiff or defendant not holding such certificate, shall be restricted to evidence in fact.

We may safely conclude that these three plans, originating in the representative states of New York, Pennsylvania and Illinois, indicate fairly well the high-water mark of professional opinion, both legal and medical, as to what is possible and practicable in the way of reform so much needed in the matter of securing expert testimony.

The suggestions taken from all these sources that are found to harmonize may be epitomized as follows:

1. Experts should be appointed by the trial judge.

2. Their compensation should be made a part of the expenses of the court.

3. They should have abundant opportunity to investigate all the facts of the case on trial as far as they have a bearing on the opinion they are expected to deliver.

4. That opinion should be given to the court in writing, signed and sworn to.

5. Any dissenting expert opinion must be also in writing and contain a statement of the grounds on which the dissent is based.

6. The experts may be sworn as witnesses and cross-examined, but the range of the cross-examination is not to extend beyond the limits of the subjects embodied in the opinion which they have been asked to express.

It will, I think, be readily seen that the effect of the adoption of such suggestions as these, and their embodiment in statutory enactments, would be to put expert testimony on a higher plane than it at present occupies. If there is any additional suggestion that could be added, to advantage, it would seem to me to be one which would insure beyond all question a class of honest and qualified experts from which the judge, plaintiff or defendant must select. This selection can not safely be left unguarded to be determined by those whose experience and training in no manner fits them for judging of the professional qualifications or integrity of a man whose life is occupied with matters foreign to their field of thought.

There is at present no uniform system in the various states by which the professional standing and qualifications of medical men can be fixed. The Board of Regents of the State of New York, and in certain other states the State Board of Medical Examiners, furnishes a safe and reliable means for putting to the test and passing upon the claims of any who may wish to be classed as experts in any special branch of medical science or art. It would be a simple matter in these states to institute the requirement that has been suggested in the New York plan, whereby no one would be eligible to be selected as an expert to testify in court who does not hold a certificate of competency from the legally-constituted authority.

In states where such a board of examiners has not yet been established, nothing would seem more fitting than that the representative medical organization of each county and state should, at stated or annual meetings, name from among their numbers certain ones who, in the judgment of the majority of that body, are regarded as competent to act in the capacity of experts and to stand as exponents of medical opinion on matters that may require for the proper administration of justice the kind of knowledge which medical science or art alone can furnish. This plan would readily furnish a gradation of courts for the expression of medical opinion. If the experts selected by the county society should not render an opinion satisfactory to the court or litigants, appeal could be made to the opinion of the experts selected by the state society, and so on, if need be, to those selected by the national association. The national association would thus exercise the authority, in matters medical, of a court of last appeal whose decision would be final. This would seem to furnish a working plan quite simple and feasible, and one that would be acceptable to all whose desire is to have defects and abuses in a most important matter remedied and the cause of justice advanced.

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DISCUSSION.

Dr. Charles H. Hughes, St. Louis, Mo.—The difficulty about this expert business consists in the rights of the litigant, the undoubted right to have such testimony as he deems proper to submit to the court and jury in his behalf. The court may select an *amicus curiæ*, and it does in many instances. It was only last month that I was selected to represent the court and yet each party had its set of experts. I made my examination as the friend of the court; the other gentlemen made examinations, and we harmonized on all the facts, but our conclusions were somewhat different.

Another difficulty in the way of expert testimony consists in the construction of courts on the subject. One thing we can insist on is the clinical qualifications of an expert. This will often throw out a great many experts who have had no actual experience. There should be personal verification. If the clinical test is applied by the courts, better results will be obtained.

Dr. Bishop, New York.—What we need more than anything else is a medical jury. Medical testimony is really no worse than any other kind; the trouble is that the jury is not capable of judging it. I have been interested in New York State in the proposed bill, and have gone over the matter very carefully, but it does not seem to me that it exactly covers the ground, or that it will be possible to exclude any experts that the counsel of either side wishes to bring in, but it will be possible for the public authorities, such as the Board of Regents, to select a class of men who are adjudged competent to be experts, and from these it would be possible for the court to select an expert, representing the court, who would hear any expert testimony that either side chose to present and then pass judgment on that as an assistant of the judge. This expert or assistant would, according to the plan I propose, hear as much testimony as either side would care to bring in, and then report his judgment to the court, this expert being subject to question and examination.

Dr. Bishop of Pennsylvania.—It is impossible to establish a law until you have first fixed on the facts upon which to predicate it. When any of these experts are called in for instance in cases of personal injury, they get a standing by testifying as to the facts within their own knowledge, and then testify as experts, and you can not exclude them. One advantage would be to bring the professions of law and of medicine into greater intimacy. I would suggest that medical men attend meetings of the legal and lawyers those of the medical profession. To some extent the judge does have something to do with the selection of the experts even under our present laws, because he decides whether or not a man is to be admitted as an expert. The unfortunate thing with professional men is that as soon as they get on the stand they wish to vindicate their knowledge, and they try to answer two questions with one answer. If they undertake to answer a double question they will very likely get into trouble.

Dr. Denslow Lewis, Chicago—The remarks of the essayist are of great interest to me. They display the same logical trend of mind which I was accustomed to recognize in him twenty-five years ago, when I was privileged to study anatomy under his supervision. The solution of the problem presents great difficulties which, I fear, will not be overcome during our lifetime. One fact, however, should be recognized. In actual practice physicians and other expert witnesses are called to assist counsel on one side or the other. They are not expected to give impartial testimony; they are to some extent partisans but they are not necessarily dishonest nor disreputable. Employed to assist counsel in the conduct of the case, they supply peculiar knowledge which the lawyers use to their best advantage. I have passed through an interesting experience, I might, perhaps, say a martyrdom, during the last nine years. It may interest the members of this Section, especially as it relates to the payment of the fee of the expert witness. In Illinois, since Nov. 1, 1897, the Dixon decision is the law, and that decision has to a great extent determined the law of the land. Very briefly I may say that Dr. Dixon, of Sangamon County, was called by subpena in a case involving some injury to a woman who had fallen on a defective sidewalk. He refused to give expert testimony except on the payment of a suitable fee. After two years of litigation the supreme court decided that the expert witness is only entitled to the statutory fee and mileage. My case was different. A woman was injured on the cars nine years ago. She called on me to treat her and also to assist her counsel in the conduct of her case against the railroad company. I was in consultation with her attorneys for several years, and, to make a long story short, after all appeals had been taken she received $9000 in cash. She then refused to pay me the modest sum of $100 for my services. When I sued her the circuit court rested entirely on the Dixon decision, and I was defeated. The judge practically decided that the Dixon decision had settled all matters relating to expert testimony, and that under no conditions could an expert witness collect more than the statutory fee. After several years of wiating the appellate court finally decided in my favor, and by this decision the rights of expert witnesses are to some extent conserved. It is determined, moreover, that if a physician, at the request of a party to a suit, performs an extra service for such party in the prosecution of the suit, a contract for compensation for such services is a valid one, and a recovery can be had thereunder.

The point as to the legality of contract for extra compensation beyond the statutory witness fee, for the mere giving of expert testimony, is not raised. It is possible the Dixon decision has definitely settled that question. As an expert always renders some service beyond that of merely testifying, in the way of counseling with attorneys, if not otherwise, the probability is that the effect of the Dixon decision is nullified. In any event, we are now protected against those who would accept the benefit of our services and then repudiate the contract under which they are rendered, provided only the contract be for more than the naked testimony.

Dr. Given, Cleveland, Ohio.—It strikes me that the fault in this matter lies primarily with the physician, next with the court, and last with the jury: with the physician, because we are too anxious to express ourselves before we are called on the witness-stand; next because we answer double questions on the witness-stand, and last because the judge is not a competent authority with regard to medical evidence or with regard to a medical statement, and he has not the ability to interpret the evidence from a medical witness to the jury. It seems to me that this might be overcome by an associate judge in all cases where expert testimony is required.

Dr. Harold N. Moyer, Chicago.—This is a perennial topic; there were published in the medical press of the United States, during 1898, 236 articles on this subject alone. The medical man is nothing of late years, unless he is a reformer. Is it the business of the medical profession to reform the world? Human institutions are generally imperfect. Would it not be possible to frame an indictment against almost any institution, which would be quite as strong as the one against medical expert testimony, that was read by Dr. Herdman. Medical expert testimony is only a branch of other expert testimony, and with other expert testimony, as for instance with that as to the value of real estate in condemnation suits, is simply a double-distilled essence of honesty.

I doubt the strength of the indictment against the expert system. There are some leading cases in which there is a great conflict of medical testimony. I am occasionally in the courts in my city and I am familiar with the men who give testimony, and nine-tenths of that given there by medical men is trustworthy, and makes toward justice. I wish to go on record as distinctly saying that members of the medical profession in the main are all right on this question of medical testimony, and that at least 90 per cent. of this testimony is an aid to the courts. This is not to say that the present methods of introducing are perfect, but they are not so bad as have been described, nor will proposed changes secure a condition of affairs beyond criticism.

Dr. F. Savary Pearce, Philadelphia.—It occurs to me that the teaching of medical jurisprudence to all law students, such as Dr. Herdman teaches in his university, would be a step in the right direction. We need better co-operation of the legal fraternity in this matter.

Dr. A. E. Sterne, Indianapolis, Ind.—The question of expert testimony by physicians is one we have frequently discussed in this Section, and my views have been but slightly changed in relation to the subject during the course of years. It seems to me to be a mistake to take any other than an open scientific standpoint on this matter. It is certainly no disgrace, and should be an honor to be a medical expert in the proper sense and meaning of the term. If expert testimony by physicians has fallen into disrepute, as it certainly has, it is the fault of the methods of the law much more than of the expert. As things are to-day, when we are the victims of a practice which allows every liberty to the lawyer, and few, if any, to the witness, it will prove difficult indeed to raise the status of the medical expert. His testimony can readily be garbled in the arguments of the advocates, and there is no possible opportunity to vindicate either the truth of that testimony or the fair and open position of the expert before the court. It happens often enough also that the honor of disinterestedness of the expert are questioned, and there is no opportunity to deny or affirm, when the man is assailed. Unfortunately, the discredit of medical expert testimony is partly—I had almost said, largely—due to certain members of our profession, who act as experts with scanty right to do so. It is equally unfortunate that most of them use entirely too technical expressions to a jury composed of men quite unversed in the questions at issue. As a matter of fact, the position of the expert is not nearly so bad as is commonly believed, for we must not judge from the few cases which become celebrated through the press and forget the many about which nothing is said. My practice is, before taking the stand, to name and receive my fee, and then, when I am asked whether I am to be paid for my testimony, I can say that I have already received my fee and it is a matter of indifference to me how the suit turns out. I never take a contingent fee.

INFANTILE DISEASES FROM THE STANDPOINT OF BIOLOGY.*

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Professor Von Virchow, in "the Huxley Lecture" delivered before the British Medical Association, Oct. 3, 1898, gave utterance to the following statement, pregnant with meaning to the thoughtful physician: " . . . An indispensable foundation for practical work, and particularly for medical practice, is to construct an objective picture of the nature of vital processes." And further: "The local action of cells must determine the practice of physicians and surgeons." This suggests the true ground to occupy in the battle we are called to wage with disease. And before attempting to construct this picture, permit me to fortify and strengthen the dynamics of Virchow's suggestion by a statement, equally pregnant, made by Prof. Lionel S. Beale. In his latest work, "Vitality," published less than a year ago, he says: "Healing processes can take place only through the agency of the living matter." That is, the bioplasm. If this be so, then biology is the foundation of therapeutics. Previous to this, two years ago, Professor Beale had said: "Every pathologic change is consequent upon a vital action." Again, if this is so, biology is the foundation of pathology. This, then, is in illustration and support of the title of my paper.

That we may understand the nature of disease, that we may comprehend its phenomena and know the mysteries of its cause, we must look within; we must enter the vital domain, study the normal activities of life and see the workings of the life processes in their inception and progress. The wonderful fertility of modern ingenuity, in the invention of microscopic and other aids, enables us to do this. The use of these "instruments of precision," in the hands of skilled and careful bacteriologists, makes us absolutely certain of the presence and active agency of the bacteria in the morbid conditions prevailing in disease. But there is also needed the use of that grander and more important instrument, the trained mind of the biologist, the physician himself, to determine the true status and place and part played by the cause, in disease.

Where is the site, locality, ground on which is enacted the drama of disease? Part of it is on the surface of the skin, in the irruption of smallpox and measles, of which we have seen so much recently. Part of it is in the lungs, and in the glands of the lymphatics, where the tubercle multiplies in phthisis, and where lives and thrives the bacillus tuberculosis. Part of it, again, is in the intestinal tube, as in Asiatic cholera, and where.

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*Presented to the Section on Diseases of Children at the Fiftieth Annual Meeting of the American Medical Association, held at Columbus, Ohio, June 6-9, 1899.

tes, and also thrive the bacilli. Macroscopically and microscopically we know this, but we must bring into play our own finer instrument, the logical mind, back of our seeing, or we shall find ourselves "at sea" in what we see, and in what we think we know we shall surely be in error.

To make broad and firm the platform on which we stand in our survey of this interesting part of medical science, I wish to introduce a few salient points as landmarks.

The indefatigable spirit of modern inquiry and research has resulted in establishing that vitality is the basis of all life and growth—vitality, not chemistry. The latter has its own important part to play, but back of the chemic phenomenon, and making use of it, is the vital force activity, of which the cell is the unit (?) and depository. And here, in the infinitesimally small point of bioplasm, or living matter, so minute that a human brain has been estimated to contain three hundred millions of them, five millions of which die and are replaced by new ones each day, there is in dynamo the potency of life. The living, vitalizing force animating each cell is the bioplasm, which Beale thinks is not more than 1-100,000 of an inch in diameter, 90 per cent. of this being water, and all vital power is associated with this living matter.

The lowest exhibition of vital activity is in multiplication and growth. The manifestation of vitality is different in the various cells, but all is subservient to one general end or design. The death of the bioplasm is going on constantly from the inception of life, and its powers are transmitted and transferred to other living matter which comes into existence at the moment of the parent bioplasm's death.

The new bioplasm or living matter was evolved out of the nutrient substance just taken up and into the body of the parent bioplasm, all its powers being at the instant of death transferred to, and now possessed by, the new living matter just entering on its brief career of life. The nutrient substance is in solution, circulating in the interstitial fluids of the tissues, and is taken up by the living matter with which it comes in contact. The maintenance of the normal condition of the various organs and tissues depends on the free circulation of these interstitial fluids, and the taking up and vitalization of the nutrient matters within them.

The vital phenomena then, occurring in the passing of the nutrient matter into the substance of the living matter, and the transfer of life, with all its powers, of the bioplasm now to "die," part of itself being converted into formed tissue of a kind determined by its own nature, or the powers it inherently possessed—this is the essential phenomena of life. Here we enter the arena of those vital and chemic activities which constitute life and growth, and here, too, we stand on the ground and in the presence of the equally vital phenomena we call disease and its cure, or return to health.

This wonderful vital activity represents the constant and incessant life processes going on in the human body: from death to life, issuing in formation, differentiation, growth, with the functions catabolic and anabolic associated.

Think a moment of the process of life as it goes on in the fetal organization. The hand evolves from a particle of bioplasm. The palm does not develop first, then thumb, then fingers, one after the other, but altogether, simultaneously. The bones are not completed first, then periosteum to cover them, then muscles, fascia, skin, but all and every part together. So of the whole body. A single germ, a bioplasmic seed, having in itself the power and potency of life—and life in this various and multitudinous form—an infinitesimal point of living matter, which has in itself that unlimited power, in the exercise of which it selects and attracts from the elements which constitute the cosmos, of which all things are a part, and taking them up singly or combined as needed, and utilizing the chemic and other forces in constant association with them, it weaves and forms the various tissues and parts: endowing this cell with power for a single and simple purpose to accomplish, and another with a multiform and intricate and complicated design to fulfil, and all harmoniously working, this in structure issuing in formation of bone, that of connective tissue, still another of nerve substance and fiber, others of cellular tissue, epithelium, etc., until from the particle and sperm and ovum, there develops gracefully and symmetrically, with infinite design and masterly accomplishment, the bounding perfect organism.

This ceaseless vital activity is, as we have seen, multifarious and complicated. For the perfect fulfilment of these, which are necessary to, and result in, health and normality, how much is needed and involved. Normal, perfect bioplasm in solution, 90 per cent. water, and provision for an almost infinite number, and, as a matter of vital importance, an absolutely *unbroken succession of these throughout the entire life of the organism.* Interference here, a break in this succession, is irremediable. A crawfish may reproduce its claw after amputation (Beale), but not so man, if he lose a finger, an eye, a gland or any part. Break the succession of the bioplasmic nucleus and it is broken forever, for that grade; a lower grade of formed tissue, cicatricial, is the nearest approach to what was normal there, but lost, that is ever produced. (As a side remark, permit me to suggest: Do not try to locate a bullet in the brain by the use of a probe; use the X-ray; you will surely increase the destruction of vital tissue, and make wider the irreparable breach with its resulting paralyses, or epilepsy, etc. A wound involving merely formed tissue may be completely remedied by production of tissue of the same grade, but not so if vital tissue or bioplasm is destroyed. As we said, a break or interference in the bioplasmic nucleus is a breach irremediable and eternal.) Besides normal bioplasm in unbroken succession, there must be free and unimpeded circulation in the interstices of the tissue substance of fluids: normal nerve action, probably dependent on changes in the nerve-fiber, brought about by the vital activity of the bioplasm—all this, and much more, is essential to that unique condition we term health and normality. The slightest "hitch" in this train of conditions and events, the least interference with the operation of these invariable laws of life, means ill-health, and if prolonged, disease. With this very imperfect "objective picture of the nature of the vital processes," we can more readily see and understand both the nature and cause of disease. This puts it where it belongs, within, in the cells, in the bioplasm of the cells.

In making use of this in elucidation of the problem of infantile diseases, permit me to do it this way: I sometimes have curiosity to look over the city record of deaths for the week, and find it something like this: Name, ——, age, 31; cause of death, tuberculosis. Name, infant, age 2 days; cause of death, inanition. Farther on down the list I read again: Name, infant, age 12 hours; cause of death, inanition. Reflecting, I say to myself, "inanition." What is the nature of its phenomena? Where its field of operation? I construct an "objective picture of the vital processes," as suggested by Virchow, and I see them in active operation, as I think they are. The natural elements of which all things consist, in their various combinations with the affinity of the inferior for the chief class, are in play. I see the simple element phosphorus combining with the greater, central one, oxygen. I watch the "combination" which takes place. I perceive the heat that is generated: flashes of electric force, and currents of electric and other power start into activity within the nucleus of the tissue cells, and they move, they throb, they divide, they multiply, sending out prolongations and extensions; they weave and form tissue of various kinds. The bioplasmic nucleus dies, passing on its life and powers to its successor, the part of itself not converted into formed tissue being taken up by the oxygen carriers, to be eliminated as waste—all this I see and much more.

But while still observing, the vital process flags, slacks down; electric flashes die out; currents of vital force move sluggishly and still more slowly. The life of the dying bioplasm goes out without successor to take up its powers and to carry on its activities, and in how brief a period: "twelve hours;" "two days," the record said. The "objective picture" passes out of view, and naught remains but a motionless, lifeless mass of heterogeneous matter, and there is written over the untimely "abortion," if we may so call it, as explanatory of the unnatural phenomena, "inanition."

Laying aside the microscope and looking macroscopically, we ask, what is the philosophy of the phenomenon under consideration? A panorama of happenings rushes past, but the most vivid impression left on the mind is this: When the babe emerged into life, the vital processes enacted *in utero* began adjusting themselves to the new environments, during which process, infinitely delicate as it must be, did the nurse or the doctor carelessly and unnecessarily expose the surface of the body with its delicate covering of skin, having myriads of passages for egress and ingress, and its complicated nerve arrangements providing for the regulation of the heat and electric and nerve and other chemic forces being generated in the interior of those vitally active cells? What a frightful derangement, what a tremendous revulsion of those vital processes might almost instantly result, simply from such a chilling of the surface as we have supposed, in a babe whose vital endowments were but feeble to begin with. And if the vital processes have their initiation in oxidation, as we know they do, and if deficient oxidation results in lowered vitality, and consequent imperfect elaborations of tissue, as seen in the tubercle in phthisis and the enlarged glands of struma, who can estimate the effect of those antenatal and postnatal influences and happenings which we have merely hinted at, in the production of that soil or diathesis, without which, notwithstanding the fact of the bacillus, or other bacteria, we can not have some diseases?

Surveying the field of pathologic phenomena from the standpoint of biology, we see that disease is vital phenomena equally with that of normality and health. The recognition of this fact will go a long way toward clarifying our ideas in regard to the nature and causes of disease. In my work at the college dispensary I see many infants and children. The diseases prevailing in the colored race are of a strumous nature, largely. Only recently I opened an abscess in such a child; the quantity of pus was enormous. Now, what is scrofula, viewed biologically? Much the same as tuberculosis. This is accepted generally by the profession to-day. Here a question arises: Why, then, are no tubercles found in the strumous phase of the disease? We say, "I don't know," but how will this do as a hypothesis in explanation?

In our landmarks, we said, the lowest exhibition of vital activity is in multiplication and growth. The higher manifestation of this is in formation of the more complicated and elaborated tissue, and in transference of powers of succession and design and elaboration of these to completion. There may be interference with the biologic processes affecting and preventing the elaboration of the higher and more complicated structures, which may not interfere with the exhibition of vitality as seen in simple multiplication of cells. There may even be stimulation and increase of power and activity in the multiplication of pus corpuscles, as in abscess formation. The bioplasm may live too fast under the stimulus of disease conditions, as well as too slow under abnormal yet different environment. In the glandular enlargement of struma we have elaboration of tissue of a lower grade than tubercle, perhaps, at least a different grade and probably less enduring.

This opens up a wide field of thought and inquiry. Certain it is that disease, in its nature and phenomena, in its cause and process, arises and is enacted within. Some phases of disease we specify as "cellular." Is not all disease cellular in that its phenomena is enacted in the cells and radiates from them? To be sure the cause of disease may be from without. The philosophy of the cause in disease is very interesting as a study. There are many "causes," but perhaps two general classes, one from without—that is impurity, dirt, irritation, bacteria—the other from within, in the *materies morbi*, not from without but generated within: toxin, virus, the product of pathologic vital activity, which is the result of the "cause," whether that enter from without or arises *de novo* and within.

The cause of disease, whatever it be, does not always determine the nature of the complaint that follows. Two persons are exposed to the damp air, sitting in a draft, one will have an attack of influenza, the other will groan with pains of rheumatism. The disease following the cause is determined by the action, the response of the cells, in their vital phenomena, to the irritant or cause. Diathesis, soil heredity, comes in here and plays an active part. If one of the two persons supposedly exposed to disease-producing environments were an Englishman of the well-to-do class, whose ancestors were high livers, his rheumatism would be of the gouty type, in all probability.

The cause of disease is a fruitful topic of investigation and reflection. I think bacteriology is carrying us a little too far, and the use of the microscope, important and essential as it is, will mislead us if we neglect the constant use of our own "instrument of precision" in these investigations. Virchow advocated the cardinal importance of distinguishing between the cause of disease and its essential nature, maintaining that bacteria are never more than the cause, the disease itself depending on the behavior of the organs and tissues themselves with which the bacteria or their metabolic products come in contact. And here permit me to say that while I hesitate not to accept the statement, the dicta, of this eminent man, this prince of pathologists, with the toil and research of half a century as his record, yet I must confess I am hardly prepared to accept the legitimacy of these metabolic products, as the progeny of the bacteria.

I have more than once expressed my doubt of the soundness of the theory, that these toxins, capable of acting chemically on the albumin of the blood-corpuscles, are the product of an animal so low down in the scale of physiologic being as a bacillus. Could a physiology so simple elaborate so complicated a product as the virus or toxin is found to be?

I think we may accept the dicta that disease is abnormal vital activity, and the cause may be from without or may independently arise within; that the cause does not necessarily determine the nature of the disease, but the response of the vital activities to the contact relation of the irritant or cause, whatever it be. The same principle is operative in therapeutics. Drugs and medicines do not cure disease. There is no active principle in drugs; the active principle is in the vital force energies of the organs and tissues, strictly speaking, in the bioplasm of the tissue cells. The drug is necessary; it is the "cause" of the vital therapeutic and restorative process; but the return to health, the healing process, the therapeutic phenomena arises from within, in the bioplasm of the cells, set into vital therapeutic activity, it may be, by the contact relation of the medicine. It would require another paper, several of them, in fact, to cover the ground embraced in the title.

915 West Seventeenth Street.

MAY NOT GONORRHEAL VULVOVAGINITIS BE ACQUIRED BY CHILDREN INDIRECTLY?*

BY CHARLES O'DONOVAN, M.D.
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BALTIMORE, MD

Bacteriologists who have worked with the gonococcus of Neisser insist that it is an organism that is very refractory to cultivation outside of the living body, and that when it is removed from its usual habitat it dies very promptly. Immersion of gonorrheal pus in water, drying of the pus, or even simple exposure to air is said by some authorities to be sufficient to destroy the life of the gonococcus. Accepting the theory that the infectious nature of the discharge depends entirely on the specific organism, it would appear from this that it would be next to impossible to convey gonorrhea from one person to another in any way except by direct contact of surfaces subject to its invasion. This opinion might easily cause very serious complications from a medicolegal standpoint, and lead to the conviction of innocent parties accused of criminal procedure. The teaching of the laboratory in this matter must be tested by practical experience, in which modifying circumstances frequently present themselves. It may be readily recalled, by reading of books not very old, how the vaginitis of young girls and female children occasioned much discussion until the discovery of Neisser settled once for all, the identity of this disease with ordinary gonorrhea, in the great majority of cases. The microscope now renders the diagnosis easy, enabling one to appreciate promptly the seriousness of the disease, and to use the proper remedies. At first this made matters very satisfactory; the cases were accepted as specific, the contagion having been conveyed in an innocent manner to the children through dirty linen or a soiled basin that had in some way become contaminated. It was disagreeable to think that the disease could be so easily spread, but it was easier than to believe that the great number of children with vulvovaginitis had been subjected to attempted coitus. This happy state of things has been destroyed by the bacteriologist, who announces from the laboratory that it is almost impossible to make the gonococcus live outside of its usual habitat.

We can not deny the gonorrheal nature of the prevailing infantile vaginitis, notwithstanding the pseudogonococcus which is offered as a loophole, for every case that has been examined at our dispensary has shown the presence of the Neisser organism, and has, in addition, presented all the other symptoms by which gonorrhea is recognized. Our material is drawn almost entirely from the negro population, among whom gonorrhea is extremely prevalent, and the likelihood of contagion is great. But some of our patients are so young, children of 2 or 3 years, that it seems impossible to accept direct contact as the means of infection. It is clearly a difficult matter to trace the mode of spreading the disease under such circumstances, but when the disorder attacks several girls in a family, whose father is known to have gonorrhea, and the history of a common use of washrags and towels can be obtained, with the denial by the father of any improper contact, it seems plausible, even allowing for the unreliability of such testimony, to credit the disease to an indirect rather than to a direct infection.

Observation of our cases after admission to the wards of the hospital should help very materially in determining the methods of probable infection. We notice that the children play together, as in any nursery, with the greatest carelessness and freedom from restraint, constantly handling the same objects, whether time-worn toys or the furniture of the room, in a way that must necessarily transfer from the hands of one to those of others any filth that might adhere to them. This has appeared so likely to happen that we have ordered that the girls who suffer from vulvovaginitis shall be compelled to wear napkins that must be frequently changed and properly disinfected; when they must be removed for defecation or urination, it is the duty of the nurse to see that they are properly readjusted, and in this way we hope to reduce to a minimum the likelihood of the child's fingers becoming contaminated and so spreading the contagion. So far we have never seen any evidence of it, but from the gregarious habits of the children in the ward, we are in constant apprehension.

These cases are extremely refractory to treat. When they first come into the ward they make very rapid improvement, up to a certain point, but the slight discharge that persists still contains quantities of gonococci. Simple cleanliness, with frequent washing of the parts, brings about the decrease of discharge, but with no effect on its virulence; when it becomes evident that stronger treatment is required we use a solution of hydrogen peroxid diluted one-third or one-half, and after this cleansing agent a solution of bichlorid of mercury varying from 1 to 5000 up to 1 to 2000. Though the disease persists, the children seem to suffer little inconvenience after the acute stage has passed. Their comfort is perfect, and the abnormal congestion of the parts disappears almost entirely, but the pus gathers persistently about the labia and around the meatus; the vagina seems but little affected. With this we have noticed such irritation of the parts as induces the child often to rub or scratch about the vulva, leading to almost certain contamination of the fingers or nails, whence, we believe, the infection is carried indirectly, by means of toys or otherwise, to the vulva of another child. Or in the families of uncleanly individuals, we consider it quite possible for the infection to follow the use of towels, or from an uninfected child wearing the clothes of one suffering from gonorrhea.

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*Presented to the Section on Diseases of Children, at the Fiftieth Annual Meeting of the American Medical Association, held at Columbus, Ohio, June 6-9, 1899.

10 East Read St.

THE LA GRIPPE EXANTHEMATA.*

BY HARRIET E. GARRISON, M.D.
DIXON, ILL.

During the past winter the locality in which the whole of my life has been spent has been struggling with the weighty problem of whether we were in the midst of epidemics of measles and scarlet fever or whether the exanthems were different manifestations of the same disease and due to the germs of la grippe. The question was of serious interest, as the children of the affected families were excluded from the schools and the business interests of the town were suffering. It was also causing a great deal of hardship in the surrounding community, as a condensing milk company has a factory located here, and as no milk that has been handled by a person coming in contact with a contagious disease is received at the factory, therefore it is no small inconvenience for a dairyman who supplies milk to it to have even measles in his family. The only cases of genuine measles which I saw last winter were in the family of a dairyman six miles from town, and it became necessary for me to inspect the arrangements for milking and caring for the milk while it was being cooled and made ready for the factory, that I might certify to the business manager that all his sanitary arrangements were being carried out, and that the cases of measles were entirely isolated from the dairy and dairymen; for without the attending physician's certificate the milk from fifty cows would not be received at the factory.

I had an opportunity of studying the exanthem before it became epidemic. Nov. 28, 1898, at 2:00 a. m., I was called to see Ruth R., aged 11 months, who was taken suddenly ill with nausea and vomiting after having been unusually well during the preceding day and early evening. She was very restless and irritable, her tongue covered with a thin white fur, fauces slightly reddened but the redness was diffuse and more erysipelatous, with little swelling and no ulcers nor exudate; pulse 120, temperature 102 F. As she frequently had attacks of indigestion and was now cutting her canine and first molar teeth, and was the first baby, I was accustomed to midnight calls, but this time the gums showed no sign of irritation, and the bowels no indication of indigestion. As the mother had suffered with a severe attack of la grippe a few weeks before, and Ruth's symptoms pointed in that direction, I gave some of my usual fever mixture for la grippe and she soon became more quiet. The next morning the pulse and temperature were nearly normal and the tongue coating was disappearing, but she was having some coryza. Giving the child a tonic to be taken for a few days, to prevent relapse, and a nasal antiseptic spray, I dismissed the case. The next day, nearly thirty-six hours from the time the child was taken with nausea, I was recalled to see her. Although apparently otherwise well, she was covered from head to feet with the eruption of measles—large, flat, slightly elevated spots on an inflamed base. Some of the spots had coalesced, making a continuous red, raised surface over the greater part of the face, but on other parts and more over the trunk and limbs white skin could be seen between the inflamed bases of the eruption; as the child was a pure blond the contrast between the white smooth surface of the epidermis and the inflamed red blotches was very noticeable. Despite her apparent well-being there was a slight increase of pulse and temperature: pulse 90, temperature 100F., bowels regular, tongue clean. I found the bean-like glandular enlargements characteristic of rubella behind *both* ears, which is unusual—one is the general rule, and this frequently so small it is hard to find and easily overlooked.

The epidemic of la grippe and the exanthems began the latter part of December. I saw my next patient January 3. The parents supposed the girl to be ill with scarlet fever. She had taken her New Year's dinner at my house, and I had observed that she did not enjoy it as much as usual, but she enjoyed an after-dinner romp with the other children. On the 2d she complained of malaise and stayed in bed all day, and toward evening she was worse, with fever and vomiting. As they lived in the country, I was not called until the morning of the 3d, when she was covered with a scarlet, pin-point eruption from head to toes, but on the feet and legs the spots were not so near together as on the face and body, there being intervals of healthy skin between. It looked like a plain case of scarlet fever, but the tongue showed no redness even at the tip, and was covered with a moist, white fur. There was some swelling and redness of the fauces, but no exudate. She complained of some soreness in swallowing, but there was no enlargement of the glands, either submaxillary or post-cervical. Even the bean-like swelling behind the ear was scarcely to be felt after the most careful examination, made after I decided from the pulse and temperature, that it was not a case of scarlet fever. While noting the dusky, red appearance of the face, I expected to find a pulse of from 110 to 120, but found one of 84, with a temperature of 99.75 F. She complained of headache, especially in the occipital region, and severe pain through the spine and limbs, but had rested moderately well for the night. The mother was not feeling well, having the same posterior headache and aching through the limbs as did the daughter, but was caring for her household. Her forehead looked red-spotted, but the spots were not raised above the surface. Two children, younger than Anna, had coryza and an eruption a few days later, but neither was very sick, although the eruption in both cases was preceded by malaise and, just before it made its appearance, with nausea and vomiting. I kept all the children in bed until desquamation, which was very free, was complete. The mother and three children had the eruption, the father a severe attack of la grippe without eruption, while the other members of the family, a son, aged 19, who had never had scarlet fever, and a man over 70 years, escaped illness.

The subsequent history of the family is interesting. March 1, they moved to a surburban home and went into a nearly new house. April 1, Anna, who had the eruption in the severest form, developed serious, chloro-anemic heart symptoms. April 8, the son, who had previously escaped the eruption, was taken sick with symptoms of la grippe. After these symptoms abated he broke out with an eruption resembling measles, which he had previously had; I did not see him after the eruption appeared, therefore could not confirm the diagnosis of rubella. In a few days the other three children had the eruption, but a boy of 6 years was not sick enough to remain home from school. None of the three were confined to the house. Since this attack they have all been perfectly hearty.

From the last of December to the first of April the epidemic of la grippe was at its height, and also the cutaneous eruptions.

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*Presented to the Section on Diseases of Children at the Fiftieth Annual Meeting of the American Medical Association, held at Columbus, Ohio, June 6-9, 1899.

There were three varieties of the eruption, the rubeola form, as illustrated by Ruth R., the scarlatina form, illustrated by Anna B., and still another, papulla vesicularis. The papillæ were not numerous, were of the color of the epidermis, surmounted by a pearl vesicle the size of a pin-head, which, on being ruptured, emitted a clear water. This eruption was accompanied by intense pruritis. One of my genuine measles patients had this form of eruption after a severe attack of la grippe, which came on a month after the attack of measles. When the mother presented the case, a boy of 13, she remarked on the intense itching and, as it was confined to the hands, especially between the fingers, she said: "I think Robbie has had enough this winter with measles and the grip, and now I wonder if he has the itch."

My cases of la grippe with high temperature were not followed by cutaneous eruptions or other sequelæ. Several of my little patients had an axillary temperature of 105 F., and none of these had any rash, although other children of the same family with a lower temperature had severe exanthems. One instance in particular—a boy aged 8 years—had a temperature of 104 F., with nervous twitching and semicoma enough to make me fear he had meningitis. He never developed any eruption, while his mother, with a temperature of 101 F., showed red spots on the forehead, and the baby, aged 8 months, with a temperature of 102 F., came out freely on her fifth day of sickness with rubella. Whether this freedom is due to the high temperature destroying the toxins, or to the freedom with which I gave acetanilid at the beginning of an attack of la grippe with high temperature, is a point I have not yet decided. I regard acetanilid as much a specific for la grippe as quinin is for malaria; and suppose this action due to its strong germicidal powers.

I think it is not contagious, as the children who were closely confined at home were sure to have the exanthem, with sometimes marked la grippe symptoms. Neither were there any serious sequelæ except in the cases with severe coryza, and then abscesses occasionally developed somewhere along the nasal route, or in the middle ear.

My treatment for the exanthems has been principally baths. I years ago learned that nothing was so good for rubella as a warm saline bath. I have seen severe cases with delirium yield to a half hour's immersion in warm water, and after the sleep which followed the bath the patients were as bright and active as though they had not been sick. If there is fever, I give acetanilid and sodium bicarbonate combined, to which is added a little mild hydrargyrum chloridum, if constipated, and Dover's powder, if very restless. For the coryza, antiseptic spray, Seiler's antiseptic tablets, or powder dissolved in water, and for the middle ear a warm 2 per cent. hydrastis solution in glycerin distilled into the ear as soon as the first pain is felt; if suppuration takes place, I cleanse with an antiseptic douche.

I grouped all the exanthems together under the head of German measles, until I was called to Lorna D., aged 16 years. She had been complaining for several days, but did not seem sick enough to need a physician. After she developed the eruption some of her schoolmates called on her and reported that she had the measles. The next day came the request that the other two children, a boy of 14 and a girl of 12 years, be kept home from school, and then I was called to give a diagnosis. She had the pathognomonic symptoms of rubella. I told her that as the school authorities did not like the name of measles, we would not call it German measles, but would, as she was in the school classics, call it la grippe exanthemata, as the rash was but an accompaniment of the mild attack of la grippe which she had been having, as shown by the history of the case.

DISCUSSION.

Dr. C. G. Slagle, Minneapolis, Minn.—I have been puzzling a little over the title of the paper just presented. I did not know that la grippe was an exanthematous disease, and I think it would have been more accurate if the title had been "A La Grippe Exanthem." I would like to know whether Dr. Garrison considered the exanthem a part of the la grippe or a sequela.

Dr. H. E. Garrison—I think the exanthem was simply a sequela of the grip.

Dr. Slagle—I think you have a genuine epidemic of German measles prevailing along with the grip. I would like to know whether any of these children had the German measles before.

Dr. Garrison—I have had these exanthematous eruptions recur after six or eight weeks, but the recurrence was always preceded by the symptoms of la grippe.

Dr. Slagle—The diagnosis was probably more or less obscured by the use of acetanilid.

Dr. I. N. Love, St. Louis, Mo.—I consider the title of this paper right. Our observations in St. Louis would seem to justify the conclusion that the majority of the infectious diseases are sometimes associated with rashes. We have them in cerebrospinal meningitis and sometimes in whooping-cough. I believe there is some disturbing effect on the nerve-centers, produced by the toxin of this infectious disease, expressed on the skin in the form of the rash. It is not always present, but is in many cases of la grippe. It is not improbable, however, that some of the cases observed by the reader of this paper represented a combination of German measles and la grippe. We had just such an epidemic in St. Louis, and there were all sorts of complications, and there were suppurative disturbances of the mucous membrane of the nose and throat, leading many physicians to make a diagnosis of diphtheria. I still insist that a case of diphtheria is not diphtheria unless there is the familiar clinical picture of the disease. In an epidemic of la grippe in an asylum, I saw an enormous number of cases, complicated with German measles. In some instances the combined diseases were so severe as to produce death. Some of the cases were diagnosed as plain measles. The bacteriologic investigation showed the grip bacillus in the secretions from many of the cases of rubella. We have a definite entity in the bacillus of Pfeiffer as the cause of la grippe. Our great error in the past has been that we have not recognized fully that la grippe is an infectious disease which is peculiarly liable to attack children, and which has a definite course to run. Its chief danger is to be found in the complications, and their neglect because the physician fails to appreciate the danger.

Dr. Joseph Clements, Kansas City, Mo.—We look upon disease largely as an entity, as a something that takes hold of a person, and that must be battled with and overcome. This is a wrong idea. We do not think of health as an entity, as something to be coddled and cared for. The idea misleads us. Our nomenclature gives us the name of the disease, with its symptoms and essential features, and while this is useful, it certainly misleads us, as has been shown in the papers and discussion presented today. When we go to the very beginning of disease, and appreciate the fact that disease consists of vital phenomena equally with health, then we can adopt a nomenclature which will not be misleading either to ourselves or the laity.

Dr. H. E. Garrison, Dixon, Ill.—I simply wish to say to Dr. Slagle, with reference to the production of the rashes by the acetanilid, that in the cases in which this drug was given in largest doses, no rash appeared. In one boy, who had a temperature of 104 F., I gave 1 gr. every two hours until free perspiration was excited. The next morning the mother telephoned that the child was "a hundred per cent. better," and I did not have to make any more calls and the child had no rash. I have had quite a number of similar cases in which, although I gave acetanilid freely, there were no rashes observed as a result of this medication.

THE NUTRITIVE FUNCTION OF THE BRONCHIAL ARTERIES IN GROWTH. DISEASE AND REPAIR OF PULMONARY TISSUE.

BY D. LICHTY M.D.

ROCKFORD, ILL.

For a long time the important function of respiration has engaged the close study of physiologists, and the intricate exchange of gases in the pulmonic alveoli is beautifully if not accurately described. Here permit me to briefly but emphatically assert that the physiologic interchange of gases in the pulmonic tissues, by which this form of metabolism is maintained, is a process as directly under the control of vital forces as is that of the blood-current in its interminable circuit.[1] The dialytic laws of gases evolved in the laboratory should not be employed in the study of the interchange of gases in *vital* respiration.

The intervening basement membrane forming the ceci of the bronchial termini is a recognized histologic tissue continuous and impermeable unless excited to functionation by its proper vital stimulus.

The ciliated epithelia lining its mucous, and the endangial membrane lining its distal, side are on each side of this histologic division, elements capable of functionating to that high degree that they may select and transmit oxygen from the alveolar side, and from the endangial[2] emit detritic carbon dioxid by an alchemy which we must confess we can not demonstrate physically or explain literally, but that still exists as a potent *vital,* and not a *physical* process.

Of the origin and distribution of the bronchial arteries nothing new can be offered. "The bronchial arteries are the *nutrient* vessels of the lungs and vary in number, size and origin: that of the right side, from the first aortic intercostal, or by a common trunk with the left bronchial from the front of the thoracic aorta. Those of the left side, usually two in number, arise from the thoracic aorta, one a little lower than the other. Each vessel is directed to the back part of the corresponding bronchus, along which it runs," dividing and subdividing with a somewhat regular dichotomy upon the bronchial tube supplying them, the cellular tissue of the lungs, the bronchial glands and esophagus.[3] The bronchial arteries in their distribution follow the pulmonary vein and artery as their vasa-vasorum, to the pulmonary artery, even to the one-twenty-fourth of an inch in diameter.[4] Those supplying the bronchial tubes form a capillary plexus, first in the outer wall and muscular coat, from which branches are given off, to form a second plexus in the mucous coat; these capillaries form the densest plexus known in the human body;[5] not excepting the pia of the cortex cerebri, and nowhere is inflammatory action so easily started as beneath or within the pleura, where lie these dense branches of the capillaries of the bronchial artery.

The diameters of the intercapillary spaces are often less than the diameter of the vessels themselves;[2] this plexus is separate from that formed by the pulmonary artery over the infundibula, and has a function in common with the capillaries of any area of the systemic circulatory apparatus, that of nutrition; some of its branches probably inosculate with the capillaries originating the pulmonary vein, carrying new oxygenated blood into and through the left cylinders into the current of the general or systemic nutritive circuit. Everywhere in its distribution through the pulmonary area it has the common function of all the vessels of the systemic circuit and is as distinctively separate from affiliation with the pulmonary aerating circulation, as is that of the plantar or occipital area.[6]

The pulmonary artery—carrying venous blood and passing into and around the acini—has, prior to reaching this tissue, given up all its nutritive pabulum to the sustenance of the tissue it met in its rounds, prior to arriving at the power-house of the right heart, its metabolic forces having been totally exhausted; it might have its reticulæ multiplied many fold and yet it could not impart one iota of nutrition to impaired, injured or destroyed lung tissue.

It is the bronchial artery circulating in the intercellular spaces of the lungs, apart from the vessels involved in the pneumonic process, that prevents a sweeping destruction of the lung tissue when injured or diseased; the mucous membrane of the infundibula, in communication with tidal air, furnishes a favorable nidus for germ culture in which pneumococcus and influenza bacilli, for acute disease, and tubercule bacilli for chronic, grow in a culture-medium supplied by the functional capillaries of the lung.[7]

Not only is *nutrition* maintained through the bronchial artery, but the excess of pneumic acid, necessary to the liberation of carbon dioxid from the functional circuit, is kept up by it, which laboratory experiments also have proved is fatal to the propagation of the pneumococcus especially, and probably to that of other toxic organisms.

Another recognition that should be given the bronchial artery is that the integrity of the entire pulmonary structure is maintained during intrauterine life by it; that the functional circuit is dormant until the emergence of the child into its newer existence; that the life of the parts, to their smallest histologic elements, is dependent on the distribution of this artery, nerves, lymphatics and intercellular fiber.

When atelectasis pulmonum takes place, either induced by pathologic or experimental methods, circulation for that area, whether a lobule, a lobe or a lung, there, for that time, can be no uses for the circuit of the pulmonary vein and pulmonary artery, and should the bronchial artery become occluded by a thrombus or a ligature, a destructive and localy fatal necrobiosis would soon be anticipated—a gangrene of the lung or, in a young subject, an atrophy.

The so-called obstruction in pneumonia, to respiration and circulation, with its attendant cyanosis and dyspnea due to the alleged exudative plugging of the bronchi and alveoli, must have some other explanation, as the impeded respiration and cyanosis disappear by lysis, while it is not possible that the exudate could be so suddenly removed; absorption of exudative matter, whether interstitial or pleuritic, can be affected only through the activity and release of the capillaries of the systemic circulation of which the bronchial artery forms a part.[7]

In the experiments in induced atelectasis, where an entire lung has been occluded either by ligature or compression, long periods can elapse before necroses ensue, so long as the bronchial artery or its branches remain patulous.[8]

The pulmonary pleura is dependent on the bronchial artery for its nutritive supply, though the functional circuit forms as dense a plexus on its proximal side as the bronchial artery on its distal; it is the anatomic and physiologic distribution and activity of the bronchial artery that makes possible the many evidences of repaired tuberculosis of the lung, cited by Osler of Baltimore,

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[*] Presented to the Section on Physiology and Dietetics, at the Fiftieth Annual Meeting of the American Medical Association, held at Columbus, Ohio, June 6-9, 1899.

Bollinger of Munich, Boudet of Paris, Heitler of Vienna, Flint of New York, and Fowler of London, with numerous other observers who can confirm their observations.[9] This is a fact which should have great publicity, to both awaken and quicken hope and dispel the pall which falls over one in whom an early but kindly diagnosis has been made for self and friends; for with no malady is the error more prevalent than with pulmonary tuberculosis, that it is incurable, whereas the contrary prevails.

Phthisio-therapeusis is to-day held in a thraldom of ignorance and superstition, by the physician and the layman, that is deplorable in the present light of collateral knowledge.

The study of the physiology and chemistry of respiration is overlooked in the eager search for a specific for the unwelcome plague that blights so many homes. The avidity with which every phantom is reached after that is projected into the darkness, attests this truth; and we need not look backward very far to the time when Weigert's hot-air inspiration was a fad; or when Bergeron's bombardment with sulphuretted hydrogen was urged in homes and hospitals, but is now a discarded and disowned outcast by parent and employer; respirators, inhalers and exhalers have burdened the patent office and glutted a hungry market; costly cabinets have been built and leased to regulate intrathoracic pressure, when it has been a long known physiologic truth that the proportion of oxygen in the blood can not be increased by pressure, nor is it diminished by reduction of the pressure until it approaches a vacuum." When inanition has proceeded so far that muscular dynamism is no longer co-ordinated to functionate normal respiration, involuntary or voluntary, then mechanical resuscitation in broken-down or diseased pulmonary tissue would be indeed futile if not absolutely injurious.

Public-school text-books do not teach, and medical teachers and students do not study, the anatomic aids or physiologic processes of normal respiration enough. Solid and liquid foods and culinary arts are studied until cooking is regarded as an index of civilization. The therapeutic market is congested with digestive aids, until physicians and laymen are confused as to what to choose, whose or which chemical aid they shall invoke to conduct or complete a low, plain, simple, organic process, when innocence and abstinence alone should indicate the remedy; while, the first food we grasp for quality or quantity at our advent here, and the last we sigh for before we go hence, the "breath of life," and its uses, we utterly ignore.

Every physician accustomed to auscultation too often recognizes, especially in women, the inadequate function of respiration; another class, in whose members the same defect is observed, comprises the indifferent workman and tobacco habitués; still another is that easy-going, quasi-sporting element, including the gourmand, whose whole thought is to that zone below the diaphragm, whose choked liver and kidneys soon mark their habit and chrome their skin.

I once had an opportunity to auscultate a healthy chief of the Cheyennes, on the plains of Montana, and while breathing freedom's air from childhood, his lungs hung [illegible] fully [illegible] in his massive thorax, and I knew that the traditional "[illegible]" of the Indian was a myth, and the "[illegible]" would soon wipe out his race.

A comparison of the post-mortem evidences of repair of tuberculosis of the various tissues of the human body shows that the lung far exceeds any other tissue in the body—not excepting the peritoneum—in its ability to [illegible] [illegible] limits of tubercular resolution.

This, it must be admitted, is largely due to the systemic circuit of the obscure bronchial artery and its nutritional activity; while it also urges that a due anatomic and physiologic recognition of this artery, as belonging to the systemic and nutritional system as distinct from the purely functional one of the pneumonic system, will tend to introduce study for strengthening healthy, and repairing diseased, lung tissue through the proper channels, instead of clinging to the popular though erroneous methods of projecting or aspirating medicaments into and upon the mucous surface, that we know must stop at their first impact; the vibrillary motion of the cilia lining the bronchi, which is constantly *toward* the point of entrance, must prevent them, either by gravity or current, from ever reaching their intended, traumatic or diseased destination, whether these medicaments be sprays, nebulæ or gases.

Nutrition and repair of impaired pulmonary tissue must be carried on through channels, identical with other similar processes, in other structures; and this, it is recognized, must be done through the metabolic functions of the systemic blood-current, by the selective affinity or specific action of tissue,[12] each fiber for its part, and in this the bronchial artery is the only source of nutrition for pulmonary histologic elements, and the pulmonary veins and pulmonary artery have no function for this.[13]

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SOME POINTS IN TREATMENT OF SEVERE CRUSH INJURIES OF THE EXTREMITIES*.

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In almost twenty years of observation, but more especially as attending surgeon to a large general hospital, which experience has been supplemented by a considerable experience in railroad injuries also, the writer has been particularly impressed with the urgent need of a better knowledge and comprehension, by the general profession, the general surgeon, and even the railroad surgeon, of the character of severe crush injuries of the extremities, the prerequisite to the proper insight to treatment. It has been a too frequent experience to witness the loss of limbs, and even loss of lives, from surgical treatment so much worse than useless as to be pernicious, and which displayed an amount of ignorance on the part of the practitioner which might be considered criminal, were the efforts not clothed with good intentions. It has been a too frequent observation that surgeons seemed to lack a proper knowledge of the surgical principles involved, and also that even railroad surgeons fall short of the best results.

The general practitioner fails from a lack of the application of surgical principles, contained in all our text-books on surgery, though perhaps not sufficiently well formulated, nor definite enough in their application to special cases. The general surgeon may fall short of expectations because lacking a large observation of these special cases, so necessary to the highest success in any special field, more especially this one. The railroad surgeon will probably not be lacking in surgical principles, and his experience may be well rounded, but he may fail of the very best results, by not possessing the inspiration which will carry his practice beyond the ordinary or routine.

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* Read before the American Academy of Railway Surgeons, Omaha, Neb., Oct. 12-13, 1899.

The writer claims nothing new, nor original, in any ideas which he may present here, but he desires to emphasize what appears to be a general need for a more universal application of the principles of drainage in a class of cases in which it is most urgently needed, if the greatest good is to be secured.

So large a proportion of railroad injuries come within the scope of this article, and the results of treatment are so important to all concerned, that it would seem desirable to promote discussion, and disseminate our conclusions that improvement in treatment may be secured to the unfortunate.

Severe crush injuries are necessarily contused, lacerated wounds of a class that involves extensive destruction of cellular tissue, with portions perhaps destroyed in mass, conditions favorable to sepsis, with an enormous amount of dead tissue and wound fluids producing tension, with its attendant inflammation—a natural hotbed for bacterial development. Such conditions necessarily require a full comprehension of the principles of drainage, which I have sometimes thought was becoming one of the lost arts in surgical practice, being actually ignored because of the insane desire to carry out what is erroneously conceived to be the principles of antiseptic surgery; in reality, drainage is one of its most useful handmaids.

It has been the observation of every railroad surgeon, that it is quite impossible to form a correct estimate of the amount of destruction suffered by the tissues, in a subcutaneous railroad crush, or the amount of damage done to tissues near to, or even remote from, a severe injury of this class. The writer therefore deprecates the too common tendency to so-called conservatism in these cases, by the watching and waiting course, which surely brings the necessity for surgical intervention for the production of drainage, necessitated by the onset of sepsis, which surgical intervention, if performed at the outset, might have averted the sepsis, with all of its possible attendant consequences; among which may be mentioned the various infections, septic lymphangitis, thrombophlebitis, gangrene, spreading gangrene, and the general dangers to the patient of septicemia and pyemia. The dangers from pent-up wound fluids and necrotic tissue are greater than the possible harm from incisions intelligently made, or from any danger from infection through such wounds, the compensating advantages being infinitely greater than their possible disadvantages. Indeed, these incisions often reveal the necessity for drainage, which might otherwise be overlooked. Insufficient surgical intervention may subsequently call for interference out of all proportion to the most radical initial requirements.

Contused tissues are always subjected to a severe tax on their vitality, by an impaired venous return. The force of the arterial current is usually less at fault. It is this condition of the circulation which accounts for the great tendency to the extravasation of blood and serum, so favorable to the production of swelling and tension, which still further adds to the embarrassment of the venules. It has probably been the observation of every surgeon, that multiple incisions in skin flaps of doubtful vitality will often preserve their integrity. This is accomplished by the application of this principle, in relieving the burden of the return circulation. An extended application of this resource, in the treatment of considerable masses of contused tissues, as found in a crushed member, is often equally magical in its benefits. I therefore maintain that its intelligent application will accomplish results impossible of attainment by any other method, in the treatment of tissues not actually deprived of vitality. It will therefore be seen that the application of this principle will necessitate an apparently radical treatment, of seeming unnecessary severity, at the outset, which will in reality relieve the engorged tissues of their burden of dead cells and waste products, and safeguard the living cells from bacterial attack; also furnish avenues of escape for necrotic masses of tissue, relieve pain, and save the patient the dangers attendant on swelling, sepsis, and inflammation, and its necessary consequences. My plea, therefore, is for drainage sufficient to relieve the wound spaces, otherwise liable to extravasation fluids, and the living tissue cells from undue embarrassment.

To these principles of treatment must be added the application of the best surgical methods for carrying off and maintaining the wound products aseptic. This may be accomplished by an abundant hygroscopic dressing, though in the more severe cases the moist antiseptic dressing is more efficient. But in the worst of cases, continuous submersion, or continuous, through-and-through irrigation with an efficient antiseptic is required to accomplish what is demanded in desperate cases, which are usually already very septic.

A considerable experience has found formalin so valuable in clearing up septic conditions of the more malignant type, that it has led the writer to believe that we have in this agent a most powerful antiseptic, destined to a place of first rank, in the treatment of all septic conditions. While the writer believes that the devitalized masses of tissue should be removed at once, or at a comparatively early period, yet he believes that in the use of formalin we have an agent which will maintain dead tissue free from germinal invasion, and innocuous to the living tissues, and is itself incapable of exerting a very devitalizing influence on the living cells if used in proper strength. This enables the surgeon to conserve tissues otherwise destined to destruction, and at the same time not be an element of danger.

The principles herein set forth have been largely followed in the cases reported by the writer, under the titles "Conservative Foot Amputations," before the Omaha Medical Society, in November 1897; "Amputations," before the Western Surgical and Gynecological Association, in December of the same year; and "Skin Grafting in the Absence of Amputation Flaps," before the Nebraska State Medical Society, at its meeting in 1895.

This paper has left untouched many points in connection with this subject. A treatise was not intended. The emphasis of a few essentials, so regarded, is all that has been attempted. And though the writer's recommendations should not be indorsed by some, this much will be granted, that the following of these lines of treatment would certainly be an improvement on the results obtained from the practice of those who are possessed of a penchant for sewing up severe, contused, lacerated, even mangled members, and the failure to establish adequate early drainage—the too common practice of the average practitioner and a fault from which the general surgeon and some railroad surgeons are not altogether free.

DISCUSSION

Dr. W. Ruml, Cedar Rapids, Iowa.—I desire to say a word or two in reference to the use of formalin, in connection with the paper of Dr. Lord. I have been using moist formalin dressings for some time, and so far they have proved eminently satisfactory. I use ⅛ per cent. solution of formalin for saturating sterilized gauze and the gauze is applied moist. In this way drainage is favored, and the oozing from the wound cared for by the dressing and does not macerate the wound area.

Dr. Eduard Boeckmann, St. Paul, Minn.—I was very favorably impressed with the remarks of Dr. Lord in reference to drainage. I have tried to do ideal surgery without resorting to drainage, buf the older I grow the more I come back to treatment of wounds with it. As regards formalin, I have had no surgical experience with it. I have always considered it a good antiseptic, just as efficient as any other material for this purpose, but I do think its germicidal properties have been greatly overestimated. Formalin has been recently recommended for the purpose of preparing the skin, and in the opinion of prominent surgeons it is the best antiseptic we have for disinfection of the site of operation, and I should not wonder if formalin, used as a dressing, will prove as efficient as many other agents we now use. I rather believe it is a good remedy for dressing wounds, and will certainly try it when opportunity presents itself.

Dr. J. P. Lord, closing the discussion—If I can see a case of railroad injury in its incipiency, or very soon after its occurrence, I do not believe the use of formalin either for the purpose of submersion or irrigation of the part is necessary. Thorough drainage with sterilized water may prove sufficient: but in cases where the wound is already foul, we have a valuable agent in formalin. Bichlorid of mercury, which was formerly so much used, I do not usually apply as a moist dressing, because there is considerable albuminous secretion which soon forms the albuminate of mercury, and this is inert as an antiseptic. In such cases I am a friend of carbolic acid, unless there is too great danger from absorption. My experience with formalin dates about two years, during which time I have used it extensively in clearing up unclean wounds of various kinds, and particularly necrotic ones, and where a limited space is to be covered I use it as strong as 2 per cent. of the forty volume solution, but that would make it much less than its percentage would indicate. I have found that even one-half of 1 per cent. was sufficient to devitalize granulations during that period of progress of the wound when granulations were so desirable. It exerts a much more powerful influence on the tissues than our first experiences led us to believe. I have seen granulations destroyed repeatedly by the application of 1 or 2 per cent., used for two or three hours. I have seen granulations destroyed by washing the part with a 2 or 4 per cent. solution. In a day or two thereafter I have seen a tanned necrotic layer appear on the surface, which must slough off before further progress can be made. The remedy should be used with considerable caution and in very weak solutions; ⅛ of 1 per cent. is the usual strength now used by me.

I recently had a case in which there was a most intense form of infection following a railroad injury, it being necessary for me to extend the palmar incision up through the palmar fascia, to open the sheath of the flexors clear to the elbow. The septic condition extended almost to the axilla, and it was evident that the patient would succumb if relief was not afforded, consequently the whole palmar surface of the man's hand, wrist and arm was laid open; the diseased tendons were cut away, and the wounds were packed with formalin as a dressing, shortly after which there was a very material reduction in the temperature of the patient, and it was really remarkable to see what formalin did in this particular case. Formalin was usd as often as it was deemed necessary. Here is one case of infection where formalin acted in a marvelous manner.

The diplomatic representative of Bulgaria at Paris during the Exposition year is a physician, Dr. Kolotovitch.

TREATMENT OF GUNSHOT WOUNDS OF THE ABDOMEN: SOME NEW STATISTICS.*

BY H. H. GRANT, M.D.
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The surgery of gunshot wounds of the abdomen, which has been for some years pretty well settled to the satisfaction of the profession, received something of a shock by the report of the surgeons who served in the late war with Spain (see The Journal for July 9, 1898, and the published report of the last meeting of this body.) yet the inferences, and indeed the conclusions, affect surgical judgment to a considerable degree. It was because the settled data of private surgery were so much at variance with these reports that I deemed it justifiable to inquire a little further into the subject. The result of the investigation by Klemm shows, in an analysis of 152 cases, that even those in whom penetrating wounds in the abdomen were established, who did not die of immediate effects, eventually nearly succumbed to exhaustion from sepsis and later suppuration. The meaning of this is that, practically speaking, all penetrating gunshot wounds of the abdomen, untreated by surgical repair of the lesion, die either of hemorrhage, peritonitis or sepsis. It is not to be denied that a small bullet, in certain situations, pursuing an unexpectedly favorable course, may occasionally fail to produce a fatal injury, but it will be seen from the statistics I have reported, as well as those of Klemm, that such favorable results did present in only about 6 per cent. of over 400 cases. The complete analysis of the subject, made by Dr. W. E. Parker, settled, by the comparison of the reports of a large number of reliable operators, the following points:

The mortality after operations done in the first seven hours after injury is 52 per cent., as against 64 per cent. for operations at all periods. But a study of the table of Parker shows such variations in the mortality succeeding complicated and uncomplicated wounds of the various viscera all of fatal character without operation, as to indicate that, in uncomplicated wounds in some situations, the early operator will often save 75 to 80 per cent. of what would otherwise be fatal cases. His table also shows that of sixteen operations done, in which no intraperitoneal injury was found, three died, one from an overlooked perforation, and two from peritonitis due to infected blood clot—the fatal complication on which Klemm lays so much stress. Thus we see that no death was referable to the operation even as a contributing cause. It also appears that in considerably over a hundred cases—the exact number is hard to get at in the table, as in the classification it was necessary to duplicate often—there was no reported recovery from operation done twenty-four hours after injury.

There is still one other important deduction from this invaluable paper, supplemented as it is by many other sources of testimony: almost all operators agree that there is no reliable symptom of perforation or mortal lesion in the operable hours after injury. It will be interesting to review these facts in connection with the study of the reports I shall present a little later. Notwithstanding these, and others of an equally convincing nature, it is still published in current medical literature, and still finds a place in valuable text-books on surgery, that a considerable per cent. of untreated gunshot wounds of the abdomen will recover; and that treatment by operation may be deferred until symptoms indicate perforation.

Confronted by this state of things I decided to send out the following questions to over a hundred prominent surgeons of this country: 1. In what proportion of operations, after tracing the ball into the abdominal cavity, have you failed to find perforations of the hollow, or dangerous wounds of the solid viscera? 2. In what proportions of fatal operations have you found, postmortem, evidence of unsecured perforations or unchecked hemorrhage? 3. In what proportions of both fatal and recovered cases was there evidence of peritonitis at the operation? 4. How often have you had reason to believe, after laparotomy on a traced wound, the chances of life are lessened by operation? 5. Recoveries. 6. Deaths.

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* Read before the Southern Surgical and Gynecological Association, New Orleans, La., 1899.

I have received in reply reports of 253 operated cases. I have preserved the originals, which are at the service of any investigator, but notable names and cases will be published in full. I have to thank the following gentlemen for the courtesy of response: Drs. W. L. Robinson, W. O. Roberts, J. B. Bullitt, C. A. Wheaton, J. Ransohoff, T. J. Crofford, James Dunn, L. M. Tiffany, E. Laplace, A. T. Bristow, R. Douglas, H. H. Mudd, W. E. Parker, Joseph Geiger, F. McRae, W. E. B. Davis, J. Davis, A. M. Vance, George Crile, J. B. Murphy, C. A. Powers, D. Barrow, L. Freeman, L. P. Nolte, A. J. Ochsner, H. B. Delatour, J. G. Sherrill, F. Samuel, M. H. Richardson, R. E. Fort, W. L. Rodman, H. M. Taylor, P. S. Conner, B. M. Ricketts, C. C. Commegys, W. Potter, J. V. Brown and A. H. Cordier.

I have in no case made use of any other report than the direct answer. I have not endeavored to compare the mortality with reference to the organs injured nor to the time of operation; not alone because both of these points are covered by the tables of Parker and Coley, but particularly because I wished to determine the propriety of exploration in all cases of penetrating wounds prior to the development of general peritonitis. The great majority of these cases are not included in any published tables, and many of them are accompanied by notes indicating that the operation was made early.

An analysis of the reports develops a number of most important and interesting facts. The mortality in the whole number is about 52 per cent.—the best results reported in any published table, an indication that the prognosis is improving with the more energetic measures of treatment. In 21 of the 253 operations neither perforation nor serious hemorrhage was found. It is to be doubted whether so large a number of *traced* penetrating bullets could fail of more serious injury, and there is a presumption of faulty diagnosis in some of them. However, they all recovered, so the operation did no harm. In 28 of the 133 fatal cases there was found, post-mortem, the evidence of faulty surgery in the presence of unsecured perforations or hemorrhage. If we omit the 21 non-perforated, and the 28 unsecured, the mortality is 51 per cent. of the whole number. Of the recovering cases, 11 are reported to have had notable peritonitis at the operation—some 6 or 8 others report traces. This may be taken to indicate that about 5 per cent. of patients with severe peritonitis may be expected to recover after laparotomy. In answer to Question 4, three surgeons confess to having done harm by the operation. These were men of experience. One thinks the operation hastened death by shock, as the source of hemorrhage was not discovered. As this patient must have died anyway, it is not a figure in the calculation. The second states that though the section disclosed a perforating wound of both walls of the stomach, there was no extravasation until the organ was pulled forward at the operation. Though this conclusion be correct, no surgeon would hesitate to do a section when he knew a perforating wound of the stomach existed. It is such wounds that Klemm declares death follows from sepsis and abscess in those who survive the immediate injury. The explanation of the third exception is practically the same. Thus the surgical conclusion is, fairly, that in no case was the result affected unfavorably by the operation. The following table, made up of the most favorable reports, by surgeons too well known to be misunderstood about statistics, shows what may be accomplished in a considerable number of cases in good hands. Only those in which a lesion was found are included in this table.

Name.	R.	D.
Tiffany	3	4
McRae	2	1
Mayo	3	0
Ochsner	3	1
Douglas	4	1
Geiger	8	2
Dunn	2	1
Rodman	3	3
Delatour	3	2
Richardson	1	1
Nolte	9	6
LaPlace	13	7
Parker	5	7
Vance	3	4
Grant	4	1

The result is 67 recoveries and 41 deaths, giving a percentage of recovery in unselected cases, without regard to the time of operation, or to the organ injured, of over 61 per cent.—better than the strangulated hernia gave fifty years ago. At the last meeting of this Association I reported 4 cases with 3 recoveries—2 after resection of the intestine. Since then I have operated on but one, a negro man, seen fourteen hours after injury. Three perforations of the ileum were found, one evidently being made by the penetration of a knuckle of a bent intestine. Intense abdominal distension with pain set up on the second day, the pulse 130, the temperature 106. The bowels, however, responded to salines, and he had twenty-seven movements in twenty-four hours. The purgation was kept up, the distension passed away, and he recovered without further accident.

It is next to impossible to review the combined statistics without concluding on peremptory instruction. The reports of experienced and favorably situated individual surgeons are even more mandatory. These cases demand prompt exploratory surgery—the simplest and least burdening in responsibility required in the abdomen. And how widely extended is the field! If we will but think, we will remember that as often as at least once a week, the daily newspapers of every large city will chronicle an abdominal gunshot within the reach, in abundant time, of some local surgeon. This is true all over the southern and western country. Very few of these are ever seen by surgeons. Why not? Because we have not educated the physician to appreciate the folly and fatality of delay, and the hopefulness of prompt and efficient aid. True it is that while most of us are agreed in the main that operation is indicated in gunshot wounds of the abdomen, and that delayed cases give bad returns, the exact statistics are not made clear to the general practitioner.

Every man who deserves the name of physician now knows that a strangulated hernia can not get well without operation, that long taxis is dangerous, and delay little less than fatal. All such patients, in anything like intelligent hands, are hurried to the surgeon. But it has been only a few years since text-books of surgery advised opium, elevation of the hips, hot applications, and delay for hours, even days, to see if the condition could not be relieved without surgery; then, when too late for success, division of the stricture without opening the sac, which can not half the time hope to relieve the constriction. The mortality after an operation, which if done in our time in season, under proper surroundings, is less than 1 per cent., is put down by Gross, in 1850, at nearly 50 per cent.

Not less clear are the indications for operation in a traced gunshot wound of the abdomen. But there time is far more precious than in hernia, and the need of positive and uniform instruction is imperative. There is some excuse for our wavering and inconsistent views on appendicitis; its mild prognosis when treated by expectancy; its masked pathology; and the history of frequent recovery after desperate symptoms, naturally admit of difference in surgical judgment; but in the lesion under consideration there is no double ground. Exploration is the only means of accurate diagnosis, and death is practically certain in untreated penetrating wounds after twenty-four hours' delay. How much this means to the prolongation of life can not be determined until these conclusions become surgical principles, and are inculcated into the mind of every practising physician in our western and southern country.

As to the duty of the surgeon, I add here as I declared in the paper read before this Association at Memphis: "With these facts before us, it is clear that to delay in a delusive hope until peritonitis shows its folly, is almost a crime. The practical management of a suspected penetrating wound is as plain duty as the tying of a bleeding artery. As soon as possible after injury the patient is to be transported to a suitable place and under usual precautions; after all preparations are made for laparotomy and repair of lesions, an experienced hand should carefully trace the course of the ball into the cavity, if it goes there. This is easy enough when the penetration is direct from the abdominal wall, but often difficult or impossible when from behind or from the thoracic or pelvic cavities. Under these latter circumstances the history of the direction of the projectile, and the general symptoms must be the only guide, giving to the side of operation the benefit of the doubt."

PROFESSIONAL EDUCATION AND ETHICS.*

BY A. E. BALDWIN, M.D., LL.B., D.D.S.

CHICAGO.

In presenting this subject I am not unmindful of the fact that it is large, and one that affects the interests of not only the profession—or our branch of it—especially, but even more the interests of all those who are put under our charge. The importance of it has grown on me each year for many years, and I have always been attracted to anything that I have found in print pertaining to it, but to my mind the most vital point is seldom touched on, and now, when our schools are almost universally demanding a course of four years, as well as considerable attention to a preliminary education, the time is ripe to call attention to an absence in this teaching of some things that are of vital importance to the practitioner and to those who patronize him.

May I be allowed to enter a plea for the merging of the two subjects of the paper into one, for the education is not and can not be complete without great attention being given to the part of the education called "ethics," the meaning of which is: "The science of right conduct and character; a system of principles and rules concerning moral obligations and regards for the rights of others?" Why should not this be regarded as important as any part of the so-called "education." Without it our young graduates will not be able to enter on their duties as professional men with a proper education, for we should consider that our duty to our patrons consists in more than an effort to place their money in our pockets in as great quantities and for as little service as possible. How can we expect this matter to be regarded as in the least vital to our graduates, when the teaching pertaining to these duties is so different? To be sure, they are hard to specifically define in individual cases, but in them all there are certain well-defined principles of equity and justice which are apparently absent from the training of the mind and the hands of students in these years of student life. Might I not go a step further and say that there are many things taught in our colleges, by both precept and example, that exert a very baneful influence on the moral element of the student, and it is a fact well known to us all that should a teacher attempt to teach one thing and then do the opposite, the good of the attempted teaching is not only *nil,* but a lesson is drawn by the pupil that is not, to state it mildly, in the line of ethics proper?

In this matter of education I should speak of the lack of encouragement—at least in most of our schools—of original work in microscopic and bacteriologic investigation, and help to settle the matter as to the exact place occupied by the much-talked-of microbes and bacteria. There are many things in regard to oral troubles that are as yet uncertain, and these students may, if encouraged and helped while attending college, give us much light as to causes and results; they may be able to show us that in many instances these organisms are present to assist Nature in alleviation, or may clearly show us facts, new to us, of their ravages. I am constrained to say that there is reason to fear that we have oftentimes arrived at conclusions that are unwarranted with the light of to-day; or, in other words, many of our conclusions are reached without a sufficient grounding in facts. Illustrating this I call to mind a teacher in one of our schools, who has brought before the profession scores and probably hundreds of remedies, each one "more wonderful" than the preceding one, and many of them would never be recommended or used if a little more time was taken by him and others in proving their worth before shouting their almost specific virtues.

I do not want to do any injustice to teachers, or schools; my effort is to simply call attention to a few of these shortcomings with the hope that it may result in bringing others to recognize these truths, and that in time a change may be brought about in the character of the instruction given in colleges, offices, and societies.

Why do we not demand that the standard of our department of the profession be raised? Is not the reason this: we do not practice true ethics ourselves and with our patrons? Are we all, and at all times, careful to advise our patients just what we should want to be advised were we in their place; are we certain that we have not at times advised and performed operations that we knew at the time would have been better done some other way?

Some years ago I visited a neighboring dentist, and while there he prepared the cavity and filled a tooth for a patient, and when about ready to introduce the filling he asked me to examine the cavity. I did so and at the same time glanced about the mouth, and discovered there were several teeth that had cavities in them. After the patient stepped out I asked him if he did not notice them, and he said he did, but that he had learned that the best policy was to do only the work asked for, and then he could charge a good price therefor, and would still escape the charge of being a high-priced dentist. What an example of ethical, or rather of unethical practice; how little of the Golden Rule was shown in the transaction!

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*Presented to the Section on Stomatology, at the Fiftieth Annual Meeting of the American Medical Association, held at Columbus, Ohio, June 6-9, 1899.

Another example is seen in a so-called reputable dentist who advised me not to use tin and gold for filling, and while admitting that it was an excellent material, said that one could just as well get patrons' permission to use gold and by so doing get larger fees. In another instance, some very faulty work of a neighbor coming to my attention, I called his attention to the faulty conditions which obtained, and he said that for the pay he had received he could not afford to do the work any better, apparently forgetting that if he did it at all he could not afford to do anything other than the very best in his power. I might cite more of such examples, but these will suffice to show what a lack of information is current as to our duties to those put under our care, and the moral responsibility resting on us as professional men. Should we not, as the guardians of those placed or falling under our charge, take time to advise them in every way in our power, as to conditions present; causes therefor, and, as far as we can, how to avoid them in the future? All who recognize the importance should gladly give all the time necessary in instruction in all ways possible in all that pertains to proper care of the teeth and their accessories. There is an old saying something like this: "A stream can never rise above its source," and in this matter, we can not expect the young graduate—without he has great breadth and strength of character—to rise superior to the moral tone of his alma mater, and this paper is intended to call attention to a few of the many ways in which the college teaching is lacking in moral tone, both directly and indirectly.

In the first place the force of teaching should be addressed to, in the main, an endeavor to instruct students in how best to serve patrons; to have them feel when they are patronized that the position they occupy is one involving a responsibility either as to advice or in regard to services to be performed; that deceit has no place in their offices and that to all coming to them they should, as far as is possible, "put themselves in the other's place" and carefully advise accordingly. In the mind of the student his teacher represents to him all that is of the highest type of a professional man, and, as said earlier in the paper, if the oral teaching is good, and thoroughly in accord with true ethics, and then the student learns that while the college is advertising to do work for those who can not afford to have work done at a private office, and this work to be done at the college at the bare cost of material, and then this college accepts all who come without regard to ability or inability to pay proper office fees, and charges them for the gold used, 75 cents or $1 a sheet, for gold marked No. 3 but which is made, by order of the college, only about No. 2 or 2.5, it will not take that student long to determine that, so far as the management of that college is concerned, the moral lesson to be drawn is that the professional duty is to practice deceit and literally "prey" on the public and fleece it at every opportunity. Then when his teacher shows him a large occlusal cavity in a tooth, where there remains very little but the enamel walls after the cavity is prepared, and advises him to fill such a cavity with a mass of gold, when any one who is a metallurgist and also knows the brittleness of the enamel when not underlaid with dentine, would see his folly, he will know that in so doing you are doing worse than the thief, for you have not only taken his money for doing him harm, but you have weakened his faith in the profession at large.

May it not be a serious question, when an anterior tooth is broken down badly, where there are large distal and mesial cavities, and the instructor sees a fine chance for making or putting in fillings that in their neatness are at least temporarily a monument to his mechanical skill, whether the student will be influenced, when *his* patron comes to him with similar conditions, to try and reproduce the same kind of temporary monument that his teacher did, with the result of obtaining quite a good fee, while the patron soon learns, through the almost certain failure of the work, that *his* interests would have been better and much more permanently served had the tooth been treated to a nicely-adjusted porcelain crown, which work would have been less conspicuous, less expensive, and much more durable than the other, and the same thing would doubtless be true of the work done by his teacher as well.

Should not the instruction in the college course tend to broaden the character of the student so that even when his patron wants work of an expensive character done, and is willing to pay for it, but which the dentist *knows* would be better, and more serviceably done by a much less expensive method, he should stand firm in recommending that which his honest professional judgment leads him to believe is for the patron's interest. This may be evidenced by some filthy catchall of a bridge being adjusted instead of a clean and well-constructed plate. I hope no one will understand me as condemning all bridges, for that is the farthest from my thoughts, for I consider that, in the proper place, and of proper construction and adjustment, nothing is more beneficial than the bridge. The practitioner should sink himself and, if necessary, his technical skill, in trying to do for the permanent interests of his patron.

Should not the student be instructed by example as well as by precept by his teacher that he should gladly take some time each day if necessary to give advice as to care of the mouth and teeth, and this many times without any direct recompense? Should we not realize that we are here for a broader purpose in life than to gauge everything that we do by a direct money value? Should not our young men learn that they should be as ready to freely advise how their patrons can often prevent trouble in the mouth by care or preventive means, as to repair the abnormal conditions that obtain and for which the patient comes? The teacher should realize his responsibility and honor his position, instead of depending on his position honoring him.

We can not ignore the fact that our instructors in our institutions of learning, many of them probably without an idea of its far-reaching influence on the moral development and character of the student, are guilty of practices that are demoralizing, and even might be classed as unethical and dishonest. I could cite many instances illustrative of this, but will mention only one or two: A professor in one of these educational institutions compelled all of the students who took his examination—and it was necessary that all the graduating class should take it—to have purchased and have in their possession a certain book and certain instrument, informing them that he had no interest in the sale of the same, either financial or otherwise, when the fact was that he had a contract with the publisher and manufacturer and was at the time collecting a royalty on each book or instrument said. How long can such a teacher hold the respect of his students, and what is worse, who can say how much this example may develop of the unethical in their professional career?

Should we not all endeavor to "speed the day" when especially all the teachers and teaching in our schools will not only endeavor to give correct instruction in the technique of the work, but will exert an entirely healthful moral influence and one that will help to make large-caliber and broad-minded men, men who will not allow themselves to be dwarfs or pursue dwarfish methods?

CASE OF HEPATIC ABSCESS PRESENTING SOME POINTS OF INTEREST.*

BY HERMANN B. GESSNER, M.D.
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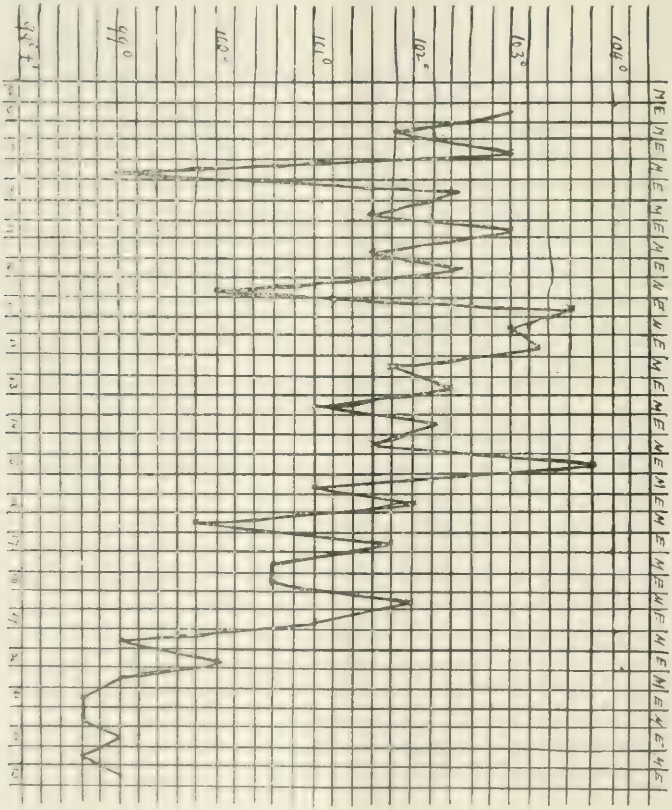
D. V. is a full black, a laborer by occupation, 30 years of age. His family history has no bearing on the case. Previous to April last he had had no disease of any importance save an attack of dysentery six years ago. He has used alcoholics, but not in excess.



In April, 1899, he began suffering from chills and fever of an irregular type, for which he took calomel and quinin without effect; his bowels were constipated at this time.

On July 6, the man was admitted to the hospital, under the care of Dr. Jules Lazard. There was high temperature, with enlarged and tender liver. Exploration in the mammary and in the mid-axillary line brought out blood only. Blood examinations made by the pathologist of the hospital, Dr. O. L. Pothier, excluded malaria and typhoid fever. Examination of the lungs by Dr. Lazard revealed dulness, bronchial breathing, moist râles and increased vocal resonance at the base of the right lung posteriorly. There was, however, no expectoration. The administration of an expectorant mixture was followed by the expectoration of sputum which was noticeable for nothing more than its profuseness; two examinations of this sputum failed to determine the presence of tubercle bacilli. An exploring needle was now introduced through the sixth intercostal space posteriorly, 2½ inches to the right of the vertebral column. Thick muco-pus of an extremely foul odor was aspirated; culture showed the presence of the bacillus pyogenes and of staphylococci.

On July 19, I had the privilege of examining the patient, through the courtesy of Dr. Lazard. He was much emaciated, and was greatly depressed by the action of toxins, an index of whose activity was the irregular temperature tracing. Physical examination showed flatness and absence of respiratory sounds over the right side of the chest, below the level of the fourth rib anteriorly, the sixth posteriorly. The sputum consisted of extremely foul muco-pus. Taking into consideration the history and the present physical condition, I made a diagnosis of empyema, probably resulting from rupture, into the pleural cavity, of a pulmonary abscess which was at the same time emptying itself, in the usual manner, through bronchus, trachea and larynx. The patient, having been transferred to a ward of which I have charge as clinical assistant to Prof. R. Matas, was brought to operation on the morning of the 20th. Strychnin and digitalis had been given to prepare him for this. In view of the depressed state it was determined to use a local anesthetic; a solution consisting of eucain B 1 part, sodium chlorid 8 parts, and water 1000 parts was employed, the total quantity used being flʒi. Exploration in the eighth interspace, on a level with the posterior border of the axilla, showed the presence of foul pus at a depth of 2½ inches. An incision was made from this level toward the median line posteriorly, over the ninth rib, three inches of which was removed subperiosteally with the Denison costotome. Having again explored and found pus, I pushed the scalpel along the needle and opened the abscess cavity, from which flowed a quantity of foul pus. The abscess cavity, explored with the finger, extended downward and forward toward the right hypochondrium; pressure over this region caused the freer escape of pus. Inspection of the plane of section showed the condition one, not of pulmonary abscess or of pleural empyema, but of hepatic abscess, with adhesions which shut off the pleural and abdominal cavities. To make sure of this, a slice of visceral tissue was shaved off for examination; the report of the pathologist later confirmed my opinion. The operation was completed by suture of the skin to the deeper parts so as to limit the area exposed to pus infection and toxin absorption. Boric acid irrigation and iodoform gauze packing were practiced.

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* Read before the Orleans Parish Medical Society, [illegible]

Immediate improvement followed the evacuation of the abscess: the temperature fell to normal, not rising again thereafter; the appetite improved to a remarkable extent. This last was gratified by placing the patient at once on full diet, a move which we at no time had cause to regret. Closure of the abscess cavity was rapid.

The expectoration of fetid pus still continued, however.

On August 8, when the hepatic cavity was almost completely closed, the patient coughed up about ʒi of the foul pus which had been originally present. There was, however, evidently no connection between the source of this pus and the hepatic cavity, for this reason: the little pus that flowed from the latter was practically odorless, while the foul pus coughed up contained not a trace of the blood made to flow from the hole in the liver by free digital exploration.

Examination of the chest showed a hyperresonant percussion note over the base of the right side of the chest, anteriorly and posteriorly. Exploration with the hollow needle—in the fourth intercostal space anteriorly was negative. Basham's mixture, that preparation of iron from which I have had the best results, was now given in ʒss. doses after meals, while the oil of cloves was given every four hours, 5 minims in emulsion of slippery elm, as a pulmonary antiseptic. Improvement both in the general condition and in the quantity and quality of the expectoration was now observed; this has continued until at the present time the patient weighs 155 pounds, ten more than when admitted, while no sputum has been expectorated for over a week. Examination of the chest shows diminished volume of respiratory sound over the base of the right lung anteriorly and posteriorly. The incision is represented by a small area of granulations. The skin originally turned in to line the depths of the wound is flush with the surface, having been pushed out by granulations, just as is the case after using Neuber's method of turning in the skin to line a bone cavity left by sequestrotomy.

Comment: What was the origin of the trouble in this case? Can it be that a pulmonary abscess did rupture downward through the diaphragm into the liver, and give rise to hepatic abscess? The correctness of this explanation I doubt very much. Not to dwell on the improbability of pulmonary abscess lasting so long without cough, it is hardly likely that such an accumulation, with the easy route through soft lung tissue and open bronchi before it, would prefer the harder path through resisting diaphragm and dense liver tissue.

The chances are that we have had to deal with a hepatic abscess rupturing through the diaphragm into a bronchus. If it is, and I see no reason to doubt this, it is the first case of the kind coming under my observation which has terminated favorably. This attempt at evacuation by Nature, aptly compared with drainage through a chimney, is certainly not one that augurs well for the future of the patient.

It may seem far fetched to trace the suppurative hepatitis back to the dysentery of six years ago, but if gonococci may be present in the urethra thirteen years after the clinical signs of such infection have disappeared, as I have seen stated, I see no reason why the bacterial or protozoan cause of dysentery should not remain dormant in hepatic tissue six years or longer, until given an opportunity for active development by some depressed state of the patient's health.

As to the treatment, I wish to call particular attention to the thoroughly successful production of analgesia by means of the 1-10 per cent. solution of eucain B. The division of the rib was made absolutely painless by the injection of this solution along both borders of the rib at either extremity of the excised segment. Again, the favorable influence exerted on the fetid expectoration by the oil of cloves is worthy of note.

A point worthy of discussion is the source of this same expectoration, the pathologic explanation of its existence independently of the abscess whence it originally emanated. I had the opportunity of seeing, last winter, an autopsy on a case of hepatic abscess that had ruptured through the diaphragm and been in part expectorated. Instead of finding a large hole to explain the free expectoration of hepatic pus, it was only after a long search that a minute opening, certainly not over 1/8 inch in diameter, was found. So in the case here presented, it is probable that there was a small channel connecting the hepatic abscess below with a burrow in the lung tissue above or a dilated bronchus. Relief of intra-abscessal tension, combined with pressure by the gauze packing, probably brought about the closure of this small channel of communication and permitted the independent existence of two cavities, one of which healed quickly on account of its adequate drainage, while the other, the pus of which had to go up hill, lingered until the oil of cloves destroyed the bacterial cause of the continued suppuration.

1933 Ursulines Avenue.

GASTRECTOMY

BY W. S. THORNE, M.D.
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Total extirpation of the stomach and a union of the severed pyloric end with the esophagus is an operation almost unique in the annals of surgery. The first operation was performed in September, 1898, since which time four operations have been added to the list, two done in this city. It is with pleasure that I am permitted to present the history of a third as follows:

Mrs. S. F., a native of Germany, aged 52, housewife, gave this history: Her father died, aged 48, of pneumonia, the mother at 62, the cause unknown. The patient entered St. Mary's Hospital on June 23, 1898. She had worked very hard for the past twenty years, doing rough work, lifting heavy weights, and as a laundress had used the wash-board a great deal, causing much pressure on the abdomen. She had been married twenty years and had three children, two being still-born She had always menstruated regularly, and considered her health good. Four months before she began to have severe cramps at night, and these she attributed to the presence of gas in the intestines. They were relieved by getting up and walking about. These cramps recurred every alternate night, and at such times she usually vomited a clear, bitter fluid, after which she felt relieved. Latterly the cramps occurred more frequently, and some time within the past six months she observed a tumor which has grown more and more prominent. Of late she had eaten very little, as food distressed her and she was only comfortable in the recumbent position. She had lost much flesh and was rapidly growing more feeble. She gave a history of gastric and intestinal indigestion for several years past; the bowels never moved naturally—she took purgatives every alternate day. She passed twenty-six ounces of urine the day prior to the operation, sp. gr. 1012, no albumin, sugar nor renal debris.

The patient was delicate looking, thin, the face pinched and anxious, and the pulse thready and very compressible. The integument was thin, flabby and rugose. She had lost flesh quite steadily and perceptibly during the past four months, her present weight being ninety pounds. The tumor, felt in the left hypochondrium four inches from the median line, a little below the cartilage of the tenth rib, was kidney-shaped, its convex border presenting outward; it was somewhat irregular in outline. On pressure it easily glided beneath the diaphragm in the direction of the loin. The long axis of the tumor was nearly vertical.

The diagnosis lay between a floating kidney undergoing degenerative changes and a cancer of the stomach. The clinical history presented features common to either lesion, but the position of the growth so far to the left, its shape and mobility, unusual to cancer of the stomach, induced the belief that it was a kidney. The primary incision, therefore, was on the outer border of the rectus, as recommended by Langenbuch for the removal of the kidney. On etherizing the patient, and before beginning the operation, two ounces of whisky with two of milk were given by enema, and during the operation strychnin and whisky were given hypodermically at regular intervals.

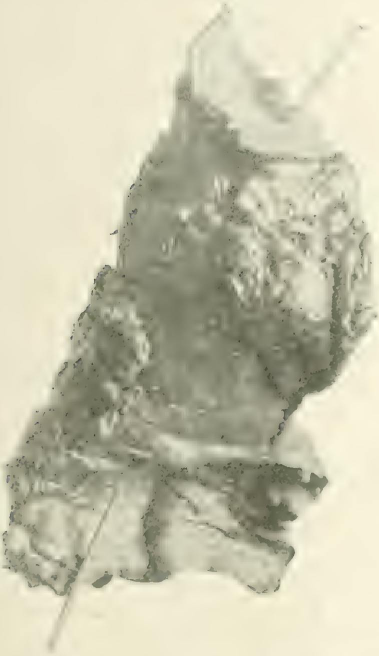
On reaching the peritoneal cavity, the site of the tumor was found to be at the lesser curvature of the stomach, which occupied a nearly vertical position, and owing to the laxity of its peritoneal investment, was easily dragged forward and outward as observed before the operation. I had neither witnessed the operation nor had the opportunity of studying the methods pursued by others.

My technique was suggested by purely anatomic considerations, and was as follows: The greater omentum was ligated in separate portions from right to left, along the greater curvature. Next the gastrosplenic omentum with the vasa brevia, and in like manner the lesser or gastrohepatic omentum, were tied off. The pyloric extremity was next grasped below the growth with forceps, the blades of which were protected by rubber tubing, and severed, having first carefully packed it about with hot sterilized gauze. The esophageal end of the stomach was found to be fixed by the gastrophrenic ligament, and some dissection was here necessary in order to free the severed esophagus sufficiently for the adjustment of the Murphy button. The stomach was then raised, forceps with rubber protectors applied, the tube was severed at the point of election near the stomach and the organ removed. The male half of the button was adjusted to the pyloric extremity by a fine running silk thread, the female to the esophageal and the button clamped. Accessory stitches were placed about the point of junction. The parts came easily together without undue strain or tension. The loss of blood did not equal that observed in an ovariotomy with adhesions—the viscera and cavity were protected as much as possible by hot sterilized gauze. The time occupied by the operation was one hour and forty-five minutes. This time—including etherization and dressing, two hours and ten minutes—with mature experience I am sure can be lessened. The territory to be ligated is necessarily great, but with perfect assistance it can be rapidly compassed.

The Murphy button may not be the best method of effecting union in gastrectomy. It certainly shortens the time of the operation, an essential factor in abdominal surgery. I could easily have effected an end-to-end anastomosis in this case, and but for the feeble condition of the patient, I should have adopted this method. I do not care to court the anxiety and the uncertainty of a fortuitous transit of the metallic button the entire length of the intestinal tube. The operation per se presents no obstacles greater than those that are daily encountered by the abdominal surgeon. It is an operation *sub judice*. Experience is yet too limited to enable us to know to what extent it is a beneficence, if at all, to those who have survived it. The mere prolongation of life under certain conditions may be a questionable or even an undesirable blessing, but from the standpoint of the scientist the success of the operation is a triumph. It opens a new chapter in the annals of surgery, and essentially modifies our notions of the vital and indispensable part performed by the stomach in the natural and physiologic order of the digestive process.

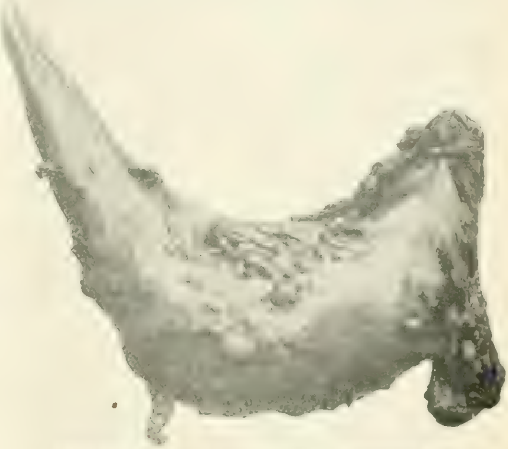
My patient survived the operation forty hours—the temperature, three hours after the operation, was 98.1, the lowest pulse-rate 140. The temperature remained subnormal to the end, but the pulse-rate 150. Whisky was given hypodermically every half hour, strychnin, 1/40 gr. every two hours, and whisky, ℥ss, milk, ℥ii, every two hours, digitalin 1/00 hypodermically every four and six hours, and several transfusions of salt solutions every six hours. The patient secreted only 6 1/2 ounces of urine after the operation. The severe pain complained of was relieved by 1/8 gr. injections of morphia. She slept at intervals of fifteen and twenty minutes, and was at all times conscious and rational. Notwithstanding the unremitting stimulation and all possible nutrition, she never rallied after the operation and sank at the end of forty hours, from shock.

Post-Mortem.—This was held ten hours after death. The skin and muscular layers were united and undergoing cadaveric changes. The peritoneum was closed. The omentum and tissues about the field of operation were dark and cadaveric ; no blood nor fluid in the peritoneal cavity, union between the pylorus and esophagus appeared perfect. I excised the button with an inch or more of included tube and intestine, which are here exhibited. In this case there was very slight loss of blood, no unusual manipulation of vital parts, undue exposure nor prolonged anesthesia to account for the fatal issue, and the after-treatment shows the resources of stimulation, supportives and heart tonics to have been fairly exhausted. Stress has been laid on the employment of digitalis in these cases, for its inhibitory action on the cardiac centers, with the hope that it would control the reflex disturbances incident to division of the pneumogastric. In the present instance the effect of digitalis was *nil.*



Murphy button in situ. Union complete at junction. X denotes esophageal opening.

What effect the elimination of the mechanical function of the stomach and the solvent powers of the gastric juice must have on nutrition remains to be seen. If the distinct physiologic function assigned to this organ can be dispensed with, without serious interruption in the chain of vital processes ending in the conversion of dead into living matter, we shall learn that the organic ferment and free acids of the stomach are not essential to life. It is well known that the nature of the change of foods in the alimentary canal is partly physical and partly chemical, and does not involve any marked alteration in their chemical characters. Alimentary materials are not decomposed nor converted into substances of a different kind, but they are simply transformed into soluble materials of the same class with themselves. The carbohydrates after digestion remain carbohydrates. The albuminoids still remain albuminoids, and fatty matters retain the chemical properties of fats. The conversion of starch into glucose by the digestive act is a process of hydration, and can be artificially accomplished. The conversion of albuminous matter into peptones in the stomach is likewise regarded as a hydration, and can be artificially induced by boiling at a high temperature under pressure. The gastric juice is essentially an acidulated solution of pepsin, which can be easily imitated by the chemist, and thus the elementary part of digestion can be artificially accomplished, viz: by solution, acidulation and peptonizing, preparatory to its immediate introduction to the alkaline juices of the small intestines. These organs contain no pepsin ferment, have no transforming effect on albuminous matter, and produce no peptone from coagulated fibrin. They slowly transform starch paste into glucose, and oily matters containing fatty acids are emulsified. Hence, on purely theoretic grounds, the removal of the stomach appears to present no insuperable obstacles to the processes of digestion and assimilation.



Appearance of stomach after removal. The cancerous deposit is well shown at the lesser curvature.

813 Sutter Street.

Therapeutics.

Hay-Fever.

Muller, of Vienna, treats chronic hay fever by the use of the following formula, says *The Practitioner:*

℞	Menthol	gr. xlv (3)
	Resorcin	gr. xlv (3)
	Alcohol	℥iiss (14)

His patients came from the United States and England. They were all more or less neuropathic, and were subject to gastrointestinal troubles. As he always believed that there was a close relationship between gastrointestinal disturbances and hay-fever, he at once treated the cases by administering alkaline mineral water, using massage and other well-known forms of treatment in that line. In addition, he applied a solution of silver nitrate to the nasal cavities by means of a brush, and irrigated with seven or eight litres of water, after which he applied the above solution.

Urticaria.

[illegible] gives the following prescription as an application for urticaria:

R. Chloralis
Camphoræ, āā ... ʒi
Pulv. amyli ... ℥i to ℥ii

M. Sig. Keep tightly corked in a wide-mouthed bottle. Rub in with the hand.

Gaucher prescribes the following application:

R. Alcoholis
Chloroformi
Etheris sulphurici, āā....................℥iii
Menthol ... ℥i

M. Sig. To be applied in the form of a spray.

B. Wolff says that he relieves the most acute symptoms of urticaria within a few hours, and effects a cure within twenty-four hours, by giving sodium phosphate in doses of 4 or 5 gm. every three hours, in concentrated solution. The following solution may be used topically:

R. Prepared calamine ... gr. xlv
Zinci oxidi.............................gr. xlv
Acidi carbolici.........................gr. xv
Aquæ calcis...............................℥i
Aquæ rosæ ....℥ii

—*Sajous:* "Cyclopedia of Practical Medicine."

The following prescriptions have proved efficacious in urticaria:

R. Sodii salicylatis..........................ʒiv
Potassii bicarbonatis......................ʒiv
Aquæ menthæ viridis, q. s., ad.............℥iii

M. Sig. Teaspoonful in water after meals. Useful in rheumatic subjects.

R. Liquoris potassii arsenitis.............m. xxiv
Potassii bromidi...........................ʒiv
Syrupi aurantii corticis...................ʒiv
Aquæ, q. s., ad............................℥iii

M. Sig. Teaspoonful three times a day. Useful in neurotic subjects.

Measles.

It is stated that good results may be obtained in the treatment of measles by rubbing the body, morning and night, with a salve, consisting of:

R. Ichthyol ... gr. 450
Lard ... ℥iii

This practice was suggested by the favorable results obtained by the same treatment in variola. Only one or two rubbings seem to be necessary to reduce the temperature to normal, when the patches gradually grow pale and disappear. It requires only four or five days to complete the results, after which a warm bath removes what is left of the salve.

IODOFORM IN THE BRONCHOPNEUMONIA OF MEASLES.

Iodoform has been used in the bronchopneumonia of measles in the following form:

R. Iodoformi ....gr. viiss
Olei morrhuæ ... ℥iiiss
Olei anisi.............................gr. xxx

The initial dose is two teaspoonfuls per day, gradually increased up to the point of rejection by the stomach. Inhalations of a mixture of iodoform and turpentin are combined with the internal treatment. The great advantage claimed for this treatment is that the pulmonary symptoms and fever pass away without delay, even though the treatment has not been begun early.

Treatment of Baldness by Simple Aseptic Irritation.

Jacquet asserts that while all dermatologists agree that cutaneous irritation is the first principle in the treatment of baldness, says *The Practitioner*, there is no agreement as to the amount of irritation which will give the best result. Permanent irritation is certainly not as good as a slight irritation which can be renewed at will. By this manner one gets the advantage of the vascular dilatation, the hyperthermia, which favors the papillary vitality and avoids the ultimate slowing of the blood-stream, and the leucocytic migration and interstitial exudation is continued to the point of inflammation. Transitory hyperemia can best be caused by repeated slappings of the scalp with a brush made of good pig's bristles. The brush should be applied all over the bald area and along the margins of the hair. In a few seconds the scalp will become red and pulsating, a condition which will last for half an hour or more. The treatment should be repeated morning and night. In his own case, Jacquet caused the hair to grow again on a bald spot in his beard as large as a two-franc piece by making applications of the brush in the manner described, twice a day for four months. In other cases he has made more frequent applications five or six a day, and has obtained more rapid results. To keep the brush in an aseptic condition he plunges it each time before it is used into the following solution:

R. Alcoholis ... ℥iv
Olei ricini ... ℥i
Hydrarg. chloridi corrosivi...............gr. ii
Extracti opoponacis
Tinct. cocco cact., āā..................gtt. xxx

M. The brush is shaken as dry as possible before it is applied. If a brush is used which is made of wires with a rubber back it will be very easy to keep it aseptic by this solution.

Catarrhal Jaundice.

The following prescriptions have been recommended by prominent physicians:

FOR A CHILD OF FIVE YEARS.

R. Ammon. chloridi ... ʒiss
Elixir simp..............................℥iii

M. Sig. One teaspoonful in water three times a day after meals.
—*Powell.*

R. Sodii phosphatis.........................℥ss

M. Div. in partes vi. Sig. One before meals.
—*Bartholow.*

R. Fellis bovis pur..........................ʒi
Mangani sulph. exsic...................gr. xl
Resinæ podophylli......................gr. v

M. et ft. pil No. xx. Sig. One three times a day.
—*Da Costa.*

R. Potassi acetatis.........................℥iii
Tinct. nucis vomicæ....................m. xlviii
Glycerini
Syr. rubi idæi, āā, q. s., ad...............℥vi

M. Sig. Two teaspoonfuls in a tumblerful of water four times daily.
—*Hugo Engel.*

R. Hydrarg. chlor mit...................gr. iii
Pulv. opii..............................gr. ii
Bismuthi subnitratis....................℈iiss

M. et fiant chart No. 6. Sig. One every three hours.
—*William Pepper.*

R. Aloes socotrinæ
Cambogiæ
Hydrarg. chlor mit, āā..................gr. xv
Syrupi, q. s.

M. Div. in pil. No. x. Sig. One or two a week to keep bowels soluble.
—*A. Gubler.*

CATARRHAL ICTERUS IN A CHILD.

R. Pulv. digitalis
Pulv. scillæ āā........................gr. vi
Potassii nitratis......................gr. xii
Pulv. aromatici...........................ʒi

M. et ft. chart. No. xii. Sig. One once or twice daily.
—*Dujardin-Beaumetz.*

Cough Mixture.

The following is a prescription of the late Sir Robert Christison:

R. Syrupi scillæ ... ℥ii
Aquæ menthæ pip..........................℥ii
Tinct. opii ammoniat.....................℥ss
Tinct. lavandulæ comp....................℥ss
Syrupi ... ℥i

M. Sig. Tablespoonful three or four times a day.

General Tonic.

R. Strychninæ sulphatis ... gr. 1/60
Acidi phosphorici dil....................m. v
Ferri phosphatis ... gr. i
Quininæ bisulphatis......................gr. i
Glycerini ....ʒss
Elixir aurantii. q. s., ad................ʒiv

M. Ft. sol. Sig. Take before each meal.

Medicolegal.

Drug Insanity Still Defense.—By article 41 of the Penal Code of Texas, neither intoxication, nor temporary insanity of mind, produced by the voluntary recent use of ardent spirits, shall constitute any excuse for the commission of crime; but evidence of temporary insanity produced by such use of ardent spirits may be introduced by the defendant in any criminal prosecution in mitigation of the penalty attached to the offense for which he is being tried, and in cases of murder, for the purpose of determining the degree of murder of which the defendant may be guilty. Before that provision was passed, the courts held that such insanity excused unlawful acts. And the Court of Criminal Appeals of Texas now holds, on the second appeal of Edwards vs. State, that until the legislature makes a similar express exception of insanity produced by the recent use of cocain and morphin from the defenses which one accused of crime is authorized to make, a discrimination must be made between insanity produced by the voluntary recent use of such drugs and that from such use of intoxicating liquors, and that the former still remains a defense.

No Appeal from Order of Board of Health.—By statute, the town council of any town in Rhode Island may order the owner or occupant of any premises in such town to remove, at his own expense, any nuisance, source of filth, filth, or cause of sickness, found thereon, within twenty-four hours, or what it may deem a reasonable time after notice. A council, having the same powers as town councils, sitting as a board of health, declared certain premises to be a nuisance, which it ordered abated in a specified manner. One of the persons ordered to abate the nuisance took an appeal from the order to the common pleas division, where, upon a motion in behalf of the council, it was dismissed on the ground that no appeal lies from such an order. And this ruling, the Supreme Court of Rhode Island holds correct; Brown vs. District Council of Narragansett. It says that the statute neither provides for, nor contemplates an appeal from, such an order. The proceeding is evidently intended to be summary, and, in order to be effectual, it necessarily must be so; for, to permit a nuisance to exist until an appeal could be tried, together with such further proceedings in connection therewith as might be had, might seriously endanger the health and lives of an entire community. Suppose the smallpox, or some other contagious or infectious distemper, should break out in any house or family in a town, and the town council should order the infected persons to be confined in the house, or be removed to the hospital provided for such cases; could it be contended for a moment that an appeal would lie from such an order, and that the party against whom the order ran would have the right to a jury trial, with all the delays incident to such a proceeding? The mere statement of such a contention shows its utter absurdity. Prompt and vigorous action in cases affecting the health of the community is frequently of the very highest importance; and the statutes intended to promote the health and safety thereof should be so construed, if possible, as to make them immediately effective.

Construction of Contract to Cure Physician.—A physician, who had been suffering from a sore on his face, which he himself could not cure, called on another doctor, of whom he had heard as a specialist in several diseases, for the purpose of being treated. The specialist termed the affection lupus or lupus cancer. But whether it was, or not, is here immaterial. Taking the specialist's version of the contract entered into between them, it was that, in the event of a cure, the other should give him either a certificate of his skill and proficiency as a specialist in the treatment of the trouble from which his patient had suffered or $5000 in cash. A cure was effected, and the specialist had recourse to the law to enforce his demands. A trial resulted in a judgment for the defendant, the judge holding that the $5000 which the specialist testified was to be paid if the certificate was not given was a penalty, and therefore not recoverable. But, in so holding, the Supreme Court of Pennsylvania says that the court below must have lost sight of the controlling facts. The supreme court says that the defendant was himself a physician, seeking cure for his ailment at the hands of another. He was not the ordinary patient calling on a specialist, but a member himself of the medical profession, knowing, according to his own testimony, what his trouble was, and presumed to know what would be a proper charge for the services to be rendered—what he himself might ask. And, no matter what its judgment might be under different conditions, the supreme court declares, it can not approve the view that the $5000 was a penalty. So it holds that if the specialist is to be believed, it was an alternative mode of payment agreed on by the parties, capable of intelligently entering into a contract. In consequence of which, it reverses the judgment above mentioned, suggesting that the case, Burgoon vs. Johnson, ought to be remitted for another trial, that the court may instruct the jury that, if the specialist's testimony is to be believed, the defendant must pay the sum agreed on for the relief sought and found.

An Injured Person's Duty.—The appellate division, first department, Supreme Court of New York, says that the rule is not at all doubtful that the party who claims to have suffered damage by the wrongful act of another party is bound to use reasonable and proper efforts to make the damage as small as practicable, and that he is not entitled to recover for any damages which, by the use of such efforts, might have been avoided, because they are not to be regarded as the usual result of the tort. The question in every case is whether he has used such means as were at hand to reduce his damages as a reasonable prudent man would have used. It can not be said, as a matter of law, that he is bound to use any particular means, or to do any particular thing—unless that thing is one which would necessarily result in reducing the damage, and which a reasonable and prudent man would use. If, in any given case, it appears that the particular means which may be used to effect a cure would or might cause greater injury, or produce serious results, quite clearly the injured person would not be called on as a matter of law to take the chances of suffering more serious injury, or death, for the purpose of reducing the damage. While the person who inflicts the damage has the right to say that sure and safe means to diminish the evil results of the accident, if any such exist, must be used, yet that is the extent of his right. Whether further means should be resorted to is for the injured one to determine. In making that determination he has the right to consider the nature of the means used to effect a cure and a possible or probable effect on himself. He has to determine for himself whether he is to resort to those means in view of those considerations. In any given case it may be that the treatment which is given to him is not the best that could be devised, but he is not the less entitled to his damages on that account if, in taking that treatment, he has consulted such a physician as a reasonably prudent man would consult. The jury, in getting at the damages, is to say not only what they are, but whether the means used by the injured person to reduce the damages were such as an ordinarily prudent man would use. It can not say that he should or should not have obtained any particular kind of treatment. As to that he must himself be the julge. But when he has determined what treatment to take, it will yet be for the jury to say if, in making that determination, he used the means that a reasonably prudent man would take to cure himself of his injury. If he did, he is entitled to recover for his damages as they are presented to the jury. If he did not, and the jury can say that some other treatment would have brought about a cure, and that treatment was one that a reasonably prudent man would have submitted to, then it must say that he has not used the care which a reasonably prudent man would use to reduce the damages, and must take that into consideration in reaching a verdict. The law, the court continues, case of Blate vs. Third Avenue Railroad Company lays down no hard and fast rule as to the duty of the injured person under such circumstance. Whether an operation for his ailment—here a rupture in the groin—which might endanger his life in any degree, must be submitted to, is a question which the law can not answer; nor does it lie in the mouth of a jury to say that he should or should not do any particular thing. The jury is concerned simply with the affairs presented to it at the trial, and whether the damages then appearing to exist are the natural and probable result of the injury, diminished by the efforts for a cure which a reasonably prudent man would have made.

Current Medical Literature.

Titles marked with an asterisk (*) are noted below.

Philadelphia Medical Journal, March 3.

1.—*Treatment of Typhoid Fever. Frank Billings.
2.—*Exploratory Laparotomy Under Local Anesthesia for Acute Abdominal Symptoms Occurring in the Course of Typhoid Fever. Harvey Cushing.
3.—Surgical Sequels of Typhoid Fever: Stricture of Esophagus: Ankylosis of Hip: Osteomyelitis of Ribs: Spondyloarthritis. Martin B. Tinker.
4.—*Ten Years' Experience in Treatment of Enteric Fever by Systematic Cold Bathing: Method of Brand Based on 1904 Cases. J. C. Wilson and J. L. Salinger.
5.—*Cultivation of Typhoid Bacillus from Rose Spots. Mark W. Richardson.
6.—*Ocular Complications of Typhoid Fever. G. E. de Schweinitz.
7.—Case of Suspected Typhoid Fever Shown to be Acute Catarrhal Otitis Media without Pain. Charles H. Burnett.
8.—*Value of Clinical Laboratory Methods in Diagnosis of Typhoid Fever. J. H. Musser.
9.—*Preventive Inoculation and Serumtherapy of Typhoid Fever. Joseph McFarland.
10.—Typhoid Fever in New Orleans. P. E Archinard.
11.—*Duty of Physician in Preventing Dissemination of Typhoid Fever. Thomas G. Ashton.
12.—*Diagnosis of Perforation in Typhoid Fever. Alexander McPhedran.
13.—*Examination of Urine for Typhoid Bacilli. Norman B. Gwyn.
14.—Three Cases of General Convulsions in Typhoid Fever. Thomas A. Claytor.
15.—*Water-Borne Diseases. E. G. Matson.
16.—Typhoid Fever Complicated by Meningitis. H. M. Fisher.
17.—Therapeutic Use of Water. George P. Sprague.
18.—*Observations on Gruber-Widal Reaction in Typhoid Fever. A. O. J. Kelly and Alexander A. Uhle.
19.—Nervous System in Typhoid Fever, with Report of Cases. Edward E. Mayer.
20.—Monocular Diplopia; Report of Case Preceding Diagnosis of Typhoid Fever. Edward B. Heckel.

Boston Medical and Surgical Journal, March 1.

21.—*Vivisection in Harvard Medical School: A Reply. James J. Putnam.
22.—*Stricture of Ureter a Possible Result of Laceration of Cervix Uteri, and Ureterovaginal Fistula a Result of Trachelorrhaphy. E. C. Dudley.
23.—*Relative Humidity of Our Houses in Winter. Robert De C. Ward.
24.—*Psychology and Heredity. (*Concluded.*) Robert MacDougall.
25.—Perinephritic Abscess Involving Appendix. Hugh Williams.

Medical News (N. Y.), March 3.

26.—*New and Improved Method of Entering the Abdominal Cavity in the Ileo-cecal Region, with Special Reference to Removal of Vermiform Appendix. George R. Fowler.
27.—*Again the Question of Cancer. Roswell Park.
28.—*Notes on Plague. (*Concluded.*) H. E. Deane.

New York Medical Journal, March 3.

29.—*Rheumatic Gout. B. C. Loveland.
30.—*Ossification of Uterus. C. Jeff Miller.
31.—*Partial Study of Child Presenting Multiple Deformities. George E. Elliott.
32.—*Typhoid Fever. Charles E. Page.
33.—*Some Therapeutic Notes. Philip Zenner.
34.—Thirty-two Cases of Typhoid Fever without a Death. J. C. Crist.
35.—Instance of Primary Hemorrhage Following Amygdalotomy. G. B. Hope.
36.—*Another Accommodation of the Eye. Norburne B. Jenkins.

Medical Record (N. Y.), March 3.

37.—*Spinal Fracture: Paraplegia. Robert Abbe.
38.—*Easy Method of Reducing Dislocations of Shoulder and Hip. Lewis A. Stimson.
39.—*Relative Merits of Operation for Extraction of Vesical Stone in the Male; with Observation on Suprapubic and Left Lateral Perineal Methods. Schuyler C. Graves.
40.—*Application of Electrostatic Wave Current. William B. Snow.
41.—Peanut in Air-Passages. R. C. Shultz.
42.—Vaccinella. E. V. Mock.
43.—Surgical Odds and Ends. William A. Payne.
44.—Hypodermoclysis in Typhoid Fever. O. O. Burgess.
45.—Auditory Canal as an Incubator. A. J. Holmquist.
46.—Floating Kidney Mistaken for an Appendicitis and Ovarian Tumor: Operation and Recovery. H. T. Miller.
47.—Congenital Hernia of Umbilical Cord. George Kessel.
48.—Case of Tetanus in which the Mouth was the Probable Source of Infection. E. K. Loveland.
49.—Unprecedented Case of Prolonged Anesthesia with Nitrous Oxid and Oxygen. S. Ormond Goldan.

Cincinnati Lancet-Clinic, March 3.

50.—*Tetanus. T. A. Mitchell.
51.—*Case of Alopecia Areata (Celsus). M. L. Heidingsfeld.
52.—Clinical Report of Some Obstetric Cases. Alfred Gaither.
53.—Heredity. Joseph Sager.

Medical Review (St. Louis, Mo.), March 3.

54.—*Is Appendicitis a Medical or a Surgical Disease? Robt. T. Morris.
55.—Operations on 459 Cases of Hernia in the Johns Hopkins Hospital, from June, 1889, to January, 1899. Jos. C. Bloodgood.

Pediatrics (N. Y.), February 15.

56.—Blood Diseases in Children. Clinical Contributions. John M. Taylor.
57.—Fractures. T. Halsted Myers.
58.—Report on Cause and Prevention of Infant Mortality. Ernest Wende.
59.—Imperfect Development of Right Pectoralis Major and Right Scapula. Henry Ling Taylor.

American Practitioner and News (Louisville, Ky.), January 1.

60.—*Tuberculosis of the Larynx. S. G. Dabney.
61.—Cases Reported to Louisville Clinical Society. Wm. H. Wathen.
62.—Traumatic Popliteal Aneurysm. J. T. Dunn.

Virginia Medical Semi-Monthly (Richmond), February 9.

63.—Criticisms on a City Gynecologist by a Country Doctor. J. G. Carpenter.
64.—Gangrene Complicating Typhoid Fever. Paul W. Howle.
65.—*Formaldehyde Disinfection. John E. Walsh.
66.—*Yaws and Smallpox. R. L. McMurran.
67.—*Treatment of Secondary Hemorrhage Associated with Serious Fracture or Amputation. Thos. H Manley.

American Journal of Obstetrics, February.

68.—*Case of Multilocular Pseudomucinous Cyst-Adenoma of Right Ovary, Associated with Pronounced Symptoms of Diabetes. Henry D. Beyea.
69.—Large Parovarian Cyst Associated with Large Ovarian Cyst of Same Side: Twisted Pedicle. J. Ernest Stokes.
70.—*Vaginal Hysterectomy for Small Bleeding Uterine Myomata. George E. Shoemaker.
71.—Removal of Both Uterine Appendages During Pregnancy. J. Wesley Bovée.
72.—*Surgical and Mechanical Treatment of Dysmenorrhea. I. S. Stone.
73.—Fibroma of Ovary. Abram Brothers.
74.—Malignant Tumors of Kidneys in Children. J. Thomas Kelley, Jr.

Pennsylvania Medical Journal (Pittsburg), February.

75.—Presidential Address before Chester County Medical Society. Jacob Price.
76.—Memorial Address on the Late Dr. Charles S. Shaw. T. M. T. McKennan.
77.—Reminiscences of Expedition to Philippine Islands, May 25, 1898, to April 27, 1899. Henry Lippincott.
78.—Is the Licensing of Physicians a Benefit to the Community? M. V. Ball.
79.—Witch-Doctors and their Deceptions. John M. Bertolet.
80.—Some Considerations Relative to Neuralgia. Thos. S. Blair.
81.—Locations Suitable for Treatment of Consumption in Sanitaria in Pennsylvania. Guy Hinsdale.

Bulletin of Johns Hopkins Hospital (Baltimore), January.

82.—*Contributions to Surgery of the Bile-Passages, Especially of Common Bile-Duct. W. S. Halsted.
83.—*Early Exploratory Operations in Tuberculosis of Hip. Joseph C. Bloodgood.
84.—Gunshot Injuries by Weapons of Reduced Caliber. L. A. LaGarde.
85.—Reconstruction of a Glomerulus of the Human Kidney. William B. Johnston.
86.—Apparatus to Aid Introduction of a Catheter or Bougie. George Walker.

Railway Surgeon (Chicago), February 20.

87.—Duties of Railway Surgeons. C. H. Tidd.
88.—Deferred Shock. M. Bannister.
89.—Cerebral Cyst: Report of Case. Van Buren Knott.
90.—Injuries of Head. H. C. Young.

Buffalo (N. Y.) Medical Journal, March.

91.—*Again the Question of Cancer. Roswell Park.
92.—Water-Supply and Sewerage Problem of Buffalo. J. B. Coakley.
93.—Fad, Fact and Fancy in Medicine. Clarence King.
94.—*Desiccated Suprarenal Capsule in Acute Coryza. F. H. Millener.

Medical Times and Register (Philadelphia), February.

95.—Review of Milk Foods in Relation to the Dietetic and Hygienic Life and Growth of Infants, with Remarks. J. J. Caldwell.

Cleveland Medical Gazette, February.

96.—*Aseptic Gangrene. C. B. Parker.
97.—Medical Supervision of School Hygiene. L. K. Baker.
98.—Disinfection of School Rooms and Public Conveyances after Exposure to Infectious Disease. Frank Warner.
99.—Report of Case of Septicemia Followed by Pyemia. O. B. Campbell.

Canada Lancet (Toronto), February.

100.—Preventive Medicine. D. Gilbert Gordon.
101.—Case of Male Pseudo-Hermaphroditism. Ernest Hall.

Dominion Medical Monthly (Toronto), February.

102.—*Treatment of Inebriety. J. M. A. Dunsmore.

Alabama Medical and Surgical Age (Birmingham), February.

103.—Annual Address before Jefferson County Medical Society. Geo. S. Brown.
104.—Treatment of Fractures. E. P. Lacey.
105.—Case Reported Before Montgomery County Medical and Surgical Society, Jan. 13, 1900. I. L. Watkins.
106.—Vaccination. W. H. Wilder.

Journal of Cutaneous and Genito-Urinary Diseases (N. Y.), February.

107.—*Rôle of Pus Organisms in Production of Skin Diseases. George T. Elliott.
108.—Some Notes on Prostatitis and Seminal Vesiculitis. Charles H Chetwood.
109.—Classification of Tumors. B. H. Buxton.

Kansas City Medical Record, February.

110.—Constipation and Its Treatment. A. A. Freyman.
111.—Sleep. E. E. Gilmore.
112.—Treatment of Remittent Fever, with Reports of Cases. Milton P. Creel.

Post-Graduate (N. Y.), February.

113.— Simple Fractures about Elbow-Joint and Their Treatment. Samuel Lloyd.
114.— Animal Parasites Affecting the Genito-Urinary System. Eugene Fuller.
115.—*Strangulated Hernia: A Few Points on Diagnosis and Treatment. W. B. DeGarmo.
116.—*Fecal Fistulæ. Robert T. Morris.
117.—*Practice of Surgery on Children. Frank Torek.
118.— Case of Suprapubic and Submucous Prostatectomy. Forbes Hawkes.
119.— Chronic Diarrhea Due to Rectal Disease. Samuel G. Gant.
120.—*Hockey-Stick Incision, a Typical Mode of Entering the Abdominal Cavity in Certain Complicated Cases of Appendicitis. Willy Meyer.
121.— Acute Empyema. Frederic N. Wilson.
122.— Diagnosis and Treatment of Fracture Involving Lower End of Humerus. Arthur H. Cilley.
123.— Surgical Affections of Abdomen in Childhood. Fred T. Zabriskie.
124.— Exhibition of New Rectal Instruments. Samuel G. Gant.
125.— Two New Appliances Used in Mechanical Treatment of Ankle-Joint Affections. Daniel W. Marston.
126.— Brief Résumé of the Surgical Service of the Babies' Ward for 1898-1899. Samuel Lloyd.

Journal of Medicine and Science (Portland, Me.), February.

127.— Materia Medica, Ancient and Modern. E. S. Everett.
128.— Materia Medica in the Education of Pharmacists of To-day. R. W. Greenleaf.
129.— Maine Pharmacy Law, and its Requirements of Our Apothecaries. D. W. Heseltine.
130.— What is Expected of the Apothecary by Physicians? F. L. Dixon.
131.— Co-operation of Physician and Pharmacist. Edward A. Hay.

Interstate Medical Journal (St. Louis, Mo.), February.

132.— Clinic on Diseases of Children. Augustus Caillé.
133.— Clinical Notes on Cancer and other Pathological Conditions of Male Sexual Organs. Thomas H. Manley.
134.—*Bacteriology of Pneumonia. R. B. H. Gradwohl.
135.— Treatment of Chronic Glaucoma Simplex by Galvanization of Cervical Sympathetic. Dr. Allard.

Regular Medical Visitor (St. Louis, Mo.), February.

136.— Study of My Last 100 Peritoneal Sections, with Special Reference to Mortality. Emory Lanphear.
137.— "Christian Science." Harold G. Gould.
138.— Rheumatism and Gout. A. T. Quinn.

American Journal of Surgery and Gynecology (St. Louis, Mo.), February.

139.—*Reflex Symptoms of Retroversion of the Uterus. A. Lapthorn Smith.
140.—*Prolapse of Rectum in Children. Charles G. Cumston.
141.—*Brief Note on Some of Those Grave Abdominal Lesions which often Defy Diagnosis. Thomas H. Manley.
142.— Large Uterine Myoma Removed by Trachelotomy and Morcellation. H. J. Garrigues.
143.— Three Successful Cases of Tracheotomy of Four Operated on from November, 1898, to March, 1899. Charles C. Partridge.
144.— Venereal Warts. William S. Gottheil.
145.—*Urethral Asepsis. Ferd C. Valentine.
146.— Loose Kidney: Hare Lip. Robert T. Morris.

AMERICAN.

1.—This paper appeared in THE JOURNAL of February 24.

2. **Local Anesthesia in Typhoid Perforation.**—Cushing reports several cases of operation under cocain anesthesia, in cases of suspected typhoid perforation. He thinks such an operation can, under favorable conditions, be done without exposing the patient to danger. Other conditions which might closely simulate perforation and lead to such an exploration are iliac thrombophlebitis, pulmonary complications when attended by diaphragmatic pleurisy, appendicitis in the nontyphoidal, suppurating mesenteric glands, cholecystitis and intestinal hemorrhage.

4. **Brand Treatment of Typhoid.**—From an analysis of 1904 cases Wilson and Salinger find that the treatment by cold baths does not avert nor diminish the frequency of hemorrhage, but does that of perforation. It diminishes the danger of complication, especially in the respiratory and circulatory tracts, and it is apparently attended by a somewhat increased frequency of relapse, but the statistics are rather unsatisfactory in this regard, and it is also attended by albuminuria in a large percentage of cases. It has no influence on increasing the danger of otitis media. The modifications of the method originally formulated, adopted as a result of experience, are: 1. Administration of purgatives—calomel—early in the attack. 2. External applications and compresses and occasionally turpentin stupes. 3. Medication in special cases. 4. The temperature at which the bath is administered. Whenever the temperature reaches 101.4, three hours after the bath, it is repeated. 5. Continuation of the bath during convalescence, giving one or two plunges a day during defervescence, and a plunge every one or two days for a short time after. 6. The tub need not be kept close to the bed, and the milder cases help themselves in and out. 7. The sooner the treatment is begun the better.

5.—See editorial in THE JOURNAL of March 3, p. 566.

6. **Ocular Complications in Typhoid.**—De Schweinitz reviews the various ocular complications that may follow typhoid, including conjunctivitis, neuritis, choroiditis, cataracts, retinal hemorrhages, optic nerve atrophy, muscular paralysis, thrombosis, asthenopia, etc.

8.—See abstract in THE JOURNAL of February 10, p. 362.

9. **Serumtherapy of Typhoid.**—McFarland reviews the literature of typhoid serumtherapy with rather discouraging conclusions, but says, let us continue our experiments and hope for success.

11.—See abstract in THE JOURNAL of February 10, p. 363.

12. **Perforation in Typhoid.**—McPhedran. reports two cases of typhoid perforation occurring without the ordinary phenomena, and emphasizes the fact that this accident may occur without the fulminant symptoms we are accustomed to associate with it. Persistent pain is probably the most constant sign, but all may be mistaken in some cases, and they may be so masked as to escape observation, the patient not even considering himself seriously ill.

13. **Typhoid Bacillus in Urine.**—Gwyn's experience covers ten cases, and he thinks that while the examination is advisable, it may not be a very important method of diagnosing, occurring as it does in only 20 to 30 per cent. of cases. He also suggests that the safest course is disinfection of all typhoidal urine.

15. **Water-Borne Diseases.**—Matson, after discussing the conditions at Pittsburg, and the methods of water purification, concludes from a study of the subject that the dangers of typhoid infection from the public water-supply are less than from wells, and it is almost impossible to in all cases detect the typhoid bacillus in places in which they must exist.

18. **Gruber-Widal Reaction in Typhoid.**—The statistics of this test in the German Hospital, Philadelphia, are given by Uhle and discussed by Kelly, who calls attention to a number of interesting points. He thinks the necessity of knowing the degree of dilution of the blood serum is great, and the higher the dilution that yields a positive reaction the more certainly is the case typhoidal, while when it is present very early in a high dilution great diagnostic import may be ascribed to the test.

21. **Vivisection in Harvard.**—Putnam replies to the criticisms of Leffingwell. In regard to vivisection, he shows how that writer has misrepresented and misunderstood the facts.

22. **Stricture of Ureter from Cervical Laceration.**—Dudley reports a case of stricture of the ureter following laceration of the cervix with ureterovaginal fistula following the operation of trachelorrhaphy, which was operated on by producing a vesicovaginal fistula, in the edge of which the ureter opened, and which was afterward closed in the ordinary way, leaving the parts in all their natural relations. He asks, in view of the fact that the ureter is often drawn close to the uterus by cicatricial contraction, why is it not more frequently injured by operation on the cervix, and answers that the sutures of trachelorrhaphy are not usually produced deeply in the vaginal wall or more such cases would be reported. In view of the facts given, he submits the following: 1. In all cases of extensive laceration of the cervix uteri, in which the localized pain is not accounted for by palpable lesions, should we not pass a series of graduated ureteral bougies on the side corresponding to the laceration? This would be for the purpose of measuring the caliber of the ureter and of locating a possible stricture. The principles of examination would be similar to those of measuring the caliber of the male urethra in the diagnosis of stricture. 2. In a case of ureteral stricture due to laceration of the cervix uteri, or to any other cause, and situated within the range of a vaginal operation, would not one be warranted in opening the bladder and then proceeding as in the case reported to establish a new ureteral outlet? In other words, should not that condition, which in this case was the result of an accident, be deliberately reproduced in similar ones? His answers to these questions would be in the affirmative.

23. **Indoor Humidity in Winter.**—Ward has made examinations of humidity in quite a number of residences and compares it

to direct atmosphere. He thinks the present methods of treating such diseases are wretchedly inadequate from the point of view of supplying moisture.

24. **Psychology and Heredity.**—McDougal's article, completed, dwells especially on acquired characters by education and environment, and the social rather than the physical heredity.

25. **Laparotomy.**—Fowler describes his method of entering the abdomen and pelvis in the ileocecal region by making a skin incision from the upper rounded prominence of the anterior superior spine, horizontally to the outer edge of the rectus muscle, then curving downward parallel to this edge 2½ inches or more as required. The triangular flap is then reflected downward by traction, the aponeurosis of the external oblique is exposed, then divided in the direction of its fibers to the full length of its exposure, and the sheath of the rectus exposed and also opened. The rectus muscle and the underlying deep epigastric artery and veins are now drawn to the median line, the outer edge of the aponeurosis being retracted the other way, exposing a space of four inches in its transverse diameter. The remaining structures of the abdominal wall are considered as one layer, and the transverse incision is carried directly through these in the direction of the fibers of the internal oblique and transversalis fibers, into the peritoneal cavity. Retraction of the edges of these incisions will be found to give free and ready access to the region of the cecum. Then closing the wound, suture the transverse incision by a running catgut suture including all of its layers. In closing the external oblique aponeurosis care must be taken to include in the suture the incised edge of the sheath of the rectus muscle, avoiding the muscular structure itself. For this purpose he employs kangaroo tendon. Finally, the skin wound is closed. The advantages claimed are: 1. Ready access is gained to the ileocecal region, and ample room secured for all necessary manipulation in the class of cases for which it is designed. 2. Weakening of the abdominal wall and the liability to surgical hernia are reduced to the minimum by incising the important musculo-aponeurotic structures in such a manner as to secure immediate, firm and permanent union; and by avoiding injury to the vascular and nerve supply of the parts involved in the incisions.

27.—This paper also appears elsewhere, and is abstracted below, ¶ 91.

28. **Notes on Plague.**—Deane says that he treated his last nineteen consecutive cases, with cobra venom in 1/500 to 1/1000 solution, with six deaths, which he thinks is a better result than has been obtained with other serum treatment. He also uses apis, m. v, every hour. The latter part of his paper is given to the subject of prevention, and he thinks more can be done by proper hygienic measures than any other way.

29. **Rheumatic Gout.**—Under this head Loveland includes rheumatoid arthritis, arthritis deformans, chronic inflammatory rheumatism, etc. He describes the condition, illustrating it with skiagrams, and reports two cases. He believes in a regulated diet, avoiding red meats, starchy vegetables, tea, coffee, sugar, stimulants, etc., and advises exercise in the open air, massage, free drinking of water, warm and Turkish baths, and for medicine, salicylate of sodium, which can be combined with benzoate of sodium, 5 grains each in hot water three times a day, continued over a considerable period. In this formula it does not disorder the stomach. He thinks that complete change of habits of life, with the above treatment, will produce benefits in many cases and complete permanent cure in some.

30.—See THE JOURNAL of Dec. 16, 1899, p. 1550.

31. **Deformed Child.**—Elliott's paper describes findings in a child who died at the age of 7, which included muscular, bony and articular abnormalities. He thinks the clinical picture points to a prenatal origin of these as a possible result of the action of toxins, for example, *in utero*.

32. **Typhoid Fever.**—Page's paper criticises the common, heretofore the popular, treatment of typhoid fever, and advocates the Brand method as the most successful.

33. **Therapeutic Notes.**—The first subject mentioned by Zenner is apomorphin in tachycardia, and he reports cases in which this was used. He found that in these the only remedy that fulfilled the indication thoroughly was apomorphin in small doses, given hypodermically. The quantity given varied from .1 to .3 gr. Cacodylic acid, which he has employed in anemia, is next mentioned, its use being first suggested by its employment in skin diseases. The remedy was given by the injection of .6 to .75 gr.—m. xii to xv of a 5 per cent solution—daily or every second day. The improvement was so rapid that he thinks it can not be attributed to anything else; the hypodermic injection of this drug is as painless as that of morphin, and it seems to be otherwise harmless. He believes that the cases reported justify the further use of cacodylic acid where arsenic is indicated.

36. **Accommodation of the Eye.**—The special form of accommodation of the eye described by Jenkins is that to badly fitting glasses. He gives illustrations of its occurrence. This "accommodation" is the chief stock in trade of the wandering spectacle expert, and is the sheet-anchor of the unscientific refraction methods.

37. **Spinal Fracture.**—Four cases of spinal fractures are reported three being of broken necks from diving, in all of which comparatively good results were obtained; 1 was a bullet wound received during the late war, with approximate recovery. Abbé's method of laminectomy, which he claims is the simplest and most bloodless of all and gives perfect access to the cord, is described: A straight incision six inches long is made a little to one side of the spinous processes, the knife passing between the muscle and the spines directly down to the laminæ; the muscles are then easily separated by blunt dissection from the laminæ on one side, and the tips of the spinous processes, with the interspinous ligament unbroken, are separated by cutting-pliers. These, with the opposite side muscle, are then easily dissected in the opposite direction, the muscles being very loosely attached to the laminæ, and the method comparatively bloodless. A rongeur is now used to gnaw away the base of the spines and as many laminæ as are required to expose the cord. He says, as regards the symptoms, that if sensation and motion and the knee-jerk are lost, the outlook is almost hopeless, while partial loss of sensation or motion is more encouraging. Restoration in any case may not be complete. In cervical fracture the fifth vertebral body is most often injured, and the phrenic nerve involved so that pulmonary edema and hypostatic pneumonia occur a few days after the accident. This may be overcome by nitroglycerin internally, and frequent change of posture. Intestinal fermentation with temperature disturbance may occur, but is easily relieved by calomel. Regeneration of pulpified cord is impossible; recovery is probably always due to absorption of blood or inflammatory exudate and relief of pressure. The persistence of pressure symptoms justifies operation as much as in cases of depressed fracture of the skull. Laminectomy should be done as promptly as possible, and in favorable cases may be under cocain anesthesia.

38. **Shoulder and Hip Dislocations.**—Stimson describes and illustrates a new method of reducing shoulder and hip dislocations, by the use of steady, moderate vertical traction, with the trunk or body extended in the horizontal position. In case of the leg, the thigh is allowed to hang vertically, while the surgeon grasping the ankle holds the leg horizontally and gently moves it from side to side. In two cases where this method failed reduction was accomplished by traction midway between right-angle flexion and full extension.

39. **Stones in the Bladder.**—Graves reviews the different methods of surgical treatment of calculus, and gives the improvements in detail, on high and low operation that have been suggested. Among these he mentions the transverse incision just above the pubis, which he thinks a great advance, and the Bristow method consisting in distending the bladder with air instead of water. Harrington's method of intraperitoneal cystotomy is also mentioned as advisable in some cases. The modification by Senn, of performing the operation in two sittings is modified by the author by using the cautery with nitrate of silver so as to reduce it to one operation. The question of dilation of the vesical outlet in the lateral operation is discussed, and the author gives cases where it has been done by him both in child and adult with excellent results. In concluding his paper he says that he does not consider it bad surgery, even with the evidence of litholapaxy

statistics, to recommend for the aged, for those who have enlarged, inflamed, and lobulated prostates, the modified *sectio alta*, and for the middle-aged and the young, the modified *sectio lateralis*.

40. **Electrostatic Wave Current.**—Snow has employed this method, introduced by W. J. Morton, with great advantage in cases of neuritis, insomnia, arthritis, paralysis, and migraine. He gives the following directions as to the methods of its employment: 1. Ground one pole of the machine to a gas or water pipe. A good ground is imperative, and the matter of polarity, as far as known, is immaterial. 2. Always treat the patient on the insulated platform. 3. Always employ metal electrodes—lead or block tin are best, because pliable—and see that no material is between the electrode and the patient's skin. 4. Connect the patient by one rheophore, or more if several joints or parts are being treated at one time, to the side of the machine not grounded. 5. Close or nearly close the prime conductors, and start the machine. 6. Gradually separate the prime conductor until there is commencing discomfort from muscular contraction, or a burning sensation, which will disappear as soon as the skin becomes moist, or pain if applied over a neuritis. After short intervals the spark gap may be increased from time to time, to get the best results. 7. In treating a neuritis, do not make the electrode too large, or the current will be too much diffused to produce the best result. 8. Allow no object that would draw off the current to come near the platform, and be careful that no one touches the patient.

50. **Tetanus.**—Mitchell reports four cases of tetanus with one recovery. He relies mostly on chloral for treatment, together with sustaining, liquid diet and open secretory function.

51.—See abstract in The Journal of January 20, p. 165.

54. **Appendicitis.**—Morris takes issue with Zahorsky in regard to the proper medical treatment for appendicitis. He thinks the European statistics of this disease are outrageous, and their opinions not to be quoted.

60. **Tuberculosis of Larynx.**—Dabney briefly reports three cases of laryngeal tuberculosis, and discusses the symptoms and treatment. He sums up his conclusions as follows: 1. Tuberculosis of the larynx before any manifest involvement of the lungs is not a great rarity. 2. In many the diagnosis can be almost positively made from the local appearances alone. 3. The prognosis, while exceedingly grave, is not so desperate as was formerly taught. 4. In addition to the medicinal, hygienic, and climatic treatment, local measures often do much to increase comfort and prolong life, and occasionally cure the local lesion. 5. The first step in local treatment is to first thoroughly cleanse the surface, for which Seiler's solution in an atomizer is fairly effective. 6. Where there is ulceration, the cleansing should be followed by insufflation of orthoform and iodoform or nosophen. If pain persists, 5 per cent. solution of eucain B should be sprayed into the larynx before eating. A 10 to 12 per cent. solution of menthol in oil may also be used with benefit. 7. Where the ulcer is accessible and the conditions permit, lactic acid should be rubbed into it, either with or without previous currettage.

65. **Formaldehyde Disinfection.**—After describing the various methods of formaldehyde disinfection, Walsh reports some experiments made by him with saturated sheets for room disinfection, showing that while formaldehyde does not penetrate heavy articles, it destroys organisms on the surface and disinfects from three to five thicknesses of blankets, especially where the amount of formaldehyde used is 500 c.c. to 1000 cubic feet of space. No especial precautions were taken about the room, except to close with ordinary tightness; there was no "chinking" of windows or doors with cotton or paper. The advantage of the method is that it can be carried out by any one and in a very short time.

66. **Yaws and Smallpox.**—McMurran describes yaws and reports cases where he suspects this disease to have existed. He makes the suggestion that some cases have recently been called smallpox when it was really this disorder.

67. **Secondary Hemorrhage.**—The [illegible] secondary hemorrhage are noticed by Manley. He considers that compression and ligature are ineffective, but the cautery is the most powerful and prompt hemostatic known. It is followed by such intense inflammation and general destruction that it can not be used on large vessels nor indiscriminately, nor without every precaution being used against excessive damage of the healthy parts. The styptic properties of hot water may seem to have the utility, but according to him it should be discarded entirely, as while it coagulates and parboils the tissues it will not be tolerated by the exposed medullo-osseous tissues nor the cellular elements of the divided nerve-trunks. He describes the constitutional measures for the general conditions of secondary hemorrhage and rather doubts the efficacy of saline solutions, which, however, he says can be used to advantage. Alcoholic stimulants are the safest and most reliable in acute anemia, and should be given freely. The patient under these circumstances shows a singular tolerance for alcohol. In conclusion he remarks on the necessity of avoiding useless loss of blood in operation. He thinks that hemostasis at the time of operation goes far to prevent the secondary hemorrhage. Frequently the wounds are closed before all bleeding is stopped, and we may depend too largely on packing rather than ligation. In all cases vigilance is necessary for the first twenty-four hours after operation.

68. **Ovarian Cyst-Adenoma and Diabetes.**—After reporting at length a case of pseudomucinous cyst-adenoma of the ovary, complicated with diabetes, which was relieved by operation, and detailing also one reported by Croom, Beyea studies the conditions at length and deduces the following: 1. In rare instances where the disease of the female internal genital organs is associated with diabetic symptoms, and a large quantity of sugar is found in the urine, the diabetic symptoms and sugar in the urine seem to be dependent on the disease of the genital organs. 2. In other cases the excretion of a large amount of sugar by the kidneys without diabetic symptoms seems to be dependent also on the disease of the female internal genital organs. 3. Since, in every case of any class or classes of disease of the female internal genital organs, no such association has been observed, it is probable that in order to produce the diabetic symptoms, and excretion of sugar by the kidneys, there may be present, in addition to the disease of the genital organs which we are able to recognize, some special and separate lesions or abnormal secretions of these organs, or some affection of others, or some special predisposing condition of the body. 4. Such cases of diabetes as are here described, and those cases to which Tait and Lecorche have given the name "climacteric diabetes," may be cured by the induction of the climacterium, the removal of gross disease, which allows the completion of the climacteric change, or by the progress of the normal climacterium. Finally, the subject of association of disease of the female internal genital organs with glycosuria and diabetes is worthy of serious consideration, and there is sufficient evidence of an etiologic relationship between the two diseases to stimulate careful observation of cases of this class and experimentation aiming to determine the question of cause and effect.

70. **Small Bleeding Myomata.**—While admitting that uterine fibromata should be let alone when small and not troublesome, Shoemaker calls attention to those small growths which are exceedingly troublesome from hemorrhage that requires attention. Some of these have exhausted the resources of medication; electricity may even fail, and while curetting may do good, it can not reach the whole condition. Ligation of the uterine arteries may be successful. Abdominal hysterectomy is best for tumors reaching out of the true pelvis, for those that are distinctly intraligamentary and displace the ureters, for patients who have appendicitis, and where there is reason to suspect suppurative disease of the adnexa or intestinal adhesions. Enucleation by morcellement is a well-known operation, but is only adapted to uncomplicated cases. Vaginal hysterectomy is considered and technique of the methods described; the mortality in his hands has thus far been *nil*.

71. **Treatment of Dysmenorrhea.**—The [illegible] of Stone's article are: 1. A large majority of cases of dysmenorrhea occur in neurasthenic or neurotic women, and operative treatment alone will not effect a cure. 2. Dysmenorrhea due to flexion is not cured by the use of the intrauterine stem, for at best the uterus is kept straight only while the stem is in position. 3. The practice of divulsing the uteri of virgins under 21 years of age, or before maturity and complete de-

velopment of the organs, is generally to be condemned. 4. Dysmenorrhea due to actual obstruction or stenosis is rare, and if present we frequently find that one or more ineffective operations have been done. 5. Dudley's modification of Sim's operation appears to promise good results, as it insures a large cervical canal which can not be closed by cicatricial contraction. But this operation is only indicated in cases of stricture—stenosis—of the canal, or else in those rare ones where an anteflexion of high degree prevents the escape of the menstrual flow.

82. **Surgery of Bile Passages.**—Halsted enumerates a number of cases, especially of surgery of the common duct.

83. **Hip-Joint Tuberculosis.**—In this preliminary report Bloodgood describes several cases of exploratory operations of the hip-joint, which demonstrate the value of this procedure. The object of early operation is to take the disease in its early stage, relieving the tension of the distended capsule, and to cure the disorder by disinfection and drainage, also exploration to find the tubercular disease of the bone. It is too early to judge of the results, excepting in one case where the patient has a perfect functionally active joint one year after operation. One must be careful to bear in mind the possibility of disseminating the tubercle bacilli. The method of operation is described in full. The most important anatomic point is to bear in mind the deep external circumflex vessels. It may not always be necessary to ligate these, unless they are in the way. He says the joint can be exposed easily without dividing the muscle by separating the tensor vaginæ femoris and the glutei muscles on the outer side and the sartorius and rectus on the inner—medial. He considers it a better plan to lengthen the incision rather than to make a cross-cut of the muscles. The separation of the muscles leaves a cleaner and a less ragged wound, and perhaps detracts much from the danger, not only of pyogenic infection but of tubercular dissemination. Through this wound, by separating the muscles, one can clearly see the capsule of the joint and the trochanter and upper portion of the shaft of the femur. On dividing the capsule one can explore the neck and head of the femur with great ease. In these operations the head has not been dislocated from the acetabular cavity, but if one found the round ligaments destroyed, with extensive disease of the head and acetabular cavity, the head of the bone could easily be temporarily displaced to allow a better treatment of the head itself and the acetabular cavity, after which it could be replaced. "This course was followed in a recent case by Professor Halsted."

91. **Cancer.**—Park reviews the facts in regard to cancer, as shown in the literature, and gives points in favor of its parasitic origin, giving also some of the results obtained in the New York State Laboratory. This paper is also printed elsewhere, as noted this week, title 27.

94. **Suprarenal Capsule in Coryza.**—Millener advises the use of suprarenal capsule as a treatment for the ordinary coryza, using aqueous extract prepared by dissolving 20 grains of the dried extract in a half ounce of water, and filtering through cotton.

96. **Aseptic Gangrene.**—The subject of the throwing off of dead tissue is noticed by Barker, and he says that with proper aseptic treatment and with antiseptics it can be entirely aseptic.

102.—See abstract in The Journal of February 24, p. 496.

107. **Pus Organisms in Skin Disease.**—Elliot distinguishes between true pus, which is an exudate rich in leucocytes and containing in its fluid portion notable quantities of peptone, and pseudo-pus, which is not a leucocyte exudate, but is due to the proliferation of the fixed cells, and has not the peptonizing qualities of the true. He reviews various conditions of skin disorders accompanied by suppuration, and concludes that while it can not be denied that micro-organisms are active, many other factors of external and internal sources must be allowed as existing in producing what may or may not be true pus, i. e., clinically, suppuration exists, but it is not possible to determine whether it is true or pseudo-pus. The causal connection between suppurative lesions and pyogenic organisms is, with few exceptions, more the result of an *a priori* and analogic reasoning than of actual demonstration. [illegible] that their presence can produce pus than proof that they do so in any particular instance. He thinks more experimental investigation is required before we can be in a position to state the actual nature of suppuration in every case.

115. **Strangulated Hernia.**—DeGarmo thinks that it would be in the interest of humanity if we could convince the profession that there is no medical side to the treatment of strangulated hernia, since medicine means delay and delay means death. As regards taxis, he advises traction on the tumor while the canal is being manipulated. If you push upward on the strangulated hernia, you simply push it over the edge of the ring into the abdominal wall, but by traction you lengthen out the mass that is blockading the canal, favoring the effects that you produce by compression. Anesthetics are only advisable before operation for reducing the hernia. The operation for strangulated hernia is described in detail, and is justifiable as long as life remains. In cases of extreme shock it is better to operate under cocain than general anesthesia.

116. **Fecal Fistula.**—The treatment of fecal fistula should ordinarily be conservative or radical, according to the wishes of the patient. The former consists chiefly in skilful neglect; the tendency to scar contraction can be counted on. According to Morris, most cases are dependent on the surgeon's interference and endeavor to hasten the process of repair. Perhaps the most common faulty treatment is cleansing with hydrogen dioxid. Ordinarily operation is called for when concretion or an unabsorbed ligature lies at the bottom of the tract, or in those in whom so much of the bowel is sloughed away that the resulting fistula has a large lumen. It is sometimes advisable to operate for the comfort of the patient when recovery is slow. The operation is a simple one. The first step consists in preparing for an aseptic operation. The lumen of the fistula is plugged with gauze, and the incision through the skin includes the entire scar, so that the patient can have the benefit of removal of the scar as well as the fistula. The first landmark in the incision is the external oblique aponeurosis; the last is a part of the peritoneum free from adhesions. The peritoneal cavity having been opened, adhesions are separated and the part of the bowel to which the wall of the fistula and the scar are attached is exposed. The wall of the fistula is ligated close to the bowel very much as we ligate an appendix. The peritoneum of the bowel is well scarified at the part that is to be included in sutures; the wall of the fistula and the scar are severed in one mass, and the scarified portion of the bowel is closed by Lembert sutures, or by a puckering string suture. The peritoneum of the abdominal wall is then closed nicely with catgut. The internal oblique and transversalis muscles are accurately approximated by means of another suture. The external oblique aponeurosis requires a perfect suture because its line of traction is different from that of the deeper muscles. A subcuticular one closes the skin wound, and the patient recovers easily without a fistula and without a disfiguring cicatrix.

117. **Surgery in Children.**—Torek calls attention to the fundamental differences between children and adults, as to anatomic structures and in the great vascularity of the bone tissues favoring infection. The difference in metabolic changes required in the process of growth is also mentioned. The well-nourished child bears infection comparatively well, but in cases otherwise the opposite is true. The patient's nutrition bears an important part in the cases and, in many instances, the question of dietetic measures versus operation arises. In tuberculous glands of the neck, for example, and other tuberculous infections in children, intelligent conservative attention to nutrition will go much farther than with adults. The surgical diseases peculiar to children, besides those mentioned above, are deformities secondary to anterior poliomyelitis and spastic spinal paralysis and some frequent forms of disease due to imperfect development. After remarking in regard to the methods of inspection, he insists on the importance of careful attention being given to the proportionate dose of anesthetics for a child, which he says is frequently neglected. With chloroform especially great care must be taken to keep the narcotization equal throughout its administration. Before anesthesia, in any case the child should be examined for loose teeth that might drop out; in other respects, precautions

are the same as in adults. Local anesthesia should be employed when the child is able to submit to reasoning on the subject. The author does not believe in long fasting before operation; five hours is fully sufficient. Special care should be taken against chilling the patient, and the duration of the operation should be as short as is compatible with good work. The amount of hemorrhage is to be considered in relation to the age of the child, loss of blood that would be trivial with an older person being very serious with an infant. As regards shock, he does not accept the doctrine that children bear it badly. Antiseptics should be avoided, and aseptic treatment used as fully as possible, and particular care should be taken in the application of bandages, which is sometimes difficult on the soft and compressible muscles of restless children. The rigid plaster-of-Paris splint is often necessary, when it is not in adults, but it should be thin and light, and easily removed.

120.—This paper appeared in The Journal of February 17.

134. **Bacteriology of Pneumonia.**—From a study of the subject, and its literature, Gradwohl concludes that the micrococcus lanceolatus is responsible for 75 per cent. of the cases of lobar pneumonia, and that the bacillus of Friedlander has to be regarded more in the light of an accidental contamination. Suitable conditions must prevail before the pneumococcus can excite pneumonia; in other words, there must be a depraved systemic condition. It is a resident in nearly all normal lungs, and only requires a lowered resistance in these to set up pneumonia. While ubiquitous in the body, it is especially active when brought in contact with serous surfaces. It is not the cause of epidemic cerebrospinal fever, the diplococcus intracellularis being there the specific agent.

139. **Reflex Symptoms and Retroversion.**—The symptoms enumerated by Smith are due to retroversion of the uterus, or bladder trouble, to pressure, rectal disorders, such as tenesmus, etc., cerebral symptoms like vomiting, disorders of intelligence, changes of disposition. He mentions cases of melancholia and of "nervous attacks" relieved by operation, also dyspareunia and sterility, dysmenorrhea, menorrhagia and miscarriages. He advises every family physician to thoroughly satisfy himself by examination when these symptoms appear, to be sure that the uterus may not be retroverted.

140. **Rectal Prolapse in Children.**—The operations for rectal prolapse are described by Cumston. He gives the different procedures of the authors, and thinks that the use of clamps for the production of artificial anemia is dangerous and useless, as there may be a hernia of the small intestine, and this can never be diagnosed until the cul-de-sac has been opened. He thinks the best method is that of Mikulicz, which consists in cutting the anterior, outer intestinal tube through, layer by layer, catching up and ligating bleeding vessels, until the pouch has been opened and examined for its contents. It is then closed by a running suture and the anterior, internal tube is cut through little by little until it is opened and both are united by deep silk sutures to the entire length of the incision. The posterior portion is treated in the same way, and the resection is completed. He advises that in acute types of prolapsus of the recti and invagination of the colon, which are irreducible and which show serious general symptoms, operation should be done at once. In all cases of chronic prolapses that do not directly threaten life, it should also be performed to prevent future trouble. The earlier the resection is done, the better, as after the complication has occurred the general condition has deteriorated. In all chronic reducible cases which can not be cured by milder therapeutic measures, resection is indicated. If linear cauterization is tried without result it had better not be repeated, as cicatrical stenosis will certainly occur.

141.—This paper, here printed as an original, has appeared elsewhere, and was abstracted in The Journal of February 24, ¶ 3, p. 483.

145. **Urethral Asepsis.**—Valentine recapitulates the points in this clinical lecture in the following: 1. Urethral asepsis is an ideal as yet beyond our reach. 2. Every effort should be made to approach it as closely as possible before instrumentation. 3. No urethral or intravesical instrumentation is complete without subsequent irrigation of the region invaded. 4. Even the slightest invasion of the urethra, by an ever-so-gently-conducted instrument, is a menace to the patient [illegible] all precautions against "catheter-fever" are employed. It is nearly seven years since he first suggested and employed postoperative irrigation in dispensary, hospital and private practice, and with a daily average of thirty cases, experience therewith makes it seem that urethral fever—"catheter fever"—is an entirely avoidable and unnecessary complication.

FOREIGN.

British Medical Journal, February 17.

Medical Practice in European Countries. Thomas K. Clark.—The conditions of medical practice in France are first described. There the medical student has five medical examinations to pass, and before he is allowed to enter a medical school he has to pass an examination in physics, chemistry and zoölogy. The degree of M.D. is the only one given. The expenses range from 9 to 150 francs a month for board and lodging. Fees are not high. In southern and central France the income of a general practitioner in the country is from $1000 to $1200. In the industrial centers, the north of France, and suburbs of Paris perhaps $4000; $12000 is the highest income of any general practitioner in Paris. Unqualified practitioners are forbidden, but it is not worth while putting the law in motion for, if convicted, only a small fine is imposed. The proportion of doctors to population is 1 to 2800. In Belgium examiners are very accommodating, but they are thorough and practical; no foreign language is required, and they will examine in English if necessary, and all the subjects be included in one examination if desired. The native student must pass at least six years in medical and allied studies before taking his degree. The expenses are not high, and the average income of the country medical man is from $800 to $1200 a year. In towns it ranges from $1200 to $2000. In Italy authorization to practice may be granted to foreigners by one of the Royal universities. They can practice without this, however, when called in from abroad to attend special cases, or if they confine their practice to foreigners. In Spain the student must take seven terms of eight months each in his medical course. The practitioner's income in towns there is from $600 to $900; in the country a man who makes $500 is well off. In Sweden the curriculum extends over eight years, the course is a severe one, and hospital attendance is compulsory. The expenses are light and the average medical income ranges from $1500 to $2000 in the country and from $2500 to a little over $3000 in towns. In Norway all students have to pass two matriculation examinations, one in arts, the other in philosophy. Medical students have three other examinations to pass, the whole course covering from six to eight years, and hospital attendance, which does not count until after students have passed the first examination, extends over four or five years. Expenses are comparatively light, and the medical men take a very high social position in Norway. The average physician's income in towns is about $1400, in the country about $1000. Quacks are allowed to practice under certain restrictions. There is no permission to foreigners to practice in Norway without the prescribed examination. The government can give the permission in individual cases, where satisfactory evidence of requisite knowledge is apparent. In Finland the course of study is prolonged: two years preparing for the first examination, two for the second, and nearly four years for the third, much of which is in hospital service. Foreign degrees do not exempt from any part of the examination. The physician's social position is high, and nearly all have some appointment, either state, town or country, with a yearly salary ranging from $400 to $2000. The maximum in general practice is $6000, and very few specialists reach $10,000. The data as regards the practice of medicine in Russia are scanty. The students are obliged to remain at the university and hospital during the whole of their student career, and frequently take post graduate courses at home or abroad before practicing. Contract practitioner is quite common. As to Servia, the medical education is obtained abroad. The student goes to Russia, Germany, Austria or even France or Switzerland to get his degree, but if it does not qualify him to practice in the country from which it is obtained he has to pass an examination at Belgrade before being allowed to practice. The social position of the physician is high, and unqualified physicians are very severely dealt with. The [illegible] [illegible] of the general practitioner in the country is from $1200 to $2000, and a little higher in towns. There is one doctor to every 12,567 inhabitants. In Greece no preliminary examination in arts or classes is required, and the standard of professional etiquette is not high, while advertising in the daily papers prevails to a deplorable extent. The duration of the medical course is four years and nine months. Examinations are not practical; there is no clinical or laboratory work. Hospital appointments are very few. Social position of physician is good. The pay is not large in the country and the physicians living in the country do not depend solely on medicine for a living. In large towns $1250 to $1500 is as large an income as any general practitioner receives. Foreigners holding a diploma other than a Greek one are allowed to practice after passing a practical examination in the hospital and those speaking French and German are allowed examination in these languages. No foreigner however, could practice in Greece without a knowledge of the Greek language.

The Lancet, February 17 and 24.

Restoration of Co-Ordinated Movements After Nerve Section. Robert Kennedy.—In order to test the question as to the reuniting of the filaments of nerves after section, the author made several experiments, which he details. It is a well-known fact that the reunited nerve seems to be functionally as perfect as before, but it is impossible to suppose that all the nerve fibers can be so coapted as to be each connected with the former corresponding end. In two of his experiments the peripheral segment, before reunion by means of suture, was twisted so as to bring the maximum number of non-corresponding nerve-fiber ends into juxtaposition, while in the third reunion was made as accurately as possible in the old position. The object of this was to ascertain whether the time taken for the first evidence of recovery of co-ordinated movements and the course of development of the same were identical or different in the two cases; and whether the resulting cicatricial nerve segments showed, microscopically, any important differences in the arrangements of the nerve-fibers. In all three experiments, the animal being anesthetized, the sciatic nerve was divided at the level of the trochanter; but in the first two, before coapting the two ends by suture, the peripheral segment was rotated to the extent of a semicircle. Thus, on coaptation, the fibers on one side of the central segment were brought into apposition with fibers with which formerly they did not connect, i. e., those of the opposite side of the nerve. In the third experiment the nerve was divided at the same point and the accurate coaptation in the old relationship was effected by suture. In the first experiment there was no sign of returning function until the seventh day, when the paw was first used normally in walking, though it occasionally turned over; but the normal position was regained after a step or two. Undoubted evidence of returning sensation was obtained on the tenth day. On the fourteenth the supporting splint was removed and the dog used the leg perfectly, while on the nineteenth he had apparently completely recovered from the effects of the operation. On the fifty-fourth day the nerve was again exposed and found to be united in the position in which it had been sutured. Stimulation above, below, and on the site of reunion gave the normal contractions. In the second case rotation of the peripheral segment was done as in the first, and recovery of the normal use of the limb was comparatively complete on the twenty-first day. Physiologic examination of the nerve on the thirtieth showed it united in the position in which it was sutured, and to have regained its muscular irritability and conductivity. The three experiments of the nerves have all followed the same course. Microscopic examination of the three nerves showed all the normal appearances excepting in distension of the lymphatic spaces, which accounted for the macroscopic enlargements observed. The old fibers were degenerated, lying among the young ones, showing that Wallerian degeneration had taken place. The microscopic appearances of the seat of reunion leave it doubtful whether the restoration of the function in the two first cases was due to the re-establishment of the old paths for the nervous impulses by decussation in the cicatrix, or to the production of new paths [illegible] fibers. The young fibers were very irregular, running in all [illegible]

results of the experiments are: 1. After section and immediate coaptation of a nerve, restoration of conductivity and of voluntary function may be effected in a few days. 2. This early restoration of conductivity need not be the result of the reunion of the old nerve-fibers, i. e., reunion by so-called first intention or without Wallerian degeneration, but may be the result of regeneration of young nerve-fibers in the peripheral segment. 3. Voluntary co-ordinated movements are regained equally soon, whether the two ends of the divided nerve are united as accurately as possible so as to bring the corresponding ends of the nerve-fibers into contact as nearly as possible, or whether previous to reunion the peripheral segment is twisted so that when united to the central segment non-corresponding ends of the nerve-fibers are brought into contact. 4. In the latter case the microscopic examination of the seat of reunion leaves it doubtful whether the restoration of function is due to the re-establishment of the old paths by decussation in the nerve cicatrix or to the reunion of ends of nerve-fibers which do not correspond but which happen to be brought into apposition. 5. In suturing a divided nerve no trouble need be taken to secure coaptation of the two segments in old relationship, simple approximation of the two ends being all that is required.

Diphtheria of Conjunctiva. Sydney Stephenson.—The author describes cases of diphtheria of the conjunctiva that are met with at the Northeastern Hospital for Children, London, both the serious form and the milder type—"croupous"—which presents a close resemblance to the membrane in so-called membranous rhinitis. He thinks that the only certain way of recognizing diphtheria is finding the bacillus, which is abundant in these croupous cases. He suggests putting aside the ambiguous word croupous and classifying the cases as mild and severe or using the anatomic basis of certain Continental writers, who recognize the interstitial, superficial, and catarrhal cases. Since it has been shown that diphtheria of the conjunctiva need not coincide with membranous exudate there is good ground to believe in the existence of so-called catarrhal cases. He thinks that where diphtheria is suspected, we should not waste valuable time making bacteriologic investigations, but give antitoxin. For local treatment he usually employs a strong solution—15 per cent.—of potassium permanganate painted over the conjunctiva once a day, and a weak antiseptic lotion, such as a corrosive sublimate 1 to 5000, for cleaning the mucous membrane at frequent intervals. If the cornea be involved, atropia drops—2 grains to the ounce—are used three times a day. He reports a case of the milder type.

Topographic Relations of Brain, Frontal and Maxillary Sinuses, and Venous Sinuses of Dura Mater to Walls of Skull. Paul Regnier and Jules Glover.—The authors describe their researches in which radiographic methods were employed in the investigations of the anatomy of the skull and face. The points especially studied were the topography of the cerebral convolutions in relation to the venous sinuses of the dura mater and the skull, and the cavities of the cells of the mastoid process and of the facial and cranial bones, and also the interior cavities of the brain. They took the hardened brain freed from pia, and placed it back in the skull for the skiagram. They report that in examining a child's head with a fluorescent screen it was sometimes possible to see a clear patch corresponding to the median portion of the brain that exists normally in young infants but its transparency is more apparent in the pathologic state when the ventricle is dilated with fluid. It is easy, by mere examination with the fluorescent screen to verify the transparency and the condition as to emptiness of the frontal and maxillary sinuses, and perhaps even of the mastoid cells, with much more exactness than by making use of the ordinary electric light. Instead of employing a powerful light introduced into the mouth for the illumination of the maxillary sinuses, or applied to the upper and inner margin of the orbit for the illumination of the frontal ones, they recommend recourse to cylindric focus tubes. With this object, and in order to simplify the manipulations, the tube is fixed on a small and light stand made of ebonite, or even of wood, and the observer wears caoutchouc gloves to protect himself against the shocks from the current. The tube can be brought near to, or removed from, the patient's head, until the proper distance is found, without causing any inconvenience or danger. In the examination of the face all the cavities become visible at the same time.

Epistaxis from Ethmoidal Veins- A. BROWN KELLY. - Spontaneous bleeding of the nose usually comes from the lower and anterior portion of the septum. In hemophilia it may escape from many parts of the mucous membrane, and in still a third class it may arise from the inferior turbinate or be traced to veins of the posterior part of the nose (Schmidt), and to an artery (Rosenberg) on the floor, anteriorly. Kelly reports several cases in which he thinks it undoubtedly comes from ethmoidal veins in the upper portion of the cavity, and suggests, as a cause of the bleeding in this region, their close connection with the intracranial circulation, which fact has received little attention from anatomists, with the exception of Zuckerkandl, and has hitherto escaped notice of rhinologists. He has found no allusion to it as a possible source of epistaxis. Nevertheless, it is from these vessels or from some anastomosing with them that we would expect the bleeding, which is followed by a sense of relief in the head. Bleeding from this region is easily checked by firmly packing, between the septum and the anterior half of the turbinate, a strip of gauze reaching to the roof of the nose leaving the lower part free for respiration. After the packing has been changed two or three times, at intervals of a day—and if it can be introduced without becoming saturated with blood, of two days—the tendency to bleed will usually cease and treatment may be suspended.

Medical Press and Circular (London), February 17.

Risks of Unoperated Uterine Fibroma. E. STANMORE BISHOP.—The author enumerates the following changes which take place in uterine fibromyomata, endangering life: 1. Inflammatory adhesions, often complicated with, if not entirely due to, inflammations occurring in the Fallopian tubes and ovaries. Meredith, in an analysis of Tait's cases, estimated that 54 per cent. were complicated with tubal disease, and 46 per cent. with chronic ovaritis. Twombly estimated that 50 per cent. of interstitial fibroids were complicated with affected tubes sooner or later in their course. These unnecessarily complicate operations by greatly lengthening the time required for the safe enucleation of the tumor or uterus; by their contraction, altering the normal relation of parts, rendering possible, even probable, the laceration or wounding of the gut or ureter, and any one who has had, as a sequel to a tedious hysterectomy, to suture either the one or the other, knows how immensely the chances of such a patient have been decreased, both by the time which the abdomen must remain open, and by the additional traumatism, to say nothing of the prospect of possible stricture of one or the other tube in after years; by risk of leakage of some infective material during the process of removal. 2. Often associated with the above is the chance of necrosis or sloughing of the fibroid itself. 3. There is the possibility of pressure on the ureters with the resulting changes thus produced in the kidneys. 4. In many of these cases, and apparently directly due to the persistent losses of blood, cardiac disease occurs. 5. A broad ligament fibroid may grow in such a direction as to undermine, and spread out the meso-cecum, or meso-sigmoid. During its development, the changes in position of the overlying gut are so gradual that no symptoms may be apparent. Removal of the tumor, however, at once produces a sudden alteration, and occlusion or gangrene of the intestine may result.

Annales de Dermatologie (Paris), January.

The Eczema Question. L. BROCQ.—This article, prepared at the request of the Committee of Organization of the approaching Medical Congress, is an exhaustive critical review of the various conceptions that have been held in regard to eczema; of what we should understand by the term "true eczema;" of the various theories that have been propounded in respect to the etiology and pathogenesis of eczema, and how its various manifestations should be classified. Should eczema be regarded from the objective point of view, limiting the term with Willan, Bazin, Fox, etc., to vesicular affections only; or, with Hebra, Hardy and Wilson, include all erythematous, squamous, vesicular, pustular and papulous affections? What is the nature of eczema? Should we define it or rather formulate it by creating a term which in reality merely signifies a predisposition to eczema"? Should it be considered purely a local affection? It is better to refrain altogether from hypotheses in regard to its genesis, which it is impossible to demonstrate? The German school, with its numerous ramifications in Italy, England and America, has continued the traditions of Hebra; and Unna, in order to defend his conception of seborrheic eczema, asserts that the definite criteria of all eczematous eruptions are parakeratosis and the morococcus. This instalment does not reach the second question stated.

Clinical and Bacteriologic Study of Impetigo. R. SABOURAUD.—The study of impetigo in literature convinced Sabouraud that the confusion of ideas prevailing on the subject imposed the necessity of new clinical studies, and to this he has been devoting himself, with the result that in the generally-accepted impetigo he sees two different diseases, one the contagious, phlyctenular impetigo of Tilbury Fox, and the other the peripilar and pustular impetigo of Bockhart. This dual nature of impetigo he proposes to establish on a firm basis in a later communication.

Contagiousness of Lichen Planus. MOREL-LAVELLEE.—In a patient with no syphilitic antecedents, two patches of lichen planus developed on the tongue after the husband had been affected with lichen planus on hands, penis, tongue, etc., for eleven years with no treatment after the first. Brocq has also recently called attention to three cases of lichen planus coexisting in husband and wife, or in mother and daughter. Lavallée emphasizes the great efficacy of injections of calomel in his case; they cured the lingual lesion almost completely.

Bulletin de l'Academie de Medecine (Paris), February 5.

Localization, Elimination and Origin of Arsenic in Man and Animals. A. GAUTIER.—In 100 grams of fresh thyroid gland Gautier has established the presence of an average of .75 mg. of arsenic both in man and animals; in the mammary gland .13 mg., and a variable slight quantity in the brain and thymus, with diminishing traces in the hair, horns, skin, milk and bones. No traces were found in the muscles, liver, kidneys, spleen, testes, uterus, bone marrow, blood, urine, and only the slightest traces in the feces. Examining the food for the origin of this arsenic, he found no traces in meat, eggs, bread nor fish, and therefore attributes the origin of the arsenic to the vegetables, turnips, cabbages, potatoes, etc., in which it is known to exist, and also to milk, thymus, skin and brains, in which it is found as above mentioned, chiefly in the form of iodized nucleins. He also establishes that the arsenic does not substitute the phosphorus even in animals and with products abounding most in nucleins, except very rarely and in very small amounts. This substitution is elective and only occurs in special organs; the thyroid, thymus, mammary gland, skin, etc. It must respond to some still unknown, but important function of these organs, for general health is incompatible with the complete disappearance of the arsenic. From a medicolegal point of view it is sufficient to bear in mind that the muscles, liver, etc., do not normally contain a trace of arsenic distinguishable by our present methods of research; also that the total amount of arsenic in the body of an adult does not amount to more than one two-hundred-millionth of the whole.

Journal de Medecine de Paris, February 11.

General Arthritic Pseudoparalysis. KLIPPEL.—When diffuse infectious meningo-encephalitis—general paralysis—coincides with cerebral atheromasia—endarteritis from atheromatous degeneration—the first of these lesions is grafted on the second. The atheromatous subject has become a general paralytic. On the other hand, Klippel establishes that endarteritis from atheromatous degeneration of the intracortical arterioles and the generalized degeneration of the noble elements which accompany it may of themselves alone create the syndrome of paralysis. This endarteritis from atheromatous degeneration is not limited to the brain, but may affect the entire arterial system; with aortic insufficiency and atheroma in the aorta, in certain cases, or induration of the temporal and radial arteries, a pulse and swelling in the subclavicular, etc., in the peripheral arteries, and interstitial nephritis, etc., from involvement of the renal. The evidences of this arthritic or atheromatous pseudoparalysis must be sought elsewhere than in the cerebral disturbances, but even the latter differ in certain cases from those observed in true general paralysis. The unilateral paralysis following the first apoplectic ictus is apt to be more pronounced and more permanent, and delirium is less frequent. Manifestations of arthritism are also frequently [illegible], diabetes, uremia, lithiasis. In an observation reported at length the cerebrospinal fluid was sterile, there were no lesions of inflammatory encephalitis but merely atheromatous degeneration of the arterioles and nerve elements; death occurred from sudden hemorrhage in the left hemisphere.

Presse Medicale (Paris), February 10 and 14.

Feeding in Typhoid Fever. H. VAQUEZ.—First asserting that two liters of milk is a starvation diet for a healthy person, and still more for febrile patients, whose losses are increased while their assimilation is diminished by the fact of the fever, Vaquez relates his experience with eleven patients fed more liberally. It has convinced him that substantial feeding is indispensable in typhoid fever; the convalescence in every case was remarkably rapid and the patients regained in a few days, the small amount of flesh lost during the illness; five pounds in one, regained in eleven days. Pulmonary complications were much less frequent and there were no secondary complications. The Russians have also recently proclaimed the advantages of a substantial diet, stating that no serious gastrointestinal troubles follow its use. Vaquez' method was Brand baths every four hours when necessary, day and night, and the usual milk supplemented by three yolks of egg, two wine glasses of meat jelly or the juice of fresh meat, one bowl of flour or rice gruel and an occasional half or whole teaspoonful of somatose in the milk, during the twenty-four hours. This was commenced from the first and kept up until two or three days after defervescence.

Experimental Study of Parasitism of Tumors. W. PODWYSSOTZKI.—The cabbage and other cruciform plants are sometimes affected with a disease called clubbing or club-root, in England, caused by a myxomycetes, closely related to the Chytridiacea, the Plasmodiophora Brassicæ. Inoculating rabbits and guinea-pigs with spores from these tumor-like growths on the root of a cabbage, Podwyssotzki succeeded in producing parasitic mesodermic tumors in these animals. They grew to the size of a walnut in the course of six weeks, and then retrogressed. Inoculation with spores previously killed failed to reproduce the tumor. The proliferation of the mesodermic cells is evidently due to the action of the living spores, which incites them to hypertrophy and increased karyokinesis, thus inducing the formation of a tumor, a myxomycetic, parasitic granuloma. If further experiences result in the production of a tumor which does not retrogress so soon, but invades the surrounding tissues, we would have an actual sarcoma, endothelioma or perithelioma. A significant fact noted in these experiences is that a parasitic cellular invasion may be, and remain, completely concealed, almost invisible in the protoplasm of the tumor, which possibly explains the failures to discover the parasite of carcinoma.

Causes and Treatment of Acute Abscesses of Prostate. A. ROUTIER.—Two observations are described in which no cause could be traced for the abscess; the ureter, bladder and urethra were healthy. The symptoms commenced with a chill and slight fever, pains in one case, indolent and unsuspected abscess in the other. Both were promptly cured by an incision through the rectum, the patient on his right side after anesthesia with ethyl bromid. The incision is made boldly, 2 to 3 cm. in length. A canula is introduced with the finger, to rinse out the cavity. The incision is then tamponned with gauze. The fourth day there is an alvine discharge, and by the next nothing remains of the incision except a slight impermeable depression. The patient is completely cured by the eighth to twelfth day, and none of Routier's numerous operations of the kind have ever had any septic complications.

Springs in a Limestone Formation and Typhoid Fever. [illegible] Springs in a limestone country issue apparently pure and have always been considered a reliable source of drinking water, but Thoinot establishes that the surface water penetrates to the depths in such a formation, carrying all or nearly all of its impurities with it, without being filtered as in a sandy or loamy soil. He traced the increase in typhoid fever last year in Paris to the supply from certain springs which were contaminated by residents of the district above them. The fluorescin test showed the identity of the spring water with surface water from ravines at quite a distance used by the farmers for dumping grounds. He urges legislation to protect the sources of the springs from contamination.

Semaine Medicale (Paris), February 17.

Nissl's Method and the Nerve Cell in Human Pathology. C. PHILIPPE AND E. GOTHARD.—Imbedding in celloidin, staining for twenty-four hours with Unna's polychrome blue and decoloring with a special fluid, is the method followed by the authors. The formula found most reliable and delicate for the decoloring, differentiating fluid is: creosote and xylol, āā 50 c.c.; oil of cajuput, 40 c.c.; absolute alcohol, 160 c.c. No other method can be compared to Nissl's, they assert, for studying the morphologic lesions of the nerve-cells, but it does not reveal the finer or structural lesions. As it only stains the chromatophiles, it only shows chromatolysis as the new lesional process, and this is not necessarily pathologic, although certain characteristics of chromatolysis have an actual pathologic significance, but limited. In the adult and the aged there seems to be a physiologic chromatolysis. Apathe and Bethe have, by a more delicate technique, revealed the existence of primary fibrillæ, intercellular, intraprotoplasmic and cylinderaxile, but their findings conflict with the neuron theory.

Centralblatt f. Chirurgie (Leipsic), February 17.

Use of Gold Wire in Radical Operations for Hernia. DE FRANCISCO.—Even as late as six months after operation—the wound healed by first intention—Tansini has had a silk thread suppurate out, and the liability to this annoying incident has led him to test gold wire for the sutures, as peculiarly soft, flexible and free from all danger when left permanently. He has thus treated ten patients, all with extensive hernias with a broad opening. He uses a coarse wire for the deeper suture and a very fine one for the superficial. He twists the ends together with his fingers and turns each end back, and sinks it in the flesh, and even uses wire to ligate the hernial sac. The absence of suppuration and the strength imparted to the cicatrix by the wire are the chief advantages of this method. All scraps left can be melted and used again.

Deutsche Medicinische Wochenschrift (Leipsic), February 15 and 22.

Treatment of Constricting Ulcerations of Rectum. J. WOLFF.—This author considers resection the only means of removing the cause and permantly curing the trouble. Resection of the constricting portion may lead to spontaneous retrogression of ulcerations above. He reports an observation which shows the benefit of substituting, for the resected wall of the rectum, a double skin flap. The portion toward the lumen acquired the properties of the rectal wall and permanently assumed its functions.

Technique of Vaccination. FLACHS.—The square on the front of the trunk, bounded by a horizontal line two fingerwidths below the nipple and a vertical line the same distance beyond it, is recommended by Flachs as the most suitable point for vaccination: sheltered from injury, not in frequent motion like the arm, and its concealment of the scar are among the reasons he urges. He covers the spot with a piece of gauze held in place with a few strips of plaster and a bandage outside, changed after the bath.

Surgical Treatment of Tuberculosis of Kidney. F. KOENIG.—Pathologic-anatomic findings show that cystotomy does not cure renal tuberculosis except in extremely rare cases, and resection of the organs still more rarely. Extirpation of the diseased organ is the only certain means of conquering renal tuberculosis, according to Koenig. He has established, from many years' experience and a record of eighteen cases, that there are two varieties, the solitary lesion of the gland substance, not communicating with the pelvis of the organ, which it is almost impossible to diagnose, and the pyelitic. In a number of cases, therefore, the diagnosis of renal tuberculosis is dubious, and it is impossible in many cases to determine whether the other kidney is sound or not. But, none the less, he asserts that if we are not to allow patients to succumb without an effort on our part, we must make up our minds to resort to extirpation more frequently, even in the absence of positive certainty that the pyelitis is tuberculous and the other kidney sound. Three of his patients have been cured for six to twelve years and are now robust: three others for over two years and now "feel perfectly well." The rest were relieved of the renal troubles and lived several years in comfort before succumbing to tuberculous lesions elsewhere.

One young girl had a bladder affection and hematuria from the non-tuberculous kidney both persisting after extirpation of the tuberculous organ, but gradually subsiding completely, and seven years of society life followed, then marriage and death in the puerperium. Koenig had strictly forbidden her to marry. The modern conception seems to be that coexistent tuberculous lesions elsewhere do not counterindicate ablation of a tuberculous kidney. Life is prolonged and rendered more bearable, and there is always a chance that the intervention may affect the other lesions favorably. If the testis is involved, Koenig removes it at the same time. The lesions of the bladder have a tendency to heal spontaneously as soon as the renal focus of infection is removed. In several cases he has observed spontaneous healing of the bladder trouble after nephrectomy, and of established foci in the prostate. One patient, cured for six years, had two foci in the prostate and another in the testis. He has been for six years a robust laboring man, his name dropped from the sickness insurance list. We know, from the dissecting-table, that foci in the prostate can heal, and we can trace the process: they become more and more indurated until suddenly all symptoms have vanished, but unfortunately the contrary is the rule in most cases. Landau states that intervention is indicated with threatening symptoms of renal tuberculosis, even if we know the other kidney is diseased. He removed a kidney for supposed echinococcus seven years ago, and found—too late—that it was merely a polycystic kidney, which we are taught is a bilateral affection. But the patient is alive and well to-day. He has also recently removed a tuberculous kidney on account of threatening symptoms, in a patient who has had phthisis pulmonalis for fourteen years, and the general health has very much improved. The renal lesion dated from a puerperium about a year before. It is possible that the chronic pulmonary lesion may yet heal. Barth has also recently published an observation of extirpation of the left tuberculous kidney with coincident tuberculosis of the ureter and bladder. The patient has been healthy during a number of years since.

Experiences with Carcinoma of Colon. I. Boas.—A tumor was palpable in only 8 of the 15 cases analyzed in this communication; 3 were women; 12 were operated on. In respect to the syndrome Boas distinguishes four groups: in the first, there were absolutely no suggestive symptoms and diagnosis was impossible; it was only probable in the second group, in which there were obscure, ambiguous local symptoms. The third was distinguished by obstinate constipation and violent colic, nausea and vomiting, this syndrome appearing in persons with previously healthy bowels, and gradually becoming more and more frequent: these were the cases with stenosis. In the fourth group the first manifestation of trouble was a sudden ileus. The movability of the tumor is the most striking objective symptom, but this was only noted twice, and the tumor was in the cecum in each case. On account of the possible temporary disappearance of the tumor, repeated investigation may be necessary, with bowels empty or filled, or distended with air or water. Palpation in a full warm bath is also desirable. The signs resemble those of chronic exudate in the cecum and tubercular tumors in the ileocecal region; positive differentiation is practically impossible. Some assert that the diazo reaction does not occur with malignant tumors, but always with tuberculous lesions; Boas urges further study of this point. Colicky pain is pathognomonic of stenosis with the carcinoma. Tetanic contraction or rigidity of the intestine may be noted, but soon subsides, or may appear in an abortive form; small loops contracting and relaxing with perceptible noise. There are no gastric symptoms except the vomiting. Blood was vomited in two cases. Motility is undisturbed. Constipation or diarrhea may prevail or alternate. Blood was noticed on the feces in only two cases. Bloody-purulent feces were more frequent, but are not conclusive in the absence of a palpable tumor. Boas has observed several cases of severe chronic dysentery in which the feces had the same bloody-purulent appearance as with carcinoma of the colon. Scraps of the tumor can sometimes be obtained by exploratory flushing of the bowels. It is the task of internal medicine to keep the lumen permeable with purgatives. The diet should be rich in calories, especially fats, and the cachexia may be temporarily suspended as the conditions of nutrition improve from the widening of the stenosed lumen. The subjects should be warned of the dangers of food with hulls or much cellulose, which may suddenly transform a compensated stenosis into complete ileus. In case of very violent peristalsis, purgatives must be avoided and an opiate will be found the most effective sedative and bowel regulator. In one case opiates administered per rectum soon produced regular stools. One of the 5 cases in which the tumor was resected has been permanently cured for five years; 1 for five months; 3 died. In 4 an entero-anastomosis was done but without appreciable benefit. It is merely palliative. He suggests the question whether, in the absence of stenosis, inoperable tumors or tumors found inoperable on operation, should be treated with entero-anastomosis to prevent stenosis later. Enterostomy and colostomy are only indicated with threatening ileus. [Koerte has recently reported forty-nine operations for the relief or removal of carcinoma of the colon, several patients operated on twice. Thirty-three recovered. He states that tenesmus and diarrhea suggest location at the sigmoid flexure. Rosenheim's experience has been that rectal hemorrhages and lumbar neuralgia frequently appear in the early stages and are valuable aids to diagnosis. Ed.]

Statistics of Carcinoma at Hamburg During Twenty-Seven Years. F. Reiche.—Carcinoma is increasing in frequency. From 71.63 per 100,000 of population in 1872, it has risen to 97.82 in 1898. The figures also confirm the enormous preponderance of the digestive organs as the site in men, and of the genital in women. The largest percentage of carcinoma of the uterus occurs between the ages of 45 and 50; of the mamma, between 55 and 60; of the rectum, in both men and women, between 60 and 65; of the stomach, in both men and women, between 65 and 70.

Muenchener Medicinische Wochenschrift, February 13 and 20.

Study of Inflammation of Serous Membranes. R. Heinz.—The effect of turpentin and iodin in producing inflammation is shown to be that the former produces necrosis of the tissues and secondary inflammation, while the latter induces fibrinous exudation without degeneration of the tissues, and consecutive destruction of the endothelial surfaces. The result of this destruction is the rapid adhesion of serous surfaces in contact, as soon as the endothelium is destroyed. A number of rabbits were injected with 1 c.c. of 1 per cent. solution of iodin, and in twelve hours contiguous intestinal loops were adherent. In eighteen hours they could be resected without coming apart, and in thirty-six they could only be separated by force. Iodin is therefore adapted to secure rapid adhesion of serous walls, in case of a hydrocele, for instance, and Lugol's solution is superior to an alcoholic one for the purpose.

Etiology and Therapeutics of Episcleritis Periodica Fugax. W. Stoeltzing.—Described under various names—"hot eye," etc.—Fuchs' descriptive title above seems most appropriate for this inflammation of the highly vascular episcleral tissue, distinguished by its transient character and its tendency to recur. An observation is reported by Stoeltzing, followed for more than five years, with 100 attacks during this period. He establishes that the trouble is pre-eminently a vasomotor irritation involving the nerves, shown by the remarkable, exactly localized trigeminus neuralgia invariably preceding the ocular trouble, and also by the severe local pain, which is frequently out of all proportion to the degree and extent of the inflammation. The chief point in the communication is the great benefit derived from potassium iodid after failure of all other remedies. The special action of the potassium iodid is evident in the fact that when it is suspended the trouble recurs, to disappear again as soon as it is resumed. There were no uremic, syphilitic nor malarial antecedents in this case. Iritis accompanied a few of the attacks; usually there was no hyperemia of the iris.

Effective Treatment of Chronic Hydrocephalus with Spinal Punctures. J. A. [illegible].—Two cases are described in which lumbar puncture was practiced systematically every week, 25 and 12 times in all. In the first a rhachitic hydrocephalic child of [illegible] months to [illegible] years, with [illegible] [illegible] by the [illegible] [illegible] all [illegible] little fellow in the course of six months with the intelligence of his years. The other has also been much improved and is still under treatment. The pressure was 700 and 600 at first in Observation A, falling to 300 to 200 later, with an escape of [illegible] of cerebrospinal fluid. This fluid was usually clear, but with a few punctures almost pure blood escaped, probably from rupture of some subdural or pial vein. The average of 17 tests for albumin in the fluid was .94 per cent. dry substance; .84, ashes; .12 albumin (Obs. A). Average of 11 tests in Obs. B: 1.09 per cent. dry substance; .78, ashes; .31, albumin. Specific gravity: A, 1006.5; B, 1006.9.

After-Treatment of Major Abdominal Operations. STEINTHAL.—Steinthal uses a typical dietetic treatment, which he recommends. He quenches thirst with an intravenous injection of 1 to 1½ liters of salt solution twice a day, for four to six days after operation. He supplies nourishment amounting to about 744 calories a day, with a subcutaneous injection of 40 grams of sterilized oil (Leube), morning and evening, and supplements this with frequent, small alimentary rectal injections.

Angina with Endocarditis. ROTTER.—In 120 cases of angina, at the Stuttgart Hospital, excluding all patients with articular rheumatism or swellings, diphtheria and exanthemata, a heart sound was noted in 24; commencing and ending with the angina in 14; persisting later in 10. In 13 of these 24 there was an efflorescence resembling herpes, on the mucous membrane of the tonsils and adjacent regions, with herpes on the lips and face in 5. The heart sound appeared on an average three days after commencement of the angina, and lasted from seven to thirty days. The subjects were all between 16 and 30. The large proportion of cases in which the heart sound persisted indicates that there must have been an actual inflammation of the endocardium, and one observation is related at length in which the endocarditis became so severe that a fluctuating tumor required incision, and a tablespoonful of cruor was evacuated with a softened thrombus in the center. A slight systolic sound at the apex still persists, although recovery was prompt and otherwise complete. [Packard has recently reported five cases of endocarditis with tonsillitis. THE JOURNAL, p. 35.—ED.]

Symptomatology of Acute Pancreatitis. H. DOERFLER.—The first and only symptom for a long time, in the case reported was intense pains in the lumbar region, resembling the most violent lumbago or rheumatism in the spinal vertebræ, or bilateral ischias. There was no pain in the epigastrium nor abdomen. Not until fever and vomiting appeared the third day was there a suspicion of trouble elsewhere. The presence of sugar in the urine and the collapse directed attention to the pancreas and at the autopsy, the sixth day, a suppurating pancreatitis with necrosis of the pancreas tissue explained the clinical picture. The ascending and transverse colon were very much distended and abruptly defined from the descending colon, which was entirely empty and collapsed, although no lesion could be found to explain this phenomenon. It possibly might have been due to compression or invasion of the innervation by the pancreatitis, and suggests that the pancreas had better be investigated in case of puzzling ileus.

Societies.

COMING MEETINGS.

AMERICAN MEDICAL ASSOCIATION, Atlantic City, N. J., June 5-8.

Medical Association of the District of Columbia, Washington, April 5.

Western Ophthalmological, Otological, Laryngological, and Rhinological Association, St. Louis, April 7-9.

Tennessee State Medical Society, Knoxville, April 10.

Florida State Medical Society, Orlando, April 11.

Mississippi State Medical Association, Meridian, April 11-13.

Medical Society of California, San Francisco, April 14-16.

Medical Association of Alabama, Montgomery, April 17.

South Carolina Medical Association, Charleston, April 18.

Louisiana State Medical Association, New Orleans, April 19-21.

Medical Association of Georgia, Atlanta, April 18.

Medical and Chirurgical Faculty of Maryland, Baltimore, April 24.

Texas State Medical Association, Waco, April 24.

American Proctologic Society, Washington, D. C., May 2 and 3.

Congress of German Physicians and Naturalists.—The seventy-second congress of "deutscher Naturforscher und Aerzte" will be held this year at Aix la Chapelle, September 17 to 21.

Lawrence County Medical Society.—This Society met in Bedford, Ind., early in the month, and elected the following officers: president, R. B. Short; vice-president, H. Voyles; secretary and treasurer, F. E. Stipp.

Tippecanoe County Medical Society.—At the meeting of this Society, held the 5th inst., in La Fayette, Ind., the following officers were elected: president, W. T. Youkey; vice-president, Charles Hupe; secretary, Edward C. Davidson; treasurer, George K. Throckmorton.

Cincinnati Academy of Medicine.—At the annual election held recently, the following were chosen: president, Charles L. Bonifield; first vice-president, B. P. Goode; second vice-president, George B. Orr; treasurer, S. E. Allen; recording secretary, Edward Cone; corresponding secretary, Magnus Tate; librarian, A. I. Carson.

Rhode Island Medical Society.—The annual meeting of this Society was held in Providence, R. I., March 1. The following officers were elected: president, George D. Hersey; first vice-president, George F. Keene; second vice-president, William R. White; recording secretary, Frank L. Day; corresponding secretary, Herbert Terry; treasurer, Frederick E. Rogers.

Therapeutic Society of District of Columbia.—At a recent meeting of the Therapeutic Society of the District of Columbia the following officers were elected for the ensuing year: president, Howard H. Barker; vice-presidents, B. G. Pool and L. Kolipinski; corresponding secretary, D. Olin Leech; recording secretary, N. P. Barnes; treasurer, J. S. McLain; librarian and curator, H. T. A. Lemmon.

German Congress of Surgery.—The twenty-ninth Congress of Surgery will meet in Berlin, April 18 to 21. Czerny will deliver an address on "Treatment of Inoperable Carcinoma," and Krönlein and Rehn on "Carcinoma of the Rectum;" Israel on "Calculi in Kidney and Ureter;" Angerer on "Crushing Injuries of the Abdomen," and Bergmann on "Volvulus." Credé has announced an address on "Simplification of Gastro- and enterostomy," and Lexer one on "Teratoid Tumors of the Abdomen."

Kentucky State Medical Society.—This body meets in Georgetown, Ky., on May 9, 10 and 11. The Committee of Arrangements desires that there shall be a full line of exhibits, by all the houses which usually make displays, on this occasion, and extends an invitation to all who may desire to be represented. The Committee will offer every facility in its power, and will furnish full information on application. John A. Lewis, M. D., Chairman, Committee of Arrangements, Georgetown, Ky.

Thirteenth International Congress of Medicine: Paris, August 2 to 9.—A communication has been received from the secretary-general, in reply to inquiries in respect to membership in different sections. He states that each member of the Congress can register in as many sections as he may wish, and take part in their proceedings, without extra charge. But as the transactions of each section are to be published in separate volumes, it will be impossible to supply a copy of the proceedings in every section—twenty-four in all—free to each member. The subscription of twenty-five francs, or $5, sent direct to Treasurer-General M. Duflocq, rue Mironesnil, 64, Paris; or to Dr. H. B. Jacobs, 3 W. Franklin St., Baltimore Md., chairman of the committee for the United States, entitles each member to a general volume, which he will receive in due time, containing a summary of the proceedings of the Congress; also to a volume containing the full report of the general meetings;

also one containing the proceedings of the section in which the member has registered. If registered in more than one section, he will receive the volume of the transactions of the section named first on his application. Members can obtain the transactions of the other sections by applying to M. Masson, official publisher for the Congress, 120 boulevard St. Germain; terms to be determined later. The price per volume will be less in proportion to the number of sections whose proceedings are desired. Particulars in regard to lodgings, etc., were given in THE JOURNAL of February 10 and 24, pages 361 and 492.

Association of American Medical Colleges.—The next annual meeting of this Association will be held at the Hotel Shelburne, in Atlantic City, N. J., on June 4, 1900, the Monday preceding the meeting of the AMERICAN MEDICAL ASSOCIATION. The afternoon session will be open. All medical educators, the members of the Southern Association of Medical Colleges, the members of the Federation of State Examining Boards are invited to be present, and participate in the discussion. The session will be opened at 2 p. m., with the following program: 1. President's Address, by Parks Ritchie, dean of the University of Minnesota, Minneapolis. 2. "Methods of Clinical Instruction and Management of Clinics," by F. C. Hotz, professor of ophthalmology in Rush Medical College, Chicago. 3. "A Report on the Practical Operation of the Case System in Harvard Medical School During the Past Year," by Prof. W. B. Cannon, Cambridge, Mass. 4. "A Demonstration of the Preparation of Pathologic Specimens for Class Room and Museum," by Gustave Fütterer, professor of pathology in the Northwestern University Medical School, Chicago. 5. "Method and Apparatus for Teaching Experimental Physiology," by Winfield S. Hall, professor of Physiology, Northwestern University Medical School, Chicago. 6. "Report of Committee on Elective Courses in Medical Schools," by John M. Dodson, Chairman, Chicago. Discussion of the papers and the report of the committee will be open, and all the guests of the Association will be at liberty to take part. The business session will be held at an adjourned meeting, which will follow the usual order, as directed by the by-laws. Proposed amendments to the Constitution must be in the hands of the secretary not later than April 24. They will be published in THE JOURNAL, May 15.

Chicago Society of Internal Medicine.

Feb. 27, 1900.

COMBINED ARSENICAL AND LEAD POISONING.

DR. HUGH T. PATRICK reported a case of combined arsenical and lead poisoning, with unusual features. The patient, sent by Dr. Kerlin, was a seamstress, 28 years of age, who was compelled to quit work a year ago because of tremor when she attempted to sew. She became very weak generally and was easily exhausted. Three or four weeks ago, before she came to him, she had some acute attack, with pains and tenderness over different parts of the body, and symptoms resembling those of hysteria, which lasted for a week or ten days. This was probably an instance of what has been called lead encephalopathy. As soon as this acute attack had subsided, the patient improved somewhat. She had no wrist-drop but had finger-drop. She could extend the hand on the forearm, but could not extend the fingers. This finger-drop was characteristic in that the paralysis diminished in degree from the radial toward the ulnar side. She had a lead-line but, what is characteristic of many cases, there was no lead-line in front, except one small spot between the two lower incisors, while on the buccal side of the lower jaw there was an uninterrupted one from the molars on one side to those on the other. She had an exquisite intention tremor, which is very exceptional in lead poisoning. Besides, she had a distinct tremor of the tongue and lips, which is practically unheard of in lead poisoning, and the deep reflexes were greatly exaggerated, which is likewise exceptional in this. It was learned that the patient had used a cosmetic on her face, a powder called "flake white," which she mixed with water and glycerin, and applied to the face wet. "Flake white" is commercial carbonate of lead. A sample of that used by the patient was analyzed by Dr. Herzog, who found arsenic in it sufficient to cause poisoning. The latter drug in a measure accounted for some of the peculiarities observed in this case, notably the intention tremor, and particularly the tremor of the tongue and lips, which was so pronounced as to interfere with articulation. Doubtless, too, the exaggeration of the deep reflexes was caused by it.

MEMBRANOUS COLITIS.

Dr. Patrick also reported on a patient seen, through the kindness of Dr. Lemke, to whom he had been sent by another physician, a diagnosis of tabes having been made. He was 30 years of age, and at 20 began to have considerable pain at the junction of the sacrum with the right ileum, which gradually extended until it now involved the front of the abdomen. This pain became so intense that he had to quit work. It was more or less steady all the time with paroxysms. He was first admitted into a hospital in Toronto, where a diagnosis of pachymeningitis was made. He was treated with cautery and blisters, but did not improve, and he was said to be incurable. Shortly after this he went to Colorado, consulted various physicians, who did not help him much, and during all this time had trouble with his stomach and bowels. Every now and then he would be seized with a sudden pain with imperious call to defecate. His father induced him to take frequent colonic flushings, which relatively cured him, after all physicians had failed. He after this attended to his work as a clerk. During the last seven years he has had attacks of intense pain through the abdomen; the attacks are paroxysmal and are aggravated by movement, and last sometimes for two or three weeks, gradually disappearing. The pain during one attack extended from the pelvic bones up to the sternum and bound him as in a vise. He could not sit, walk, nor do anything. This attack lasted several days, and finally disappeared. This might very well be mistaken for an abdominal crisis of tabes, and an ordinary examination revealed no knee-jerk. But the pupils were normal and reacted perfectly to light. The patient had no sensory disturbances, no bladder disorder, no ulnar analgesia, and the knee-jerks on re-enforcement were perfect. Immediately after re-enforcement they were easily elicited, so that tabes could be positively excluded. He furthermore gave a clear history of enterocolitis.

Dr. Patrick believed that the foundation of the man's trouble was in the gut. One evening, just before the patient consulted him, he had three bowel movements within a few minutes. The first one was relatively normal; the second stool, on inspection, consisted of softened and unnatural-looking feces, mucus and a long string of black, semiclotted blood. The third consisted of a chunk half as large as an egg, mostly mucus, its passage being preceded by severe pain and an imperious desire to empty the rectum. He had frequently passed large and small pieces of pseudomembrane.

The question of treatment of membranous enteritis of long standing is not easy of solution. The case was interesting on account of the relation between neurasthenia, other functional nervous disease, and membranous enteritis. Neurologists are a unit in declaring that the latter is not a nervous disease, while internal medical men often say it is. Dr. Patrick does not believe it is caused by neurasthenia, although his patient had neurasthenic symptoms.

CASE OF TABES WITH PROGRESSIVE MUSCULAR ATROPHY.

Dr. Patrick's third case was of this condition. The patient, a cigar maker, 43 years of age, had a chancre at the age of 20. Two and a half years ago he first noticed disability of the forefinger and thumb of the right hand. There is atrophy of the thenar and hypothenar eminences, of the abductor indicis, and of the interossei. He is beginning to have a claw-hand. In addition, there is atrophy of the left deltoid, which is the next muscle ordinarily affected in progressive muscular atrophy, and beginning atrophy in the left thenar eminence. The upper arm is thinner on the left side and he has paralysis of the serratus magnus of the right side causing the scapula to "wing," while the action of the deltoid is good. This condition, beginning 2½ years ago, has gradually progressed. There is fibrillary twitching in all of the affected muscles as well as in some as yet unaffected ones. There is partial reaction of degeneration in every atrophied muscle. Because of gradual outset and slow progress of the affection, the distribution of the paralysis and atrophy, the fibrillary twitching and reaction of degeneration, the case undoubtedly belongs to the Aran-Duchenne type or myelopathic form of progressive muscular atrophy. In addition to these symptoms, he has almost complete paralysis of the third nerve on the right side, the Argyll-Robertson pupil in the good eye, and knee-jerks. Although he has practically no incoordination, the case is without doubt one of tabes. That is, the patient has a combination of two diseases—locomotor ataxia and progressive muscular atrophy.

From the time Cruveilhier, in 1832, described muscular atrophy in tabes, the affection has been mentioned and noted. As progressive muscular atrophy as an entity was not described until 1836, and was not given a nosologic position until the description of Aran in 1850, and by Duchenne later; as tabes did not exist as a separate affection until it was described by Romberg, in 1846; as incoordination was not separated from paralysis until 1858 by Duchenne, the significance of loss of the knee-jerk was unknown until 1870, and the Argyll-Robertson pupil still later, the earlier causes of this combined affection must be taken with several grains of salt. Still, for instance, Duchenne in his book gives a description which is sufficiently typical, and a few cases are scattered through the literature. Localized atrophies in tabes are not so exceedingly rare. Cases have been reported in which the muscular atrophy has been found to be due to neuritis. Other cases have been reported in which there were undoubted changes in the anterior horns of the spinal cord. Some analogous cases of hemiatrophy of the tongue have been carefully posted, in which there was atrophy of the nucleus of the hypoglossus.

Dr. Edward F. Wells was very much interested in the case of membranous enteritis, or enterocolitis, reported by Dr. Patrick. He had recently been treating a patient, who had been under his observation for a good many years, and who had had an acute attack of rheumatism. The woman is now 45 years of age. The acute attack of rheumatism came on at the age of 17. From the history he believes it was distinctly a case of rheumatic fever. This attack left the heart slightly damaged. Since then, on several occasions, various joints would become affected, mostly the smaller ones, as of the fingers, toes, sometimes the wrist, and occasionally the elbow and shoulder joints. There was little or no fever attending these attacks, but there was increased rapidity of pulse, with much prostration. The last attack continued for about three months; joint after joint became affected, followed by slight swelling, tenderness, pain, and marked anemia. There were also intestinal symptoms, which were characterized by paroxysms of pain, with an imperative desire to go to stool at these times. On one occasion, in going to stool, she passed what she considered a tapeworm. She brought it to his office in a bottle. There was about fifteen feet of material in this bottle, the color of mucus with some fibrin in it. It was rolled up so as to be as large as the ordinary-sized lead pencil. It could not well be gotten out of the bottle with forceps without breaking it. He let it run out of the bottle, measured it, and it was approximately about one-sixteenth of an inch thick, and three-quarters of an inch to an inch wide. After the expulsion of this mass she was immediately relieved of all heart and rheumatic symptoms. This was about three or four weeks ago, and she has had no trouble since.

Another case he saw was characterized by a strong desire to go to stool. The patient was a man, 75 years of age, and nervous. When young, in Barbados, she had her first attack. The attack would begin with lack of appetite, general pains, aching, pain in some of the joints, but the pains were mostly abdominal. These continued for ten days or two weeks. During this time there were frequent passages of thin watery stools, with a large amount of mucus, after which she would be relieved of the nervous symptoms, and would resume her usual duties. These attacks have recurred at intervals of from three to six years. He has seen the patient during two attacks. Ten years have now elapsed without her having one.

SYPHILITIC CIRRHOSIS OF LIVER; DEATH FROM REPEATED HEMATEMESES.

Dr. John A. Robison reported this case. The patient entered the Presbyterian Hospital, under the joint care of Dr. John Little Morris and Dr. Robison, January 10. He was for some years a barber but during the two years past was a law student. He was 36 years old, single, born in France, and his family history negative. He never had any serious previous illness, positively denies venereal infection, drinks very moderately, and occasionaly indulges in dietetic excesses. He claimed he had been in perfect health until the night of Dec. 14, 1899, when, on his way home he fell against the corner of a cement stone injuring himself in the right hypochondrium, the injury in no way disabling him and being of an apparently transitory nature. However, the next day he had no desire for food, and complained of epigastric tenderness and a sensation of fulness in the region of the stomach after eating. December 29, about midnight, he was awakened by violent abdominal pain, and vomited about a quart of blood, consisting of blood clots and fresh blood unmixed with air. During the following twenty-four hours he had seven gastric and two intestinal hemorrhages. On admission to the hospital two days after the hemorrhages he complained of the following gastro-intestinal disturbances: anorexia, sensation of fulness after eating, occasional acid eructations, dull aching pain in the right hypochondrium and the epigastric region, constipation accompanied by tenesmus, and vomiting. He would vomit once in three or four days, and since the hemorrhages the vomitus has contained no blood, but ingested food and glairy mucus.

He was somewhat emaciated, his skin pale and sallow, the mucous membranes pale, edema of the ankles, but the scrotum free. The palpebral conjunctivæ were colorless and the ocular of a pearly-white appearance. Since the traumatism there have been frequent epistaxes. The lungs were normal, the apex-beat of the heart not visible, the area normal. A systolic soft-blowing murmur was heard, with the greater intensity at the apex, not propagated. On examination of the abdomen in the recumbent position, the superficial veins were visible, and the abdomen symmetrically distended. On palpation, the margin of the left lobe of the liver was palpable below, within 7 cm. of the umbilicus, and laterally within 5 cm. of either mammillary line. On percussion, dulness was obtained, laterally from the flanks to the boundaries of the umbilical region; below, from the pubes to the lower boundary of the umbilical region, where a tympanitic resonance was obtained. No nodules were palpable, but the spleen was. A puncture-cicatrix was observable midway between the pubes and the umbilicus, the mark of a former paracentesis. The patient stated that the symptoms of ascites rapidly followed the injury, and that within one week he had to be tapped and several pints of clear serous fluid were removed.

The urine was brownish yellow; acid, specific gravity 1022, amounted to 680 c.c. in twenty-four hours, and had no sugar nor albumin; solids, 34.8 grams; urea, 17.6 grams; granular casts in small amount.

Hematologic examination: red blood-corpuscles, 2,097,000; white blood-corpuscles, 6000; hemoglobin, 30 per cent.

During the first three days the patient was in the hospital his condition was good. The fourth day he suffered extremely from abdominal pain, the pulse was from 110 to 140, the respirations 26 to 40, the temperature 101 to 105 F. Morphia secured a good night's rest, and the fifth was characterized by a lessening of the severity of the symptoms, an epistaxis in the morning being the only additional one. The sixth was uneventful, with the exception of a severe epistaxis in the evening, accompanied by a rise of temperature to 104.6 F. The seventh, eighth and ninth days were without any additional symptoms, with the exception of a rapidly increasing ascites, the distress from this symptom being so great that paracentesis was performed and 3240 c.c. of a clear, light, straw-colored fluid withdrawn. At 4 p. m., January 20, the pulse was 88, the temperature 97 F., the respirations 28. At 10:30 p. m. the patient had a chill, the pulse at midnight being 136, the temperature 104.8 F., the respirations 36. January 21, at 2:30 p. m., he had an attack of hematemesis, followed in an hour by four more, the hemorrhage in all amounting to four quarts. The pulse was 128, weak but regular, the facies pale, and the patient slightly delirious. Astringents, morphia, and saline infusions were given and the Leiter coil applied over the abdomen. On slight pressure in the epigastric region there was increased tenderness. The superficial veins were not so plainly visible as before the hematemeses. January 22 there were hematemeses of six ounces at 5 a. m., 12 ounces twenty minutes later, 1.5 ounces at 6:45 a. m., 14 at 12:30 p. m., 14 containing many large clots at 1:30 p. m., and at 3 p. m. there was a bowel movement containing white, solid feces with a large amount of dark blood. At 5:25 p. m. the patient died of exhaustion.

Clinical Diagnosis: Cirrhosis of the liver, enlargement of the spleen, edema of the extremities, hematemesis.

Anatomic Diagnosis: Syphilitic cirrhosis of liver with multiple gummas and fibrous perihepatitis, fibrous hyperplasia of the spleen and fibrous perisplenitis, dilation of the heart, varicosity of the esophageal veins with rupture, blood in the stomach and bowels, parenchymatous nephritis, left floating kidney, chronic gastritis, beginning arteriosclerosis of the aorta and coronary arteries, left fibrous pleuritis, double bloody hydrothorax, edema and emphysema of lungs, ascites, edema of lower extremities, anemia of all the organs.

The liver was somewhat enlarged, and its outer surface marred by nodular elevations and irregular depressions, as well as torn adhesions over certain parts. The margins were roughened by irregular undulations. It was brownish yellow in color, and rather elastic. Beneath the capsule were many yellowish nodules up to the size of small hazel-nuts. Cut into, they were seen to be somewhat irregular in shape and definitely outlined, with peculiar worm-eaten borders, light yellow in color, rather firm and not caseous nor definitely encapsulated. The liver cut with some increase of resistance. The cut surface was brownish yellow, the lobular markings not recognizable, and there were some nodules throughout the liver. The spleen was eight times its normal size, its surface impressed by small fibrous patches, and at its upper extremity a large area of fibrous thickening of the capsule. There were no nodules in the spleen. At the lower end of the esophagus were large varicose veins. There were small losses of substance in the mucosa overlying these veins, one of which was ruptured, and the site of rupture covered by a small yellowish mass resembling a thrombus.

Bacteriologic Examination: All the smears showed a number of large square-end bacilli, and the kidney showed also a short thick bacillus. Cultures on glycerin-agar, after forty-eight hours, from the lung showed several nearly colorless growths, smooth and glistening, and with regular outline; from the liver, showed a spreading moist white growth over the surface; from the kidney, heart and spleen they were sterile.

The interesting features of this case are: 1. The fact that the physical signs demonstrated that cirrhosis had existed for some time without any knowledge on the part of the patient that he was not in good health. 2. The traumatism interrupted the compensatory collateral circulation and caused rupture of the esophageal veins, producing rapid accumulations of fluid in the peritoneal cavity, and death from repeated hematemeses. 3. The denial, truthfully no doubt, of venereal infection, made the clinical diagnosis of syphlitic disease of the liver impossible, but the pathologic findings demonstrated the etiology of the disease. And these findings emphasize the importance of recognizing the great danger of rupture of the varicose veins in cases of cirrhosis of the liver. As one author has remarked, these patients have only the barrier of a sixteenth of an inch of fragile tissue between life and death. It is remarkable that the statistics as to the mode of death in this disease do not include a larger percentage of cases dying from hemorrhage.

Topeka Academy of Medicine and Surgery.

Topeka, Kan., March 5, 1900.

USES AND ABUSES OF MORPHIN.

Dr. O. A. Taylor read a paper on this subject, dealing with some of the general principles which underlie its use and abuse. Its power to support life as a substitute for food is of great value, as is also its power to contribute to the support of the body as an auxiliary food. He exampled this by reference to the Orientals, who take their daily allowance of opium with no thought of dissipation, but simply as a food. There seems to be an increasing number in this country who take opium or its alkaloids simply to remove fatigue or to add to a slender food allowance. The food power of morphin is certainly great, and in circumstances of privations it has been shown to exist for horses as well as for man. Morphin is not in any sense a tissue builder, but simply serves the clinical purpose of making the lack of food less disastrous. One must always bear in mind the great danger of forming the morphin habit. In cases of profound enfeeblement due to the deprivation of food or loss of sleep, small doses, together with the natural restoratives, food and sleep, are of great benefit. But it is important that too large ones be not given, as the slightest development of narcosis is invariably followed by a harmful reaction. It also has an important use in hemorrhages.

Opium has achieved its more significant modern victory in case of heart disease. It is of especial value in mitral stenosis and mitral insufficiency, as it is in these cases that we see the appearance of general venous congestion as it begins in the lungs and extends to the entire body, manifesting itself by pallor, dropsy and cyanosis. Non-narcotic doses of morphin—about 1/6 gr.—seem to restore the disturbed balance in the circulation and most of the distress is readily relieved. The heart becomes more tranquil and the patient may enjoy the influence of a quiet sleep.

When death is inevitable, pain and restlessness, of which the patient is unconscious, but which distress the family, should be controlled by this drug.

Speaking of the abuses, he related a case of a child of 6 months, who had been given a few drops of tinctura opii. with nearly fatal results. In rheumatism the drug is misused in many instances, and through indiscreet use the physician leads the patient to form the opium habit.

He emphasized the necessity of making the diagnosis before using the drug or it will mask the real trouble and cause an incorrect diagnosis. He also urged against using it indiscriminately, and pointed out that one should never tell the patient that he is getting morphin.

Dr. S. W. Stewart said that morphin, while not an article of food, acts as a support by decreasing the waste material. Slight doses have a tonic effect by stimulating the capillaries. It does not really increase the strength, but only soothes the sensation of fatigue. While diseases of the heart are frequently benefited by it, in asthmatic conditions it also acts well.

Dr. W. E. McVey reported a case of a morphin fiend who used 30 gr. a day together with cocain. He considers that there is some tonic effect, and it is excellent in acute pericarditis, but dangerous in valvular disease of the heart, as it interferes with the primary circulation and slows respiration.

MICRO-PHOTOGRAPHY.

Dr. R. S. Magee gave a demonstration on this subject with the camera on an inclined plane instead of horizontally, as is usually the case. This is simpler and a better light is obtained.

College of Physicians of Philadelphia.

Section on Ophthalmology, Feb. 20, 1900.

MENTAL DISTURBANCES AFTER OPERATIONS.

Dr. Wm. C. Posey read a paper on mental disturbances after operations on the eye. Twenty-four cases of delirium were reported. In 19 of these mental symptoms developed after removal for cataract, in 3 after iridectomy and, in 2 after extensive wounds of the eye. The delirium occurred during the first twenty-four hours after the operation in 2, on the second day in 8, on the third in 6, and on the fourth in 2. No atropin was used in 6 instances; in 4 others it was not used until the delirium had manifested itself. It was noted that, previous to operation, there was no tendency to mental derangements except in 2 senile and in the traumatic cases. The delirium was at first mild, and afterward developed into active delirium, with hallucinations and ideas of persecution. The speaker believed the disturbances were largely psychic.

Dr. George E. de Schweinitz said that the most pronounced case he had ever seen occurred in a man aged 59, on whom he had performed Förster's operation for the artificial ripening of the lens of one eye. On the second day maniacal delirium developed.

Dr. M. W. Zimmerman stated that, while a resident at the Wills Eye Hospital he had seen numerous cases. The custom at that time was to unbandage the second eye and get the patient out of bed at the earliest possible moment.

Dr. C. A. Veasey reported mental symptoms after 2 cases of operation.

Dr. G. C. Harlan thought treatment should be diversified to meet individual cases.

Dr. W. C. Posey referred to a paper by Dukes, who believed that the restlessness of old people is due to failing of the scavenger organs, causing high arterial tension.

THE STUMP AFTER ENUCLEATION OF THE EYEBALL.

Dr. G. E. de Schweinitz read a paper concerning the preparation of the stump after complete enucleation of the eyeball. He referred to the different substitutes, such as opticociliary neurectomy, evisceroneurectomy, simple evisceration, implantation of a glass globe, abscission, etc. Of the various procedures he prefers Mules' operation. He condemned Czermak's dictum that sutures should be disregarded. His own method of preparing the stump is as follows: After insertion of the speculum, the conjunctiva is divided as closely as possible to the corneal margin; each rectus tendon is next exposed and caught upon a hook, as in strabismus, and secured with a double armed, black silk suture, which is knotted upon it. The eyeball is now enucleated and a small ball of gauze is inserted into the capsule of Tenon. Each rectus tendon is then drawn forward to the cut edge of the cut conjunctiva, and securely fastened with the ends of the same suture which had originally secured the tendon. The wad of gauze prevents hemorrhage. The capsule of Tenon should be united by interrupted sutures.

Dr. G. C. Harlan stated that at the Will's Eye Hospital it is the custom to bring the edges of the conjunctiva together with sutures after enucleation.

Dr. H. F. Hansell believes that operators uniformly endeavor to secure the stump on which the prothesis would rest, and by which it could be moved; but after a well-performed enucleation there is no stump.

FOREIGN BODIES IN THE EYE.

Dr. Charles Lukens, by invitation, reported a study of eighteen foreign bodies in the eyeball; in sixteen instances an attempt to remove the metal was made. In one a piece of steel had remained quiescent in the vitreous chamber for twenty-six years.

Dr. G. E. de Schweinitz described a foreign body—metal—which had remained quiescent in the choroid of a practically blind eye for eighteen years when, without apparent cause, iridocyclitis began and threatened the other eye. The body was accurately located by the Röntgen rays, according to Sweet's method.

Dr. Charles A. Oliver spoke of one of the cases referred to in Dr. Luken's paper. The location of the foreign body was determined by the direction of the scotoma, and confirmed by the X-ray.

Dr. William M. Sweet spoke of certain cases in which foreign bodies had been removed from the vitreous chamber some time after entry. In three instances good vision followed. The Hirschberg magnet was employed. He exhibited photographs illustrating the apparatus.

Dr. M. W. Zimmerman referred to a case where a piece remained in the anterior portion of the vitreous for many years, without causing inflammatory symptoms.

Dr. H. F. Hansell spoke of a boy who was struck in the eye by powder grains and sand, breaking the capsules of the lens, which were subsequently forced out; afterward, with cataract glasses, his vision was normal.

STUDY OF CHANGES IN REFRACTION IN 400 EYES DURING SEVEN YEARS.

Dr. H. F. Hansell tabulated 200 consecutive patients with refraction, from his private case-book, who had returned for a second examination in periods varying from two to sixteen years. Among the 400 eyes there were 249 hyperopic, of which 94 showed no change, and 114 myopic, of which 37 showed no change; 141 showed increase in their refraction, and 119 decrease. Among the hyperopes there were 69 decreases and 180 increases, while among the myopes 8 only decreased and 107 increased. Of the 34 eyes with mixed astigmatism, 28 changed in their refraction; the majority demanded an increase in the strength of the glasses needed for the correction of both the principal meridians. The 200 patients represented an equal number of both sexes, and the changes found were almost equally divided between them.

Dr. B. A. Randall stated that probably a close examination of the cases in which the decreases, rapid in refraction, occur, would show that they did not extend over a series of years, but on the contrary occupied a comparatively short time.

PUNCTATE FUNDUS.

Dr. Edward A. Shumway, by invitation, reported a case of diffuse punctuate condition of the fundus in a colored woman, 35 years of age. There was a marked tendency to migraine in the family history. The entire fundus in both eyes was studded with closely aggregated, dull, yellowish-white spots, soft in outline, varying in size from that of a retinal vessel to several times that. There was no pigment in the retina. Fields showed no contraction nor scotoma, and there was no history of night blindness. It was thought that the change was of a colloid nature affecting the retinal pigment layer.

Philadelphia Neurological Society.

Feb. 27, 1900.

TABES DORSALIS IN NEGROES.

Dr. A. P. Francine, by invitation, reported two cases of tabes dorsalis in negroes—a husband and wife. The man, 48 years of age, a barber, denied that there was intermixture with the blood of the white race. At the age of 17 he had a hard chancre, and was given specific treatment. There had been no secondary eruption. He was of temperate habits. About five years ago he began to suffer from defective vision. In 1895 the diagnosis of tabes was first made. At this time the gait was ataxic and girdle pain was present. He also complained of numbness of the soles of his feet, difficulty in micturition, and dyspnea. The knee-jerk and plantar reflexes are now completely gone. He is unable to walk in the dark. The eyesight is characteristic of tabes.

The woman was 52 years of age, and her family history negative. She also denied intermixture with blood from the white race (?). She has had three children, the last one being stillborn. The symptoms seem to date back to 1899, when she observed that she became tripped up easily, and had difficulty in walking. At this time she also complained of a sense of constriction about the abdomen. The knee-jerk is entirely lost, and there are areas of anesthesia on the breast. She is unable to walk in the dark, and the eyesight is characteristic.

Twenty-two such instances are on record, but in all the disease occurred in whites.

Dr. J. H. Berkeley, of Baltimore, gave it as his opinion that at the present time diseases of the nervous system are becoming more common among negroes. Especially does this seem the case with such as dementia paralytica.

Dr. C. W. Burr had previously seen the man reported, and thought the condition undoubtedly tabes.

Dr. J. Madison Taylor had also seen him. He believes, however, that both patients showed evidences of intermixture with the white race.

Dr. F. Savary Pearce several years ago reviewed the history of tabes, and found 194 cases, among these only two in the negro.

Dr. Wm. G. Spiller spoke of the experiments made by Kraft-Ebing, who endeavored to infect cases of dementia paralytica by inoculation with the virus of syphilis, but with a negative result.

INJURY OF THE SPINAL CORD.

Dr. C. W. Burr presented a case with diffuse injury of the cord. The patient, a woman, eighteen months previously suddenly became unconscious and fell to the floor. The attack was followed by paralysis of the right arm and leg. Later, palsy developed in the shoulder. On the right side the sense of touch is entirely destroyed, and there are certain sensory disturbances present on the left side. On the right, the knee-jerk is quite pronounced, and a few taps will produce a violent tremor in the extremity, lasting for several minutes, but stopped by flexing the leg. The same phenomenon is present on the left side, but not so marked. He last year performed an autopsy in a similar case but found nothing abnormal.

Dr. F. X. Dercum had seen this case at the Philadelphia

Hospital, and believed it presented certain features of syringomyelia.

PARALYSIS AGITANS.

DR. WHARTON SINKLER presented two cases of this affection. The first was a man of 52, whose family history was negative. About two years ago he began to suffer with a feeling as if ants were crawling over the lower extremities, and later the arms suffered. The tremor of the hand is quite marked. The second patient was a man of 44 years, who, while working, suddenly had the right foot make a misstep and the whole right limb went through an opening in the floor, and he fell, striking on the perineum. About an hour later he walked home, without much difficulty, only complaining of some lameness. The leg afterward became paralyzed. He has never had convulsions. About five years ago a lump developed in the lumbar region, the size of a hen's egg, and an operation was done.

DR. J. MADISON TAYLOR spoke of the good results obtained from physical culture in cases of paralysis agitans.

TACTILE BLINDNESS.

DR. JOSEPH SAILER presented a man who gave a history of having had, several months ago, a spell of dizziness. At the present time he has inco-ordination of movement. On being blindfolded and having a silver dollar placed in his right hand he is at a loss to know what it is, but when placed in the left it is recognized readily.

CUTANEOUS AND SENSORY ANESTHESIA.

DR. HENRY J. BERKELEY, by invitation, read a paper on the pathologic findings in a case of general cutaneous and sensory anesthesia. In this case there had been a history of syphilis, and an attack of arthritis. In 1889 he began to suffer from tingling in various parts of the body. Later vomiting occurred. All the sensory functions became disturbed. The cutaneous reflexes were all abolished. Later the right knee-jerk was diminished, and still later the knee-jerk on the left side became affected. Beginning cataract was found in both lenses. There was diminished secretion from the buccal and lacrimal membranes. In 1891 purpuric spots developed. There had been no delusions and no hallucinations. In 1899 the eye showed retinal pigmentosa. In 1898 the patient became lethargic, and afterward death occurred. The autopsy findings showed most of the large arteries slightly atheromatous. Both kidneys were atrophied. All the nerve tissues were examined, including the brain. One of the most marked features found was extreme thickening of the arterial walls, most marked in the media, which was enormous as compared with the intima and adventitia. The vessel walls of the gray matter of the cord were thickened. The arteries of the skin showed the same changes as noted in the brain and cord. All the pathologic ones were those of atrophy. The Nissl bodies were well stained. There were few changes in the cerebellum, but the optic nerve showed marked ones. There were none in the neuroglia cells.

The Johns Hopkins Medical Society.

Baltimore, Md., March 5, 1900.

INHERITANCE OF DEAFNESS.

PROF. WM. K. BROOKS read a paper on this subject. An abstract of his views has already been given in THE JOURNAL (January 13, p. 124).

THREE MONTHS' CHILD WITH CAUDAL APPENDAGE.

DR. W. T. WATSON exhibited a white infant presenting this anomaly. The appendage projected from the lower end of the vertebral column, but contained no bone nor cartilage. It was 2¼ inches in length and consisted of two segments of equal length, tapering to a point at the end. It possessed the power of movement, contracting to one-half inch, and also curling upon the child's back, but always in such a way that the same surface which faced the anal region also, by a twisting motion, faced the sacral. The distal segment was white, while the proximal was of a dull-pink color. It contained no hair. In its flaccid state it curled somewhat inward toward the perineum. The child was otherwise normal.

Professor Brooks remarked that the natives of South America assert that we wear clothes in order to conceal our caudal appendages. It is not necessary to regard the anomaly in question as a reversion to an earlier type. It seems to me more natural to regard it as a persistence of an embryonic condition, embryos being known to have these caudal appendages normally.

CYSTIC KIDNEYS.

DR. WILLIAM OSLER exhibited two enlarged kidneys—the left immensely enlarged. They were removed post-mortem, from a woman who was in the hospital, suffering from enlarged heart, arteriosclerosis, hematuria, and tumor-like enlargements in the renal regions. There was a trace of albumin, but only once were tube casts found in the urine; the specific gravity never rose above 1010. Both organs were filled with cyst-like cavities, some an inch in diameter. The interstitial tissue was increased. The condition is very rare and has not been determined.

DR. W. S. THAYER showed a similar specimen, from a patient with similar symptoms.

DR. W. G. MCCALLUM, for purposes of comparison, showed a fetal cystic kidney. Other organs of the same fetus showed the cystic tendency and there were supernumerary fingers and toes.

POST-OPERATIVE GLYCOSURIA. SIMULATIVE NEPHRITIS. MALINGERING MELITURIA.

DR. T. R. BROWN reported three cases of temporary glycosuria following operations in which ether was used as the anesthetic. Examination of the urine after operation seems to have been neglected, and there is but bare mention of the above occurrence in the text-books, etc. He also called attention to symptoms of acute nephritis following a nephrorrhaphy. The third case occurred in a hysteric woman in the hospital, in whom the presence of cane sugar in the urine was traced to her having added to her urine, for purposes of deception, the sugar brought her for use in her tea; as she also had polyuria at the same time, her deception succeeded for a time.

Denver and Arapahoe Medical Society.

Feb. 12, 1900.

PNEUMOTHORAX.

DR. ALFRED MANN exhibited a man, 32 years old, of good physique and without a family history of tubercular trouble. In February, 1899, an attack of la grippe was followed by gradual loss of flesh and strength, until at the end of September he was advised to leave his home, Milwaukee, Wis., and remove to Denver.

While sitting in the railroad station in Chicago, waiting for his train, he suddenly became short of breath, felt hot and cold by turns, and began to have a severe, choking cough. Nevertheless he boarded his train and arrived in Denver after thirty hours of severe suffering. On the evening of his arrival the temperature was 104, pulse 122, respiration 40 to the minute, the countenance livid, and his lips and finger-nails blue. Under the free use of strychnin, atropin, spartein and oxygen the temperature came down to 102 F., but the pulse grew slowly weaker and more rapid during the next few days.

On October 4 a small trocar and canula were inserted and the accumulated air allowed to escape. In a few days a slightly turbid serum began to accumulate. In the course of the next four weeks 112 ounces of the same kind of fluid were withdrawn in four operations. At present, 4½ months after the onset of the pneumothorax, there seems to be no further accumulation of air or fluid, the condition having been apparently stationary for about two months. The right half of the chest is without respiratory movement, and the expansion of the left side is exaggerated. Over the right apex down to the fourth rib there is dull tympany merging at the fifth rib in the mammillary line, into dulness continuous with that of the liver. This marked dulness extends entirely around the right half of the chest, at about the same level. Weak, blowing breath sounds are heard in the right apex and numerous fine râles after coughing. The coin sound is nowhere to be elicited. The vocal resonance is increased in the apex, and diminished in the dull area below. The patient's [illegible] and the expectoration is slowly diminishing. He walks miles with perfect ease, but is short of breath when he walks rapidly. He looks well, has a good color and feels strong, though he has not regained his normal weight. He now weighs 140 pounds.

THE JOURNAL OF THE
AMERICAN MEDICAL ASSOCIATION.
61 MARKET STREET, - CHICAGO.

SATURDAY, MARCH 17, 1900.

EPIDEMIC CEREBROSPINAL MENINGITIS.

Epidemic cerebrospinal meningitis may be defined as an acute, infectious disease depending on the activity of the micrococcus intracellularis meningitidis, with localization in the cerebral and spinal membranes. From other varieties of meningitis it differs, among other things, in its specific character, but, strange to state, the disease appears to be contagious in only slight degree, for observation has shown that its distribution in a community is, as a rule, rather widespread, and that it does not generally attack many members of the same household, if more than one. Further, isolated cases appear from time to time in some communities. It is thought that the nares may be the portal of entry for the causative factor of the disease, which passes thence along the sheaths of the olfactory nerves. The epidemic disease differs from other varieties of meningitis additionally in the fact that a local lesion or preceding or associated infectious disease is probably not essential for its development. The disease occurs principally in the winter and the spring and particularly under conditions of overcrowding and filth. The mortality varies in different epidemics, although the prognosis is by some considered more favorable than that of meningitis dependent on other exciting factors than the meningococcus.

Some interesting facts are brought out in the report of an epidemic of cerebrospinal meningitis observed by Berdach[1] and occurring between the months of February and September, 1898, in a small mining town of Hungary, with a population of 8500. The disease proved of great severity and was widely disseminated, although there had been no previous outbreak in the vicinity for nine years. One hundred cases in all were observed, 72 of which were severe and clinically well characterized, and 28 abortive. The mortality was 45 per cent. Of the 72 severe cases the youngest patient was 3 weeks old and the oldest 58 years. The majority of cases occurred in young persons. The largest number in any quinquennial period occurred between 20 and 25 years—16; between 1 and 5 years there were 13. The largest number of fatal cases in any quinquennial period occurred also between 20 and 25 years—11; between 1 and 5 years there were 10. Of the severe cases 24 were in males and 48 in females, and of the deaths 14 occurred in males and 31 in females. In some of the dwellings there was great overcrowding and want of cleanliness. The disease exhibited migratory character, appearing successively at remote points. One case occurred in each of thirty-four houses; 2 in each of nine; 3 in each of four and 4 in both of two. The cases were rather evenly distributed throughout the community. The town is situated in an enclosed valley. The season was one of mild weather and the soil was not marshy. There occurred, between February 14 and 28, 11 cases; during the month of March, 26; of April, 17; of May, 5; of June, 3; of July, 2; of August, 15, and between September 1 and 16, 3.

Three types of the disease were observed: hyperacute, protracted and abortive. The first occurred in the majority of cases, and the mortality was high. The attack lasted from four to eight hours to six days. In the cases of short duration the course was lightning-like and the irritative symptoms were soon followed by depression of the mental functions. In the protracted cases the motor and sensory irritative phenomena were more prominent, and the stage of depression occurred only shortly before death. In the abortive cases the clinical picture was fragmentary, the physical and psychic symptoms slight, and the course rapid.

With regard to individual symptoms, patients complained, at least at the beginning, almost always of frontal or temporal, and later also of occipital, headaches, although scarcely any part of the head was not at some time the seat of pain. The headache was always paroxysmal, the frequency and duration of the attacks varying with the severity of the morbid process. The pain was sharp and cutting and persisted throughout the attack. The temperature proved variable and untrustworthy. In one case vomiting occurred throughout the attack, being unattended with pain or effort. In other cases, however, it was distressing and associated with retching. Sometimes it occurred after meals, while at others it was independent of food. It was a constant prodromal manifestation, usually persisting throughout the early part of the attack and ceasing toward the close. Next to headache, it proved the most troublesome symptom. The pupils were at times moderately dilated and at other times dilated to the maximum, while their reaction was sluggish or abolished. The involvement was usually bilateral.

Herpes was present in 8, or 90 per cent. of the cases. It bore no relation to the severity of the attack or to the prognosis, although it was of distinct diagnostic significance. It was preferably situated on the upper or lower lip, and was unilateral or bilateral. It also involved the tip of the nose, the skin over the malar bone, the lobule of the ear, the chin, the skin over the sternum, and in one case it was extensively distributed on the left thigh. It appeared early, most commonly from the fourth to the sixth day. Other cutaneous eruptions were uncommon, although the usual irritability of the vasomotor nerves was present, as exhibited in redness after even gentle pressure—tâches cérébrale. Rigidity of the neck was generally gradual in development, and when fully developed it persisted until death, or in cases of recovery it receded slowly. Of pareses, that of the facial nerve was most common, and proved an important and reliable symptom. It was present in about 85 per cent. of the cases. It was almost again as frequent on the right as on the left. As a rule it was associated with hypoglossal paresis. Deafness was not observed during the attack, but it or deaf-mutism was a sequel in several cases. Occasionally paresis of the upper and lower extremities was observed, as well as of the bladder and rectum. Hyperesthesia of sensory nerves, especially of the ulnar, was often present.

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[1] Deutsches Arch. f. klin. Med., Bd. lxv, H. 5 u. 6, p. 449.

Pneumonia was present in only one case; nor was pneumonia present in the community. Intestinal catarrh was present with varied symptoms. Acute rhinitis was observed almost unexceptionally in the prodromal period, and in some cases the micrococcus intracellularis was demonstrated in the nasal secretion, both microscopically and in culture. It was found also in the nasal secretion of healthy persons about the sick. Bronchitis was present only in the latter stages, the micrococcus intracellularis being found in one case and the diplococcus pneumoniæ in one; in the latter, however, the meningococcus was found in the meningeal exudate.

Among the sequelæ were pallor, a greenish-yellow color of the skin and emaciation. Occasional headache, as well as weakness and rheumatic pains in the extremities were frequently complained of. Impairment of hearing was common, and deafness resulted in three cases. Chronic hydrocephalus occurred in two cases and terminated fatally in the course of two or three months.

The treatment was purely symptomatic. The local application of cold to the head and the neck was attended with little benefit. Moist heat by means of affusions yielded scarcely transitory relief. Leeches often afforded temporary amelioration. Nervines and antipyretics—antipyrin, antefebrin, phenacetin, bromids, chloral hydrate—were wholly without effect. Sodium salicylate in large doses seemed to influence the attack favorably, but it often disappointed. Morphin injected subcutaneously proved superior to every other remedy, the dose being slowly and progressively increased. One patient was treated with this drug for three months without symptoms of intoxication and with eventual recovery.

ETIOLOGY OF MALIGNANT TUMORS.

The recent demonstration before the New York Academy of Medicine (The Journal, Feb. 24, p. 505), of the results of the year's work in the investigation of the etiology of cancer at the New York State Cancer Laboratory in Buffalo, introduces the very latest phase—what may be called an American phase—of this very interesting subject. The results of the studies of the laboratory seem to point to the conclusion that a yeast is the microorganism whose growth in the tissues somehow sets up sufficient irritation to cause the irresponsible overgrowth of cells that we know as a malignant tumor. This yeast is, at least as far as our present knowledge goes, the ordinary saccharomyces, so familiarly known because of its spontaneous development in sugar solutions whenever they are exposed to the air. Its seeds exist in the atmosphere the world over.

It is somewhat of a shock to the ordinary medical mind to be told that simple yeast is the pathogenic agent that is responsible for the most terrible affection to which human beings are liable. It is a matter of greater surprise to think that if yeast is really the cause of cancer that fact should have remained hidden for so long, despite all the investigation that has been devoted to this subject. It is only about seven years since it was first definitely known that yeasts—the blastomycetes of the botanist—could be pathogenic for human beings and animals. Busse discovered that certain tubercular, i. e., nodular, skin affections were due to a blastomyces. The organism, when inoculated into animals, produced tumors locally, and these sometimes gave rise to metastases. Some years afterward Roncali, at Rome, thought that he found a yeast in etiologic connection with internal cancer. He communicated his discovery to Sanfelice, who took up the investigation of the subject seriously. The latter soon believed himself in a position to announce definitely that blastomycetes were the cause of malignant tumors. The opinion seemed too improbable to the medical world and received little attention. Busse, the original medical blastomycetologist, who had reported the occurrence of blastomycetes in connection with sarcoma, became a strenuous opponent of the idea that yeast cells could ever cause a malignant tumor. They did sometimes give rise to tumors in animals, and these tumors sometimes gave metastases, the primary and secondary growths finally causing death, but the neoplasms in these cases were really composed of yeast cells and not of the tissue cells of the animal.

Thus the question remained until some recent observations by Sanfelice connected his work with the results of some cancer investigations in Great Britain. A good while ago Russell announced the almost constant presence, in cancer, of certain bodies which took the ordinary fuchsin stain very well. These so-called fuchsin bodies he considered to be connected causally with the malignant tumors. Fuchsin stains so many other parts of the tissues besides the supposed parasites, however, that Russell's claims were not substantiated by other observers. Plimmer detailed, in the cancer number of the *Practitioner,* the results of his observations on 1200 cases of that affection. In over 90 per cent. of the cases he found appearances that seemed to him to indicate the presence of a parasite. Sanfelice's most recent investigations connect his blastomycetes with appearances in cancer tissue that resemble the bodies described by Russell and Plimmer.

Here is where the latest American work comes in. Using a modification of Sanfelice's technique, they have been able, at Buffalo, to note appearances after the inoculations of animals which very forcibly recall Russell's descriptions, and are evidently kindred to those of Plummer. In one case at Buffalo, after finding these bodies in an intraperitoneal cancer, they have been able, by means of an injection of some of the cancerous material, to produce a true adenocarcinoma of the breast in an animal. Other inoculations have not been so successful, and only atypical tumors have resulted.

The results obtained so far are, even considering their paucity, extremely interesting. Let us hope that the American inventive spirit, so successfully applied to everything it undertakes, is at least about to invade the large and inviting field of medical discovery in cancer etiology. Meantime it must not be forgotten that Busse, who first demonstrated the pathogeneity of yeasts for man scouts the idea of their connection with malignant tumors, and has written extensively to show that the appearances described in the epithelial elements of cancer can not be due to blastomycetes, but are probably degeneration products. Visitors to Rome, who have seen Russell's specimens, have not been as a rule impressed with the claims in that regard, presented by the father of the idea that blastomycetes are the etiologic factor in cancer. We are still far from a definite solution of the great problem of pathology. Professional opinion must await further proof before there can be any enthusiastic reception for the yeast theory of cancer.

MICRO-ORGANISMS IN TUMORS.

The unsolved etiology of tumors is the subject of continued investigation in many different laboratories. In a recent article Podwyssotski[1] refers to the apparent hopelessness of demonstrating satisfactorily the parasitic nature of many cellular inclusions in human and animal tumors. He reports some experimental injections into various animals with pieces of parasitic, tumor-like growths upon cabbage and similar plants. The name of the parasite in question is plasmodiophora brassicæ Woron, and it belongs to the myxomycetes. The resulting growths in the animals experimented on were of mesodermal origin and resembled, in the progressive stage, large round-celled sarcomas; the growths developed especially in the perivascular spaces, and were formed largely by proliferation of the fixed cells. Spores of the parasite just mentioned were found united in smaller or larger plasmodial masses within the new cells; in many cases the cells were so distended that they ruptured and underwent disintegration. Giant cells also formed around free groups of spores. On account of the presence of mitosis in many of the cells containing spores, it is claimed that the parasite induces nuclear proliferation. Intracellular spores appear to deposit small fat globules in the cells, which then assume a characteristic, vacuolated appearance, the fat globules being arranged around vacuoles that represent spores. Podwyssotsi found similar vacuolated and fatbeladen cells in a malignant sarcoma of the abdominal cavity and various organs of a child. Small round bodies were found in the vacuoles. Based on the facts mentioned, he would conclude that large cells in sarcoma and other malignant tumors are phagocytic cells.

Now it is quite clear that the results obtained by Podwyssotski in his experiments have but an exceedingly limited applicability to the question of etiology of true tumors; the growths that he produced in animals were evanescent and presented none of the specific characteristics, clinical or anatomic, of real tumors. It is indeed surprising to find investigator after investigator produce inflammatory growths with various organisms experimentally injected, and then apply the results thus obtained to the explanation of carcinoma and sarcoma. Interesting as experiments of this kind are, they manifestly, for the present, at least, have no further bearing than on the pathogenic action of the organisms used.

Nils Sjöbring, who was one of the early advocates of the coccidian nature of the apparently parasitic cell inclusions in malignant tumors, now gives the results of his more recent studies.[2] Experimental implantation of human carcinoma in dogs gave no conclusive evidence as to its nature. The appearance of large numbers of safranophile, intracellular bodies in the connective-tissue cells of the capsule that formed around the masses seemed interesting. Sjöbring's culture experiments gave better results. He used a medium of peptone-gelatin and ascitic fluid to which was added 1.5 per cent. of a concentrated watery solution of potash soap made with human fat. The tubes were inoculated with small pieces from intact, non-degenerated tumors, and placed at 37 C. for a week or longer. Cultures from thirty tumors of different kinds—carcinoma, sarcoma, ovarian cystoma, goiter, uterine myoma—gave mostly positive results; those from carcinoma of the skin were often sterile. Different morphologic forms appeared, but only one kind of organism from each tumor. The organisms are described as exceedingly variable in form and so delicate as to render fixation by any known method impossible, and examination of hanging drops the only feasible plan. The organisms are thought to belong to the rhizopoda, but no attempt is made to determine species. They occurred in the cultures in three principal forms with numerous transitional appearances: ameboid forms, more typical rhizopodal forms, and involution forms. Subcultures do not seem to have been made. Some cultural forms correspond fairly well with the cell inclusions so often described in the microscopic sections, the involutional forms—or possibly lasting forms—much resembling Russell's fuchsin bodies.

An essential part of Sjöbring's work is the production of apparently genuine tumors by the inoculation of white mice with organisms in culture. The number of experiments—8—is small; of these four were "successful." 1. Subcutaneous injection of a fourteen-days-old culture from a carcinoma of the mamma followed in three months by the development of a typical cylindric-celled carcinoma—no metastasis. 2. The inoculation was followed by the formation of a cyst with an epithelial lining with downgrowths of epithelial cells. 3. Intraperitoneal injection of a culture one month old, from a colloid carcinoma of the ovary was followed by multilocular cystoma in the abdominal cavity of a male mouse; the cysts were lined with cylindric epithelium and originated in the epididymis. 4. A sebaceous adenoma developed at the point of inoculation. In all these experimental tumors were present parasites like those in the human tumors. Sjöbring does not think the tumors in the mice could well be spontaneous, because no other tumors ever developed spontaneously among the animals in the laboratory, because the growths occurred at or near the site of injections and consisted of epithelial proliferations. White mice are the only animals mentioned as susceptible.

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[1] Cbl. f. Bakt., [illegible] xxvii, [illegible]

[2] Cbl. f. Bakt., xxvii, 129.

This work must receive corroboration from various sources before the results obtained by Sjöbring can be regarded as conclusive. The results of the animal experiments are certainly suggestive, though as yet the experiments are too few in number. Carcinoma with metastasis has not yet been produced. It is of interest to note that Sjöbring brings the micro-organisms of tumors back again under animal parasites, this time probably the rhizopoda. Ten years ago the "cancer parasites" were regarded as coccidia. More recently the blastomycetic theory has held sway. An organism, whether animal or vegetable in its nature, that can lay claim to producing a tumor, malignant or otherwise, would receive the greatest consideration, if it could be shown that it actually produces in animals, genuine tumor growth, clinically and anatomically. Sjöbring's organisms seem in a measure to meet this requirement, but his work needs confirmation and elaboration.

GANGRENOUS DERMATITIS IN TYPHOID FEVER.

Especial attention ought to be called to the recent report of Stahl,[1] of a remarkable series of cases of gangrenous dermatitis in typhoid fever. In 144 cases of typhoid fever 10 presented this, the rarest of complications. The dermatitis occurred in varying degrees of severity. Three of the 10 patients died. The trunk was the most frequent seat of the disease, but the face, the arms, and the thighs were also affected, and in the two autopsies held the scrotum was gangrenous. In one case a foot was lost. As regards the cause the facts at hand speak in favor of thrombosis and embolism. In two fatal cases there were infarcts in the kidneys and other internal organs. The grave anemia, the development of the gangrene after the severest period of the fever, the feebleness of the heart, arteriosclerosis in many of the cases—all support the theory of vascular obstruction, possibly on the basis of an infectious or toxic endangitis. The bacteriologic examination showed staphylococci in the unbroken vesicles, and these microbes with numerous others in the ulcer examined. It is of interest to note that all these cases occurred in soldiers from the late war.

SYMPTOMS OF CEREBRAL PRESSURE IN THE COURSE OF TYPHOID FEVER.

Cerebral symptoms constitute rather a common feature of typhoid fever, though they appear to be both less frequent and less severe when the cold-bath treatment is employed. Their occurrence may be attributed to three factors: 1. A purulent meningitis due to typhoid bacilli. 2. The action of toxins; *a*, in the presence of low spinal pressure; *b*, in the presence of intrameningeal exudation. Having observed, in a number of instances, that in the initial stage of typhoid fever the site of entrance of the optic nerve presented an appearance suggestive of increased cerebral spinal pressure, Salomon[1] was led to undertake measurements of this pressure by means of lumbar puncture. The condition was not one of marked papillitis, but the papillæ appeared obscured by a veil or mist, with capillary injection, blurring of the margins, particularly on the temporal aspect, and fulness and tortuosity of the veins. In four patients examined the cerebrospinal pressure was found quite high, and the puncture was followed by relief of the headache, with general improvement. The fluid obtained contained albumin and leucocytes, but it was found sterile on culture. Its coagulability was not increased and it did not cause agglutination and sedimentation of typhoid bacilli.

CONSUMPTION AND COMMON SENSE.

As an illustration of extremism, one may quote the recent utterance of a reverend member of the board of trustees or aldermen of Redlands, Cal. He is reported to have said: "If I were to choose between a town having saloons (and no one will question my being a prohibitionist) and a town where consumptives are as numerous as in Redlands, I would choose the city with saloons in which to bring up my family." People may differ in their opinions as to saloons. There are some who think they are a good thing, and speak and act accordingly, but for a clergyman and a prohibitionist the above statement is certainly extraordinary. It shows how far the panicky dread of consumption has grown in certain sections, favored by the extreme statements of medical men in regard to this disease. In this as in other matters of defense from any evil there is no good resulting from undue fears and overestimation of the enemy. Consumption is a sufficiently formidable disease, but some of the present tendencies of medical ideas in regard to it have apparently given rise to an epidemic of popular hysteria on the subject. And as fear lessens resistance, we can safely reckon on a certain amount of aggravation of the condition from this cause. Just as much good can certainly be done by other methods than scaring the susceptible to death. A little common sense, which is often badly needed, would not interfere disastrously with the success of our strife with tuberculosis.

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[1] Am. Jour. of Med. Sci., March, 1900.

[1] Berliner klin. Woch., February [illegible], p. 11.

LEGISLATION IN OHIO.

According to the newspapers, the Love bill to regulate the practice of medicine in Ohio has been amended so as to exclude newspaper advertising as a ground for annulling a license, and to permit counter-prescribing by druggists. Thus, two influential elements of opposition, the newspapers and the druggists, have been silenced, and it is thought probable that the bill may pass. In fact, some of the newspapers that were before unfavorable are now advocating its passage. So far as learned, the osteopaths and faith curers have not succeeded in their efforts, and it is not more emasculated than perhaps might be expected. On the principle that half or three-quarters of a loaf is better than no bread, we can still congratulate our Ohio brethren. We trust that the beneficial workings of the law, as it is to be, will be so evident to the Ohio public that at some future time, not too far ahead, it will see the utility and need, to use a colloquialism that seems especially adapted to the case, of taking in a little more of the slack.

GOITER OF SYPHILITIC ORIGIN.

Enlargement of the thyroid gland may often be observed in the early stages of syphilis, and it appears not to be directly influenced by antisyphilitic treatment, gradually and slowly receding like enlargement of the lymphatic glands. Suppuration, diffuse interstitial inflammation, gummata and hemorrhage may occur in the thyroid gland as manifestations of hereditary syphilis. Cases are on record in which myxedema has appeared to be of syphilitic origin. Further, circumscribed nodular infiltration and gummata have been found in the thyroid gland in cases of syphilis. A case of unusual character in this connection has been reported by Wermann.[1] A man, 24 years old, with a history of syphilis, for which he had at different times received treatment with mercurials and iodids, developed, six years after the primary infection, progressively increasing enlargement of the thyroid gland, while still taking potassium iodid. There were no nodules and no dense infiltration, and the condition appeared to be one of simple hyperplasia. Improvement soon ensued on the use of mercurial inunctions followed by the internal administration of mercurous iodid. An intermission in the treatment was followed by recurrence of the symptoms. The complication is considered a manifestation of secondary syphilis, on account of the acute course, the softness and the uniformity of the swelling, the prompt action of mercury and the inutility of potassium iodid.

PROPOSED LEPER LAW.

A draft of an act for a national leper law has been submitted for approval to the various state boards of health. It provides first for a commissioner on leprosy, who shall be a leprosy specialist, a regularly educated physician of at least ten years' experience in the practice of medicine and with a particular experience in a leper community. He is to be appointed by the President, and the salary is to be $5000. He must annually meet the president of each state board of health, their traveling expenses to be paid out of the treasury. It also provides for the establishment of a national leper home in the Yellowstone Park, or some other interior portion of the public domain, to be under control of the United States Marine-Hospital Service, where lepers can be cared for at Government expense. It regulates the life of lepers outside under state or private care, and adds to the existing regulations as to the immigration of foreign lepers, etc. It is a question whether leprosy, which numbers among its victims only a few hundred at most in this country, is a sufficiently threatening danger to warrant or call for the elaborate and expensive provisions of this bill. Our immigration laws, if properly amended and enforced, ought to protect us from an influx from the outside, and the one—possibly more—local focus of the disease is a proper subject for local regulation. Leprosy does not seem to flourish here. New cases that originate among us certainly are rare, and those we have with the disease have been almost exclusively from without in the greater portion of the Union. We may need some additional legislation to meet the conditions arising from our new tropical possessions, but that can be easily managed. These are opinions based only on the facts as known to us to exist; if matters are much worse than here assumed some such measure as the proposed one may be advisable. With present knowledge this seems hardly demonstrated. It may be said that prevention is better than cure, and that the threatening, though not yet existent, evil calls for this legislation. If that is certain then the proposed law is needed, but have we as yet the facts to support this contention? If not, it would be better to secure them beyond a possibility of doubt, especially when we have existing machinery that can do something in our defense.

SURGICAL TREATMENT OF SARCOMA OF THE KIDNEY IN CHILDREN.

Although not common, sarcoma of the kidney is by no means rare in early life, and in the not remote past the condition has been looked upon as hopelessly fatal. With the development of modern operative methods, however, not only has surgery become bolder, but its results are also more promising of success. In this healthful impulse, given to a progressive art, the surgery of the kidney has shared, and there are now on record a small number of cases in which successful operations have been performed for the relief of sarcoma of the kidney. The mortality of the operation is necessarily high, probably 38 to 40 per cent., and, although the number of recoveries is not large, still it would seem that when the growth has not formed too extensive adhesions or invaded adjacent organs or is unattended with metastasis, the alternative of operation should, at least, be offered, with the possibility of radical cure. To the slowly growing list of cases of this kind another is added by Morton,[2] in which, unfortunately, death resulted five months after a successful operation, from a cause wholly unconnected therewith or with the previous malignant disease. The patient was a child, 18 months old, presenting a large movable tumor on the left side of the abdomen, with the presence of blood in the urine. On opening the abdominal cavity the new growth was found to consist of a number of lobules, principally soft and elastic, but one of which was as hard as cartilage. The mass was shelled out of its connective-tissue capsule, its several attachments were ligated and it was removed. An opening was made in the loin for drainage. On histologic examination, the growth was found to be a sarcoma, with round and spindle cells, mixed here and there with well-formed glandular tissue. The further course of the case was uncomplicated, and the patient was dismissed, cured, after rather more than a month. Several months later, however, symptoms of tuberculosis made their appearance, and after the lapse of some months more, death occurred. On post-mortem examination the lungs were found full of minute tubercles, and the mesenteric glands were enlarged and caseous, but there was no local recurrence of the new growth.

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[1] Berlin Klin. Woch., 1900, No. 6, p. 122.

[2] British Medical Journal, February 3, p. 249.

IMMUNIZING VALUE OF DIPHTHERIA ANTITOXIN.

The antitoxin of diphtheria has now been on trial for nearly six years, and the early claims for its efficacy have not proved at all extravagant. According to the general consensus of opinion, based on cold logical statistics on an enormous scale, the mortality of the disease has been halved, reduced in fact from 40 to 20 per cent., and lower. Severe cases have been transformed into mild ones, operation has been avoided in many cases in which it would otherwise probably have been necessary, and cases in which operation has been performed have pursued a more favorable course than heretofore. The antitoxin has been shown to possess also distinct immunizing value, as has been demonstrated in the suppression of numerous epidemics. This prophylactic employment of the antitoxin has not yet received the general application that its utility makes it deserving of, and an earnest plea for the more extended use of the antitoxin for immunizing purposes is made by J. S. Billings, Jr.,[1] who points out that since the introduction of the antitoxin treatment of diphtheria in New York in 1896 there has been a steady reduction in both the number of cases of and the number of deaths from diphtheria each year to Jan. 1, 1899. During the latter year, however, both the number of cases and the number of deaths have increased. The records of the New York Department of Health show further that the antitoxin was used in a larger number of cases in 1899 than in 1898 and with as good or even better results. On the other hand, there has been a reduction in the number of cases in which immunizing injections of the antitoxin were made. H. M. Biggs, director of the bacteriologic laboratories of the New York Department of Health, has reported that of 3100 individuals immunized with antitoxin, but nine contracted diphtheria and these in a mild form. In the latter a minimum dose of antitoxin—150 units—was employed, and it is thought probable if a larger amount—from 300 to 500 units—had been used the immunization would have been perfect. There were reported during 1899, in the boroughs of Manhattan and the Bronx, 682 secondary cases of diphtheria in which the disease was contracted after twenty-four hours from an original case in the same family. It is computed that if the antitoxin had been employed to immunize these cases the total number of cases of diphtheria for 1899 would have been 7558 instead of 8240, and thus actually a smaller number than in 1898; and the number of deaths would likewise have been reduced from 1087 to 1026. Further, many secondary cases developed a week or more after the primary ones, so that if immunization were practiced with the desired thoroughness many additional cases and deaths would have been prevented.

FREQUENCY OF URETHRAL FILAMENTS IN URINE OF MEN.

The presence of filaments or threads in the urine has long been looked on as indicative of the existence of chronic gonorrhea in men, although it is a matter of dispute whether they are related to the intensity of the morbid process. By some, it is believed that so long as these structures are present, recrudescence is possible, and treatment should accordingly be directed toward their disappearance; while others consider them only as the evidence of a residual urethritis, so long as gonococci can not be demonstrated. Assuming that purulent flocculi persist for a varying time after an attack of gonorrhea, Brauser[1] made careful examinations of the urine in 300 patients admitted to a purely medical service, with the object of determining the frequency with which gonorrhea in men occurred in the community. The patients were between 60 and 70 years of age, and none was included in whom the possibility of a genito-urinary discharge due to other causes was present. In nine cases a discharge was found, and in fifteen more the first urine was turbid and purulent flocculi were present. A drop of secretion was present at the urethral meatus in about twenty-seven cases. Of the entire 300 cases, no flocculi whatever were found in 54—18 per cent.; only epithelial cells and shreds of mucus in 44—15 per cent.; filaments of mucus, epithelial cells and isolated pus-corpuscles in 39—13 per cent; and purulent filaments in 163—54 per cent. It thus appears that more than one-half of those examined presented positive evidence of existing inflammation of the lower segment of the genito-urinary apparatus, probably the residuum of a previous acute inflammatory process. The proportion at certain periods of life was found greater than for the whole number. Thus, between the ages of 26 and 30, it was 75 per cent.; between 36 and 40, 70 per cent.; and between 31 and 35, 60 per cent. These are the years during which gonorrhea is most common. Of the 300 cases a history of previous gonorrhea at varying intervals was obtained in but 36; but it is notorious that little reliance can be placed on statements in this connection. In spite of the greatest care, gonococci, however, were found positively in only ten cases, while in four others the conditions were merely suspicious.

EXPERIMENTS ON HUMAN BEINGS.

Senator Gallinger, the ostensible sponsor of the anti-vivisection bill, already noticed in The Journal, has introduced another bill in the Senate which is in some respects remarkable. It is entitled "A Bill for the Regulation of Scientific Experiments upon Human Beings in the District of Columbia," and prohibits, under heavy penalty, any experiment on a human being involving pain, distress, or risk to life and health, whether by administration of poisonous drugs for the purpose of ascertaining their toxicity, by inoculating the germs of disease, by grafting cancerous tumor into healthy tissues, or the performance of any surgical operation for any other object than the amelioration of the patient, except subject to the restriction and regulations hereinafter described." These restrictions and regulations are similar to those proposed for scientific vivisection, except that the intended victim must be of sound and consenting mind and give his written permission, duly sworn to and attested, and then if the commissioners are satisfied as to these facts and as to the purpose of the experiments, and that the risk does not involve danger to life, they may grant the permission, provided reports are duly made to them of the results. This law, so far as one knows, is a gratuity to physiologic experimenters, none of them having asked for this legalizing of human experimentation, and one finds it difficult to recall a parallel to it in legislation, all the more as its concluding section reads "that nothing in the act contained shall be construed to prohibit or interfere with any experiments whatever made by medical students, physicians, surgeons, physiologists, or pathologists *upon one another*." (Italics ours.) If it had not gone through the regular process of reading and reference in the usual way in that sedate and dignified body, the United States Senate, it would pass for an attempt at a first-class joke by the antivivisectionists. Senator Gallinger, however, is not the consciously humorous member of the Senate, and it would appear possible that it might have been introduced by him in good faith. But we can not altogether resist the suggestion that some humorist has been making a cat's paw of him. It is just possible that he may have offered it to hedge on the chances of the other, the zoophile Gallinger bill—a sort of tub to the whale of medical opinion. If that is the way his intellect works, he ought to be speedily enlightened.

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[1] N. Y. Med. Jour., Feb. 17, 1900: The Journal, March 3, ¶ 7, p. 550.

[1] Deutsches Archiv f. klin. Med., Bd. [illegible], p. [illegible]

Medical News.

Dr. Wm. N. Beggs succeeds the late Dr. Axtell as editor and publisher of the *Colorado Medical Journal*, Denver.

The daily school inspection has been so successful in its results in Milwaukee, Wis., that it is said the common council will pass an ordinance making provision for it as a permanent city institution.

Through the efforts of the Roanoke Hospital Association, backed by the Norfolk and Western Railroad Company, Roanoke, Va., is to have a hospital. The building, near Crystal Springs, is to be completed in ninety days.

Three public school teachers in Fort Dodge, Iowa, recently submitted to the compulsory vaccination ordered by the school board and immediately thereafter went home and washed off the virus. In one case, however, the vaccination was a success.

Dr. E. Bretschneider, of St. Petersburg, has been awarded the gold medal of the Russian Geographical Society, for his works on China, especially his "History of European Botanical Discoveries in China." He was medical attendant of the Russian embassy at Pekin for seventeen years.

The authorities, according to *Presse Med.* of February 21, have ordered large and repeated doses of antitetanus serum to be administered in every case of declared tetanus that occurs in the French army. The order states that experience has demonstrated that the injections have a favorable effect in many cases.

In Oshkosh, Wis., examination of a number of milk tickets which have been in circulation for considerable time has revealed germs of diphtheria, etc. An order has been given that after March 15 only punch tickets shall be used, the purchaser buying them and having the quantity of milk taken punched out with each delivery.

The committee entrusted with the task of compiling a Codex Medicamentarius for the Argentine Republic has completed its work. The *Archives de la Policlinica* states that it is remarkable for the completeness of its descriptions, particularly in regard to the microscopic structure of the vegetable substances used in medicine and pharmacy.

The secretary of the Territorial Board of Health of Oklahoma has sent out a bulletin giving the facts and diagnostic points of chicken-pox and smallpox, as a guide to the local health officers and the public in aiding to suppress the existing epidemic of mild smallpox. It emphasizes the necessity of the observance of the most stringent precautions in every case of eruptive disease, and in particular those that have any resemblance to chicken-pox or smallpox.

The French Government has created a new title, which confers the title of "Doctor of Pharmacy" on druggists who have passed a certain examination. The *Jour. de Med. de Paris* deplores the confusion that will necessarily result: "The public is always ready to believe that druggists are more than half physicians, and will be still more inclined to apply to them for prescriptions when the sign bears the title of Dr.—much to the detriment of the medical profession."

In a recent address in the German Chamber of Deputies, Bosse commented on the high mortality among younger members of the university faculties in Germany, which—under 30 years of age—is three times the normal death-rate. He attributes it to the privations that many have undergone in obtaining their education, sapping their strength, and the strain of teaching twenty-two to twenty-four hours a week, with the efforts necessary to maintain the prestige of wisdom and experience expected of university instructors. After 30 the mortality rate is lower than the average.

A report states that in the Prussian Diet, March 6, Baron v. Pappenheim referred to the claim that Professor Neisser of Breslau had inoculated persons with a certain loathsome disorder in order to establish immunity, previously noted in The Journal, and arraigned the medical profession generally for experimenting on human beings. Representatives of all the other parties indorsed the views of the speaker. Professor Virchow, however, came to the rescue, and stated that Professor Neisser only went too far in not obtaining the patient's consent, and further stated that without experimentation on living animals serum therapeutics would be impossible. The case against Professor Neisser was barred by the statute of limitation.

Medicines as Beverages.—The United States Commissioner of Internal Revenue has decided that the special tax of a rectifier and liquor dealer is not required to be paid for the manufacture and sale of blackberry cordial, composed of blackberry juice and water with the addition of cloves, cinnamon, sugar and a sufficient quantity of alcohol to prevent fermentation, if this cordial is sold only under a label holding it as a remedy for diseases, and is sold in good faith for medicinal use only. This will apply to similar beverages, all of which hold a high reputation throughout the country for the cure of snake bites.

THE TRANSVAAL WAR.—According to the *British Medical Journal* of March 3, the number of officers and men killed in action, in the Transvaal War, up to February 24, was 1652, with 294 additional deaths from wounds—a total of 1946. To the same date deaths from disease there numbered 723, the latest reports showing a tendency to increase of this factor. A meeting of medical men was held in Birmingham recently to co-operate with the Central Committee in London in providing comforts for non-commissioned officers and men of the Royal Army Medical Corps, serving in South Africa. The *Journal's* fund for that purpose—half-crown contributions from physicians—amounted to over £101 on the 28th ult. A correspondent, writing of British and Boer ambulances, says the former "appear designed to combine the greatest clumsiness and the least comfort with the minimum of accommodation," requiring ten mules to draw them, while they carry two men lying and several sitting, but "jolt like a quarryman's dray." The Boer ambulances are light, strong, accommodate eight men lying down, are mounted on springs, and scarcely jolt at all. Treves, writing of the battle of Spion Kop, considers the wounds there much more severe than at Colenso, the larger number being from shell and shrapnel.

PLAGUE FINDINGS IN SAN FRANCISCO.—A suspicious case has been reported from the Chinese quarter in San Francisco, Cal., which looks as if it were possible that the much dreaded bubonic plague has actually entered our portals. Dr. F. P. Wilson, assistant city physician, who was required to sign a death certificate of a Chinaman who had died, found circumstances so suspicious that he immediately notified the health department, and a most rigorous police quarantine of that district was established. It was absolutely impossible to obtain any history of the man's illness, further than that he had been sick about one month and had had a diarrhea for one week, which was followed by constipation the last week of his illness. A bubo was found—non-suppurating—with considerable surrounding inflammation situated under Poupart's ligament on the right side. Lower down near the saphenous opening was another enlargement. There was no other glandular involvement and no petechiæ. The inguinal gland was excised and examined by the city bacteriologist, Dr. W. H. Kellogg. A smear preparation showed bacilli which looked "suspiciously like the bacillus pestis." Cultures were made and two guinea-pigs, one rat and one monkey inoculated. According to telegraphic advices from our correspondent, March 14, the guinea-pigs and rat died Sunday morning, the end of the fourth day after inoculation; the monkey Monday night. Autopsy on the guinea-pigs showed acute infectious disease, inflammation in the subcutaneous tissue, the spleen much enlarged, mottled, and an excess of fluid in the pericardium. The juice of the spleen showed some bacilli, which were also found in the lymphatic nodule from the Chinaman and in the blood from the heart. The post-mortem on the rat showed serious exudation in the subcutaneous tissue, enlargement, congestion and no mottling of the spleen, and excessive fluid in the pericardium, hemorrhage in the lymphatic nodules of the groin. The splenic juice contained bacilli, arranged in clusters, as frequently found with plague bacilli. Both animals showed intense inflammatory reaction at the point of inoculation. From gross appearances, the cultures from the Chinaman were reasonable plague cultures, the shape of the cocco-bacillus. They showed affinity to the thionin stain, and decolorized by the Gram method. The appearance of the cultures, toxicity and post-mortem appearance produced by that toxicity all indicate plague. No symptom nor appearance pointed in any other direction. The bacilli of septicemia in rabbits—hog cholera—while morphologically the same, do not affect rats. The experiments were conducted at the Federal quarantine station by Drs. Kinyoun, Federal quarantine officer, Montgomery, a prominent pathologist, and Kellogg, city bacteriologist. They concur in the opinion that the germ is that of the plague. A rigid examination of Chinatown is going on, and no new case has been discovered, while the quarantine imposed on that section of the city at the first report of the case has been raised.

The plague is now semi-officially recognized at Buenos Ayres. Twenty-three fatal cases have occurred, but on account of the extremely mild type of the disease, no apprehension of its becoming epidemic is felt.

PENNSYLVANIA.

THE GRAND JURY which recently made an investigation of the almshouse at Norristown condemned the present management of that institution.

THE TRAFFIC in oleomargarin in this state has excited officers of the Government to keep a sharp lookout for all persons guilty of supplying this article as dairy butter. United States District Attorney James M. Beck has given warning to all persons that within the past half year he has brought no less than twenty-six prosecutions for this offense.

Philadelphia.

THE SELECT branch of City Council recently appropriated $35,000 for purchasing the lot adjoining the Municipal Hospital.

ON MARCH 8, Dr. H. A. Hare gave the first of the lectures for the benefit of the Cuban Orphan Society, his subject being the "Care and Nursing of Fever."

DR. MATTHEW WOODS recently gave an address before the Barton Cooke Hirst Obstetrical Society, on "Some of the Apparent Benefits of Invalidism."

THE PHILADELPHIA Medical Club recently entertained Dr. Charles G. Stockton, professor of medicine and clinical medicine at the University Medical School of Buffalo.

PROF. JOHN ASHHURST who has for the past ten years held the John Rhea Barton professorship of surgery and clinical surgery in the University of Pennsylvania, has tendered his resignation to take effect at the end of the academic year.

A TEXT-BOOK committee of the Board of Education may secure revision of the school books on physiology and anatomy. The movement seems to have originated from the experiments of Prof. W. O. Atwater.

A PLAN is being effected which will doubtless culminate in the amalgamation of the Mount Sinai and Beth Israel Hospital associations. The result would be that but one Jewish hospital would be built in the southern portion of the city instead of two as contemplated.

THE ANNOUNCEMENT has been made of the gift to the University of Pennsylvania, of $5000 from Mr. Thomas S. Harrison to found a scholarship in the College Department [illegible], to be known as the [illegible] Harrison scholarship.

THERE is a rumor abroad of the establishment of the Rush Hospital for Consumptives in a new location, said to be at Lehigh Avenue and Thirteenth Street. Representatives from several [illegible] have passed a resolution against the use of the [illegible] owing to danger from contagion.

Two ballot boxes used by the faculty in voting for the candidates for the degree of "Doctor of Medicine," when that method was in vogue at this institution previous to 1830, have been acquired by the medical department of the University of Pennsylvania. In those days the professors knew all the students by name and it was the custom to vote for the candidate in order that he might present himself for examination for the degree.

MÜTTER LECTURESHIP.

The next course of ten lectures instituted by the late Prof. Thomas Dent Mütter, M.D., LL.D., on some "Point or Points in Surgical Pathology," will be delivered in the winter of 1902-1903 before the College of Physicians of Philadelphia. The compensation is $600. The appointment is open to the profession at large. Applications, stating, in full, subjects of proposed lectures, must be made before Oct. 1, 1900, to the Committee on the Mütter Museum. John H. Brinton, M.D., Chairman, Thirteenth and Locust Streets, Philadelphia.

TRAINED NURSES.

A meeting of trained nurses was held here March 10, to take action on the bill now pending in Congress, providing for "employment of woman nurses in military hospitals of the army," and previously mentioned in The Journal. The meeting was presided over by Dr. S. Weir Mitchell, and an address was delivered by Dr. W. W. Keen. Another movement has been formulated by a similar gathering looking toward the pensioning of nurses, disabled by age or disease. A fund of $1000 was given for this purpose some five years ago, but the matter has not been pressed to any extent. It is now claimed that the average period of a nurse's activity is ten years; and further, most nurses are seldom employed more than six months of the year.

OHIO.

IN THE LEGISLATURE.

A bill has been introduced in the Ohio Senate making it a misdemeanor punishable by fine to expectorate in any public place, provided a copy of the proposed act is posted. It is also said that the osteopaths are moving to introduce legislation for their benefit. If they can not get in under the Love bill by amendment, it is probable that they may attempt to have special legislation made in their favor. Dr. J. C. Culbertson, editor of the *Cincinnati Lancet Clinic*, is the author of the new "ripper" bill just presented before the Ohio legislature by Dr. T. W. Hendley. The bill provides for the consolidation of the school system of Hamilton County from the kindergarten to the University. If passed it will abolish the Board of Education, the Union Board of High Schools, and the University Board, their places to be filled by a commission of five, each receiving a compensation of $4000 yearly.

Cincinnati.

Dr. Edward Thompson, Ohio Medical College, 1899, has been appointed resident physician to Dr. Holmes' Hospital.

At the annual examination for internes to the City Hospital, March 5, there were about twenty-five applicants for the eight positions.

At the regular meeting of the Board of Trustees of the Cincinnati Hospital, March 5, Dr. D. T. Vail was elected ophthalmologist to succeed Dr. George Goode, resigned.

The superior court, March 6, selected Dr. C. R. Holmes a member of the Board of Trustees of the Cincinnati Hospital, in place of Dr. John A. Murphy, deceased.

Dr. Kress, interne of the Good Samaritan Hospital, has accepted the position of assistant-surgeon to the Dayton (Ohio) Soldiers' Home.

Recent changes in Christ's Hospital staff are: Drs. H. J. Whitacre and Wade McMillan, surgeons, in place of Dr. D. D. Bramble, resigned; Dr. Otto P. Geier, microscopist, in place of Dr. Whitacre, promoted; Dr. Frank Kugler, pathologist, in place of Dr. McMillan, promoted.

At the meeting of the medical staff of the Cincinnati Hospital, March 10, eight of the twenty-three applicants for interneship were chosen, six from the Ohio and two from the [illegible]

A leakage in the gas pipes was the cause of a serious explosion at the Good Samaritan Hospital Annex, March 10. While many of the beds were badly shattered, and the patients severely shaken up, no one received any injuries. The damage will reach $2000.

No death from a contagious disease occurred here "last week"—an unparalleled record—according to the *Cincinnati Enquirer* of March 12. Those from consumption numbered 16, and 8 new cases were reported, also 39 new cases of contagious affections.

Toledo.

PHYSICIANS' PRIVILEGES.

An ordinance has been drawn up by the Toledo Medical Association, providing that physicians, ambulances, etc., shall have the right of way on the street. The physicians shall have a permit from the city clerk and wear a badge furnished by him that will give their vehicles preference in answering calls for their professional services. There is also provision allowing them to use the sidewalks for bicycles when the roadway is not paved or in fit condition to ride over with a wheel.

NEW YORK.

New York City.

Dr. Charles McBurney, who for over a dozen years has been the chief surgeon of the Roosevelt Hospital, has presented his resignation. The reason given is too great pressure of other work.

Now that the bubonic plague has broken out in Yucatan, the health authorities have thought best to consider the means of preventing the importation of the disease into New York by the Mexican steamships. Health Officer Doty says that, from a personal inspection of the chief Mexican ports made a few months ago, he is confident that rigorous measures are taken there, and that the best methods and apparatus are used.

There was a representative gathering, the other evening, in the library of the Charity Organization Society, to discuss the matter of the state care of those afflicted with pulmonary tuberculosis. Representatives were present from most of the hospitals on Manhattan Island, as well as from others in the vicinity. A resolution, indorsing the bill now before the legislature, and urging its immediate passage, was adopted.

DEATH UNDER "CHRISTIAN SCIENCE."

This week brings a story of another needless death, the result of misplaced confidence in the powers of "Christian Science." The full details have not yet been made public, but, so far as known, they indicate that a woman, suffering from an internal tumor, was deluded into the belief that there was nothing the matter with her, and kept in torture for a year. It is asserted that had she promptly sought competent advice and treatment she would have been speedily relieved and life prolonged, and that she might even have been cured. Instead, she was forced to laugh at her own sufferings, which were cruelly spoken of as "imaginary," and her husband and friends kept in ignorance of the seriousness of her condition. A physician was not called in until two days before her death.

PREVALENCE OF INFLUENZA.

According to the statements of practicing physicians, and from an examination of the records in the bureau of vital statistics, it is evident that, during the past week or two there has been a decided increase in the number of cases of epidemic influenza. While the cases during the past few weeks have been few, as compared with the same time last year, it is evident that they are now becoming more numerous. Ever since the first of the year, pneumonia has been vastly more prevalent than for the same period last year, which is a little surprising when one recalls that in 1899 this was just in the midst of our visitation from la grippe. According to the records of the health department the fatal cases of pneumonia in the last three weeks of February were, in 1899, 151, 157 and 151, respectively, and for 1900, 203, 256 and 261. For the same period, the deaths from la grippe were 14, 16 and 11, respectively, in 1899; and in 1900, 11, 29 and 29. The death-rate for the last week was 26.76, as compared with 20.26 for the corresponding week in 1899.

ILLINOIS.

Dr. Lucius F. Foote, of the Elgin insane asylum, is confined to his bed as the result of a beating received from an attendant whom he had reprimanded.

Chicago.

Contributions for the hospital for consumptives now aggregate $16,376.

The first annual report of the German St. Anthony de Padua Hospital shows that, during the year, 820 patients were treated, 200 free.

Senior students of Rush Medical College are to visit Detroit, Mich., the guests of Parke, Davis & Co., March 22.

A writ of mandamus has been asked for to compel the Chicago Board of Education to admit, into school, a child excluded under the rule that those absent four days or more should submit to medical examination before readmittance.

An addition to the Alexian Brothers' Hospital, to contain 100 rooms, and the purchase of two adjoining blocks of land, are now under contemplation by the hospital authorities.

A free medical dispensary, under the auspices of the Englewood Bureau of Associated Charities, has been opened at 611 Sixty-third Street. The medical staff is composed of Frank Billings, Weller Van Hook, W. E. Schroeder, Frank X. Walls, Frederick R. Green, Harry Kahn and H. T. Tillotson.

DOWIE ABOVE THE LAW.

A girl of 13 died last week, of diphtheria, in the Dowie institution here. The body was moved to an undertaker's establishment, which was contrary to law, the death being the result of a contagious disease. According to the newspapers, the undertaker was excusable for thus accommodating the institution, because "Dowie is a good customer of his, and he can not afford to lose him."

MARYLAND.

Dr. Harry D. Fahrney has been appointed physician to Montevue Hospital for the Insane, at Frederick, Md.

The lunacy bill, as reported by the Judiciary Committee of the House, has undergone a complete change from its original form, as advocated by the Lunacy Commission. It will come up this week as a special order.

REPORT OF HEALTH BOARD.

The report of the State Board of Health for 1899 deals with vital statistics, local boards of health, infectious diseases, inspection of meats, typhoid fever, etc. While the statistics are acknowledged to be incomplete, they show the relations of the various diseases to each other, to seasonal influences, to age periods and to locality. The best registration area is in Cecil County. Cambridge has no burial ordinance. There are now 42 local boards of health in the state, 23 county and 19 town boards. Two new ones have been organized during the year. The laws of Maryland provide adequate penalties for the sale of diseased meat, but no means for enforcing these. There is but one inspector, and all that he is able to accomplish is to exert a moral influence by his occasional presence at the stockyards and abattoirs. Live cattle and slaughtered meats both require inspection, since by no means all diseased cattle are recognizable as such in life. For the year ended June 30, 1899, the secretary estimates the deaths from typhoid fever at from 904 to 1004—with probabilities in favor of the higher figure. Nine hundred and four deaths suggest the sickness of not less than 10,000 persons.

Baltimore.

Dr. George L. Wilkins has been appointed physician to the city jail at $1500 per annum.

Dr. W. G. Coppage has been appointed assistant resident physician to the Hebrew Hospital.

Dr. Sydney O. Heiskell, who formerly held the position for fifteen years, has been appointed assistant health commissioner and quarantine physician to this port, in succession to Dr. John Ruhräh.

Dr. John M. Lowery, resident physician at the Hebrew Hospital has resigned and accepted an appointment as assistant-surgeon in the United States Army in the Philippines. Dr. A. L. Rettalliata, the assistant, has been promoted to the vacancy.

Three medical colleges—the University of Maryland, College of Physicians and Surgeons and Baltimore Medical College—have asked the legislature for an annual appropriation of $50,000, to be equally divided between them, they in return to furnish ten four-year free scholarships each.

"Dr." Leonard E. Beach has entered suit in the Superior Court against the Mayor and City Council, claiming $10,000 damages for the refusal of the Health Department to grant a permit for the burial of a dead child upon his certificate of death, "alleging that he was not a registered physician and had no right to issue a certificate, . . ."

DISTRICT OF COLUMBIA.

The commissioners have appointed Dr. M. J. McIntee interne at the Washington Asylum Hospital.

The annual report of the Episcopal Eye and Ear Hospital for the year ended January 1 gives the total number of patients treated as 1564, visits 6596, operations 243, house patients 158.

COMMISSIONERS' REPORT ON ANTIVIVISECTION BILL.

The attorney for the District, to whom the commissioners referred Senate Bill No. 34, known as the antivivisection bill, for a report on its phraseology, has advised them that it appears to be in good form with certain exceptions. If the proposed measure become a law, it will provide severe penalties, and the experimenter should be definitely advised of the conditions under which he may lawfully make experiments. He says Section 2, Paragraph b, of the bill, provides that the experiment must be performed by a person holding such license from the commissioners of the District of Columbia, as in this act mentioned, or by a duly authorized officer of the Government of the United States, or of the District of Columbia. The concluding portion of this paragraph, the attorney says, is rather obscure, and it should, he thinks, either be eliminated or more clearly expressed. Paragraphs c and d, in the same section, are in the attorney's opinion fairly subject to the recent criticism of the district health officer. Paragraph c provides that after an inoculation experiment, the animal need not be killed, and Paragraph d provides that if pain is likely to continue after the experiment, the animal must be killed.

LOUISIANA.

DAMAGES FOR QUARANTINE DETENTION.

The owners of the French steamer *Carolina*, have sued the Louisiana State Board of Health for $3000 damages alleged to have been suffered through unusual detention in quarantine on account of her having stopped at Rio Janeiro. The plaintiffs aver that at that time there had been only one case of bubonic plague in the port, and that this had been decided by the U. S. Treasury Department not to constitute Rio "plague-infected."

SMALLPOX.

The City Board of Health of New Orleans is still fighting smallpox, with its limited funds. There have been about 500 cases with a mortality of 25 per cent. The mandamus suit against the city council for an increase of the appropriation for 1900, adversely decided by the civil district court, has been appealed to the supreme court. The report that the New Orleans Polyclinic has been suspended on account of the smallpox is denied.

CANADA.

The faculty of medicine of McGill University announces post-graduate courses from May 1, 1900, until June 9.

The first death from smallpox in the Province of Quebec is reported—Dr. Cote of St. Pascal, Kamouraska County. There are now only fifteen cases in that province.

There are twenty-six cases of smallpox in Ontario, distributed as follows: 15 in Toronto Junction, 3 in Toronto, 3 in Essex County, 3 in Amherstburg and [illegible]

At a recent meeting of the citizens of Victoria, B. C., held March 2, a branch of the British Red Cross Society was organized, many prominent citizens enrolling their names as members.

Dr. H. E. M. Douglas, a graduate of Queen's University, Kingston, Ont., and surgeon to the Black Watch, having been invalided home on account of injuries received before Magersfontein has been officially recommended for the Victoria Cross on account of conspicuous bravery on the field of battle.

By the will of the late Walter Drake of Montreal the chair of pharmacology in McGill University receives $15,000, the Montreal Western Hospital $10,000, the Montreal General Hospital $5000 and the chair of physiology, McGill University, bearing his mother's name, [illegible].

Dr. T. F. Chamberlain, provincial inspector of hospitals, etc., Ontario, visited Ottawa officially on the 7th inst. Ottawa is agitating for a new isolation hospital and the inspector recommended Porter's Island in the Ottawa River as an admirable location for its erection.

THE MEMBERS of the medical board of the Victoria (B. C.) societies met on March 2. Steps will be immediately taken to acquaint all the medical societies throughout British Columbia with the recent combination of the Victoria members. A request was issued to them, asking that the proposed amendments to the medical act of the province be made a question to all seeking election to the legislature.

THE REPORT of Dr. J. F. Macauley, superintendent of the St. John (N. B.) General Hospital, for the past year, shows that there were 1004 patients admitted: 460 medical, 467 surgical, and 77 eye and ear. There were 650 discharged cured and 102 improved; 63 died; the patients remaining in the institution at the end of the year numbered 71. The cost of maintenance amounted to $21,755.89.

ON ACCOUNT of the change in the local government of the province of Manitoba, the Provincial Board of Health has been reorganized, with Dr. Paterson superseded by Dr. Holmes Simpson as chairman. The other members will be Dr. McFadden of Neepawa; Dr. Tomlin of Deloraine; and Dr. Macdonald of Brandon. Dr. Torrance of Winnipeg will take the place of Dr. Bell as provincial bacteriologist. It is unlikely that there will be any change in the secretaryship.

THE CASE OF OSTEOPATHY IN ONTARIO.

The "science" of "osteopathy" in this province in all probability received its death-blow this week, in the divisional (high) court at Osgoode Hall, Toronto, when the case of "Dr." Cluett, who was convicted at Ottawa last fall for violation of the medical act of the province, was finally dismissed on the "doctor's" appeal. The counsel for the appellant was not prepared to proceed with his argument when the case was called, as his principals in Ottawa had not sent him the proper documents, and he had not looked up the law on the argument. Their Lordships seemed to treat the whole matter in a trivial light, and declared that no authorities were necessary and confirmed the previous conviction, mentioned in THE JOURNAL at the time.

TRINITY MEDICAL ALUMNI ASSOCIATION.

The executive committee of this Association has decided not to hold the regular annual meeting this year, so far as the reading of medical and other papers is concerned, on account of the proximity of the meeting of the Ontario Medical Association, but the reunion will partake solely of a social function in the form of the annual banquet on the evening of the conferring of medical degrees at Trinity University, May 18, 1900. This Association offers, annually, a gold medal for the best thesis on any subject pertaining to modern medical science. Only graduates and members of the graduating class in medicine of Trinity Medical College who are members of the Association in good standing can compete. Theses must be sent to the general secretary, Dr. George Elliott, 129 John St., Toronto, on or before May 1, 1900, signed only by pseudonym, the name of the writer to accompany his thesis in separate cover.

STATE CONTROL OF TUBERCULOSIS.

As announced in THE JOURNAL of last week, Dr. E. J. Barrick headed a large delegation of medical men to interview the government of the Province of Ontario on the 7th inst., regarding legislation looking toward the establishment of sanatoria for the consumptive poor of the province, and the co-operation of the respective municipalities. Replying to the arguments of the deputation, the premier, Dr. Ross, said that the petition opened up a very large field for the expenditure of public funds and for the generosity of local municipalities. The Ontario Government is now spending about $800,000 yearly for the maintenance of asylums and $200,000 for hospitals, and it is a question if more money could be given. If they could count on the hearty co-operation of the municipalities, it would relieve the situation very much. If there was a public opinion which would warrant the government in assuming that municipalities would erect, establish and equip these sanatoria, it would distribute the burden and relieve the government to a considerable extent. He promised early and earnest consideration of the whole matter. The question of the control of expectoration in the public streets and in public places in the city of Toronto is altogether likely to become a practical part of civic politics at an early date. The medical health officer is of the opinion that this can not be controlled by compulsory legislation at the present time, and advises education of the people to a sense of the danger of the practice. Whether or not it is an advisable procedure to multiply sanatoria throughout the province may be an open question. Manifestly what the sanatoria have thus far proved in regard to the treatment of tuberculosis is that with plenty of fresh air and properly regulated and systematized modes of life, great good can be attained. Surely one, great, vast, natural sanatorium—the open country, and a properly regulated mode of life, systematically supervised by the family physician, together with a cleanly and easy system for sputum disposal forms the sum and substance of the whole treatment and control of this universally-talked-of malady.

HAWAIIAN ISLANDS.

Honolulu.

A LARGE number of people daily visit the headquarters of the Board of Health, for permission to leave for other islands.

A BOUNTY of 25 cents is being offered for live rats and 15 cents for dead ones, by the Board of Health, as a result of the plague outbreak.

THE JAPANESE working on plantations are being urged to follow the instructions of the health officers, circulars to that effect being distributed by the Japanese Immigration Bureau.

A LONG list of premises and buildings considered unsanitary has been sent to the Board of Health, by the Citizens' Sanitary Committee. It includes many well-known structures. Certain streets closed during the height of the scare have been ordered opened.

ACCORDING to the *Pacific Commercial Advertiser*, a block containing the rat poison authorized by the Board of Health was recently placed in the office of that paper, and in ten minutes was surrounded by numbers of dead cockroaches.

PLAGUE RETURNS.

Reports from the pest-house show that the plague patients are progressing most favorably. The situation is encouraging. There have been no new cases of plague for several days and the belief is growing that the pestilence may be at an end.—March 6.

PLAGUE ANXIETY.

As an instance of the anxiety which the plague has caused here, recently, on a tram-car, every man aboard was observed to press his finger tips hard against the region of his femoral glands—and after doing so "some of them looked scared." In fact, it is said that a great many people in town have sore places on the femoral glands or under the armpits, and it is no wonder, for they press the suspected places several times a day in search of plague signs, bruise the flesh and muscles, consequently have unmistakable twinges of pain there and imagine they have the disease.

UNSANITARY PONDS.

Relative to the recent crusade by the Board of Health against certain unsanitary duck ponds, a physician writes to the *Advertiser* that there are hundreds of acres of artificial swamps within the city limits, which are as much malaria-breeding ground as are the duck ponds. He refers to the rice-fields or taro patches, which he considers present excellent culture-grounds for the malaria poison, and so add their yearly quota to the cemetery. He suggests that as these fields are maintained only by irrigation, there will be no expense in drying them up and so abolishing them.

THE RAT CRUSADE.

A meeting was recently held by the Citizens' Sanitary Committee's inspectors to discuss the ways and means for thoroughly distributing rat poison. A number of the inspectors report objections on the part of the people to using the poison, fearing it would be eaten by the children, dogs, cats and chickens, and that the rats might get into the water ditches or houses and die there and so become a nuisance. However, as arsenic, which is practically insoluble in water, is the poison used, no fear may be felt from the water. Distribution of the poison was begun on Saturday, February 17, and the poison was put out each night for a week thereafter, being furnished free. The *Advertiser* commented editorially on the rat crusade as follows:

> Twenty thousand wooden blocks with augur holes for rat poison have been made and more are to follow. These containers are being charged and will be distributed throughout the city. . . . householders will make use of them and . . . witness a mortality among rats that must make the dwelling-house rodent, that natural carrier of plague infection, a rara avis in Honolulu. An effort has been made by thoughtless people to discourage this crusade on the ground that poisoned rats will retire to their holes and die there, thus creating a nuisance. If this were to be expected it would not matter much, for a few dead rats under the floors of a house are preferable to dead men in the rooms. A bad smell is surely not so bad as the bubonic plague. But if those who set the poison are careful to put a pan or dish of water near there will be no danger of dying rats getting away. The poison used creates a feverish thirst. The rat that eats must get a cooling draught and will go in search of it, staying by the water until his life goes out. Where the householder does his work as he should he will find his game where he leaves the thirst-assuager. Having killed a rat the animal must be burned. It can not be handled safely and should be carried to the fire on a shovel or on the end of a long stick. The use of the hands in contact with the rat is dangerous; in a less but still measurable degree is the use of a dust-pan. The best thing is a long-handled shovel or something shaped like it that may be made of wood and cleaned with fire or acid after being used. With this the rat, if found in the house, should be taken out of doors and either thrown into a bonfire already kindled or into a pan of coal oil which may be safely set on fire by means of a long twisted piece of paper. One should not go near enough to the pan to use a match, for bacilli may be there in waiting. These minute organisms infest the fleas of rats as well as the rats themselves. Now let everybody make ready to lend a hand in the crusade. Chinatown is no more and when the rats are exterminated also this city, so far as its anxiety about the plague is concerned, may begin to breathe freely.

Kahului.

PLAGUE NEWS.

When the plague was recently discovered here, the race track was at once made habitable for the people of the Chinese quarter, the latter being condemned and promptly burned. Before burning, however, the buildings at the three corners were first blown up with giant powder, thus assuring control of the conflagration and avoiding a disastrous one similar to the burning of Chinatown in Honolulu. The store and warehouses of the Hawaiian Commercial and Sugar Co. have been closed, and at the date of writing, March 6, were awaiting the decision of the Board of Health as to whether they should be burned. This action was taken on account of the discovery that the rats about the warehouse were dying, and bacteriologic examination revealed plague bacilli. The Board also ordered a rat-proof fence around the whole town. The goods in the store and warehouses are valued at $175,000. There has been one recent case of plague here—a woman who attended the Chinese New Year's celebration held at the house of the first victim.

Correspondence.

Varicella Ulcer of Cornea.

CHICAGO, March [illegible], 1900.

To the Editor:—In THE JOURNAL of February 17, p. [illegible], Dr. Magee is reported as saying that he had been unable to find any reference in literature to the occurrence of a corneal ulcer as a complication of chicken-pox. As I have likewise been unable to find such reference I desire to record what I believe to have been such a case. In January, 1893, I [illegible] T., an infant of 1 year, who was suffering from a very sore eye. Investigation showed a corneal ulcer which had practically destroyed the sight of the eye. The trouble was of only a few days' standing. There was no history of injury or of any previous disease of the eyes, and as I was the family physician I was fairly familiar with the previous health of the child, which had been good. Inquiry elicited the information that the several children of the family, including the baby, had been having chicken-pox, but none of them was considered sick enough to require medical attention until this one's eye become affected. The dried crusts from the vesicles were still present on the head of the child, and the evidence presented by the children was quite sufficient to prove them to have had varicella. None of them had ever been vaccinated. There was an epidemic of varicella in the community—a small village—at the time, and no question ever arose as to the disease being other than chicken-pox, the character of the eruption in cases seen by physicians being typical of this disease.

Taking into consideration all the circumstances, I felt at the time fully justified in pronouncing the ulcer to have resulted from a varicella vesicle, and I have had no reason for changing my opinion since. The case was at once referred to the late Dr. E. L. Holmes, of this city, but the scar resulting destroyed the usefulness of the eye.

G. P. HEAD, M.D.

Association News.

Unofficial Committee for Organization of Pathologic Section.—Appreciating the importance of and the growth in pathologic science, Dr. W. W. Keen, President of the AMERICAN MEDICAL ASSOCIATION, entered into correspondence with some of the leading pathologists of the country relative to inaugurating a Section on Pathology in the AMERICAN MEDICAL ASSOCIATION. The correspondence showed that all are heartily in favor of such a Section. That no time be lost it has been thought best that a meeting be held at Atlantic City in June, for the purpose of forming such a Section, provided it meets with the approval of the ASSOCIATION. To arrange for such a meeting of those interested in pathology, the following committee has been unofficially appointed by the president: Ludvig Hektoen, Chicago, Chairman; Frank B. Wynn, Indianapolis, Secretary; Walter L. Bierring, Iowa City, Iowa; George Blumer, Albany, N. Y.; W. T. Councilman, Boston; G. Dock, Ann Arbor, Mich.; Edward K. Dunham, New York City; S. Flexner, Philadelphia; G. Fütterer, Chicago; W. P. Goff, Clarksburg, W. Va.; H. F. Harris, Philadelphia; J. B. Herrick, Chicago; M. Herzog, Chicago; W. T. Howard, Jr., Cleveland, Ohio; D. Braden Kyle, Philadelphia; A. P. Ohlmacher, Gallipolis, Ohio; W. Osler, Baltimore, Md.; F. A. Packard, Philadelphia; F. W. Parham, New Orleans, La.; Roswell Park, Buffalo, N. Y.; Clayton Parkhill, Denver, Colo.; A. B. Richardson, Washington, D. C.; Victor C. Vaughan, Ann Arbor, Mich.; A. S. Warthin, Ann Arbor, Mich.; Wm. H. Welch, Baltimore, Md.; F. F. Wesbrook St. Paul, Minn.

Committee on Scientific Research.—A resolution was carried at the meeting of the AMERICAN MEDICAL ASSOCIATION at Denver, in 1898, authorizing: "That a committee of five be appointed by the President, at his leisure, to co-operate with similar commitees from other bodies to consider the desirability of formulating plans for the dissemination of knowledge of the value of experimental research in the progress of the science and art of medicine." In accordance with that resolution the President has appointed the following committee: H. C. Wood, Philadelphia, Chairman; W. J. Mayo, Rochester, Minn.; F. H. Wiggin, New York City; J. F. Fulton, St. Paul, Minn.; C. A. Powers, Denver, Colo.

Unofficial Committee on Pathologic Exhibit.—Following the lead taken by the Indiana State Medical Society at [illegible] last year, in holding an exhibit of pathologic specimens, it has been thought advisable to encourage such efforts and this year there will be a [illegible] of the exhibit hall, which will be under the management of the following committee, that has been unofficially appointed by the President to look after the matter: [illegible], Chairman; Frank B. Wynn, Indianapolis, Ind., Secretary; Alfred Stengel, Philadelphia; W. W. [illegible], Atlantic City, N. J.

Section on Laryngology and Otology. Following is a preliminary program of the Section of Laryngology and Otology, at the Atlantic City meeting:

Chairman's Address, by Christian R. Holmes, Cincinnati, Ohio.

Special Address, by J. Solis Cohen, Philadelphia.

"Operations for Disease of the Middle Ear," by W. F. Cole, Waco, Texas.

"Treatment of Ear Diseases in Infancy and Childhood," by J. Homer Coulter, Chicago.

"Results of Surgical Treatment of Inflammation of the Mastoid," by E. B. Dench, New York City.

"Some Causes for the Variations of the Nasal Chambers and Associate Parts," by M. H. Cryer, Philadelphia.

"Care and Use of Instruments," by A. DeVilbiss, Toledo, Ohio.

"Primary Tuberculosis of the Ear: Mastoid Operation: Recurrence: Secondary Operation: Cure," by M. A. Goldstein, St. Louis, Mo.

"Import of Bacteria as Found in the Ear, Nose and Throat," by D. Braden Kyle, Philadelphia.

"The General Treatment of Nose and Throat Diseases," by H. W. Loeb, St. Louis, Mo.

Topic to be announced, R. C. Myles, New York City.

"Abscess of Antrum of Highmore in the Infant, with Report of a Case Successfully Treated," by Emil Mayer, New York City.

"Diagnosis and Prognosis of Ear Diseases," by B. Alex. Randall, Philadelphia.

"Stenosis of Nasal Passages, Report of Case," by Dunbar Roy, Atlanta, Ga.

"Diagnosis and Treatment of Syphilis of the Upper Air-Passages," by Geo. L. Richards, Fall River, Mass.

"Angina Epiglottidea Anterior: Report of Two Cases," by C. F. Theisen, Albany, N. Y.

"The Atrophic Pharynx," by R. W. Seiss, Philadelphia.

"Complications of Mastoid Abscess," by C. W. Richardson, Washington, D. C.

"Systemic Factors in Catarrhal Deafness," by Sargent F. Snow, Syracuse, N. Y.

"Fistula Auris Congenita with Report of Case: Operation: Important Complications," by Jno. O. McReynolds, Dallas, Texas.

"Suppurative Mastoiditis with Report of Cases," by J. H. Bryan, Washington, D. C.

Topic to be announced, A. W. Calhoun, Atlanta, Ga.

"Nasopharyngeal Growth from Non-use of the Nose," by Norburne B. Jenkins, Knoxville, Tenn.

"Report of Two Cases of Sinus Phlebitis: One Case of Meningitis of Otitic Origin," by O. Joachim, New Orleans, La.

"Untoward Sequences of Adenoid Operations," by E. L. Shurley, Detroit, Mich.

"Treatment of Deflection of the Nasal Septum Complicated by Traumatic Deformity of the External Bony and Cartilaginous Framework of the Nose," by E. B. Gleason, Philadelphia.

"Papilloma of the Larynx," by E. T. Dickerman, Chicago.

Topic to be announced, Robert Levy, Denver, Colo.

"Present Status of Antitoxin Treatment," by Samuel Allen, Cincinnati, Ohio.

"General Bodily Resistance as a Factor in the History and Cure of Nose and Throat Diseases," by F. L. Stillman, Columbus, Ohio.

"Hysteric Deafness with Report of Two Cases," by Albert E. Bulson, Jackson, Mich.

"Limitations of Ossiculectomy and Tympanic Curettement," by Frank Allport, Chicago.

Topic to be announced, Chevalier Jackson, Pittsburg, Pa.

Topic to be announced, W. Scheppegrell, New Orleans, La.

"Purulent Tympanomastoiditis of Children," by Hermann Knapp, New York City.

"Treatment of Atrophic Rhinitis by Electrolysis and Some Experiments to Determine the Efficiency of Needles of Different Metals," by C. M. Cobb, Lynn, Mass.

"Ocular Expressions of Intranasal Lesions," by Robert Sattler, Cincinnati, Ohio.

Topic to be announced, Howard McMorton, Minneapolis, Minn.

"History of an Unusual Papillomatous Growth in the Larynx," by Joseph S. Gibb, Philadelphia.

"Some Experiments on the Relation Between Audition and the Circulation of Blood in the Head," by H. Stillson, Seattle, Wash.

"Purulent Otitis Media," by Talbott C. Chambers, Jersey City, N. J.

Topic to be announced, Jno. O. Roe, Rochester, N. Y.

"Nose as a Factor in Disease of the Eye," by Wm. Cheatham, Louisville, Ky.

"Enlarged Lingual Tonsil with Report of the Case," by Frank D. Boyd, Fort Worth, Texas.

"Unusual Symptoms Following Operation for Removal of Septal Spurs," by J. L. Goodale, Boston.

."Embryonic Defects of the Nose, Throat and Ear, and their Causes," Geo. C. Stout, Philadelphia.

"Neuroses of the Larynx," by J. F. Woodward, Norfolk, Va

Deaths and Obituaries.

Oliver Payson Hubbard, M.D., LL.D., emeritus professor of chemistry and pharmacy in Dartmouth College, died March 9. He was born in Pomfret, Conn., in 1809, and studied at Hamilton College and at Yale, where he was graduated in 1828. He became the assistant of the elder Prof. Benjamin Silliman, whose daughter he married. He was appointed professor of chemistry and pharmacy, mineralogy and geology at Dartmouth College in 1836, retaining that post for thirty years. He continued to lecture till 1871, when he was appointed professor of chemistry and pharmacy. In 1883 he was retired as professor emeritus. He received the degree of M.D. from South Carolina College in 1837, and that of LL.D. from Hamilton College in 1861. He had been an overseer of the Thayer School of Engineering at Dartmouth College since 1871. For many years he was corresponding secretary of the New York Academy of Sciences. He also served one term in the New Hampshire legislature, in 1863-64, a distinction which he highly prized.

Israel Prior, M.D., Bellevue, New York City, died March 6, aged 58 years, at his home in North Stamford, Conn. He was a member of the Stamford Medical Society, and at one time active in the AMERICAN MEDICAL ASSOCIATION. In his professional life he practiced in Illinois before taking up his residence in Connecticut.

Phylon C. Whidden, M.D., died in Chicago, March 8, of apoplexy. He was a native of Massachusetts and 60 years of age, and served as surgeon during the Civil War. He was a graduate of the Harvard Medical School, and had been a resident and practicing physician of Chicago since 1866.

J. S. Watts, M.D., Millersburg, Iowa, died February 24, aged 69 years. He was born in Amherst County, Va., and was a graduate of the Starling Medical College, Columbus, Ohio, and took a post-graduate course at the Jefferson Medical College, Philadelphia.

David B. Morton, M.D., St. Louis, Mo., died March 5, aged 85 years. He was one of the oldest physicians in the city, and practiced until a year ago. The cause of his death was la grippe complicated with old age.

W. R. Smith, M.D., died at Hillsboro, Ohio, aged 78 years. He was born at Greenfield, and had been a resident of Hillsboro for over half a century.

Leroy C. Towles, M.D., died at Accokee, Md., March 7, aged 44 years. He was a graduate of the Washington-Lee University, and of the medical department of the University of Maryland, class of 1877.

Aaron Edgerton Peck, M.D., College of Physicians and Surgeons, New York City, 1855, died March 8, at his home in Brooklyn, N. Y., in which city he had practiced for nearly forty years.

J. H. Lammer, M.D., Greencastle, Ind., died March 3, having been thrown from his buggy against a tree. He was 40 years of age.

Harvey K. Wingert, M.D., an eye specialist of Knoxville, Tenn., died March 5, after a brief illness. He was a graduate of the medical department of the University of Michigan, and was 30 years of age.

We also note the following deaths:

James A. Abrahams, M.D., Demopolis, Ala., March 15.

W. B. Adams, M.D., Montgomery, Ala, March 6, aged 82 years.

E. R. Bell, M.D., Ripley, Ohio, February 24, at the age of 72.

T. S. Fox, M.D., Batesburg, S. C., March 5, of heart disease.

William Glatzmayer, M.D., Newark, N. Y., at the age of 42.

R. F. Gray, M.D., Winston, N. C., 47 years old.

H. F. Hazlet, M.D., Pueblo, Colo., March 4, aged 34 years.

F. Wm. Hecker, M.D., Spring City, Pa., March 4, at the age of 71.

Nathan L. Hufty, M.D., Delavan, Ill., at the age of 77.

G. M. Kolb, M.D., Cleveland, Ohio, March 6.

J. H. Maddox, M.D., near Deesen, Miss., March 4.

Richard J. Moore, M.D., Pasadena, Cal., March 2.

William Spinner, M.D., Montvale, Va., March 3, aged 38 years.

Morris Wilson, M.D., Lincoln, Me., aged 75 years.

Miscellany.

Medical Attendance on Servants and Masters.—The *Gaz. Méd. Belge* states a case as follows: "Monsieur and Madame have their physician. The cook or waitress is taken sick. The masters send out for the nearest doctor. What is the latter to do: treat the servant and thus tacitly confess that he is skilful enough for the back stairs but not for the front? possibly meet the regular physician attending the masters." It concludes: "Except in an urgent case, when called by the masters for a servant, enquire if they have a regular physician, and if so request them to send for him and decline to attend the case, and thus avoid all unprofessional complications. If summoned by the servant herself, the matter is, of course, entirely different, and there is no question of conflicting obligations."

Invasion of Lymphatic System with Cancer of the Stomach. B. Cuneo reports to the Académie de Médecine (February 20) that the lymphatics of the stomach are arranged in two distinct systems, one in the mucous and the other in the musculo-serous tissue. The absorbent lymphatics are arranged in three groups: an upper group terminating in the ganglia of the stomachic coronary chain; a lower group constituting the right gastroepiploic chain and a group on the left terminating in the ganglia of the splenic chain. This arrangement explains the tendency of cancer of the pylorus to invade the lesser curvature. The integrity of the duodenum is due to the absence of continuity between the gastric submucous and the duodenal submucous tissue. He draws the practical conclusion that in removing cancer of the pylorus the group of ganglia of the lesser curvature should be removed entire with the tumor.

Serotherapy of the Plague.—In a recent work by Netter he states that the efficacy of serum treatment of the plague was fully established in the first experiences with it, and also in Calmette's and Salimbeni's recent experiences at Oporto. The less satisfactory results in the interim were due to imperfect technique in the preparation of the serum. To be truly effective the animals must have received intravenous injections of live cultures. The efficacy of Haffkine's vaccination is shown most remarkably by the statistics at Hubli, a town of 41,000 inhabitants, where 38,712 were vaccinated. The plague caused 2716 deaths among the total population: 2482 among the unvaccinated and only 349 among the vaccinated. According to this proportion, if all had been vaccinated, the number of deaths would only have been 524; if none had been, the deaths would have been 24,920. The Haffkine vaccin attenuates if unable to prevent the disease.

Dermoid Cyst Simulating Meningocele.—We reproduce the following illustrations and report from the *British Medical Journal* of February 24. The patient, a young man aged [illegible], was admitted on March 9, 1899, to the Queen's Hospital, for a large rounded swelling situated in the middle line over the frontal bone and the fronto-parietal suture. The swelling had been there since birth, but had increased considerably in size during the previous twelve months. He had no pain nor inconvenience except from its bulk. The skin over it was normal, but the hair was not so abundant as over the rest of the scalp. It was not translucent, but was moderately tense and fluctuating. There was no tenderness on pressure, no impulse on coughing or increasing intracranial venous pressure, nor was there any perceptible diminution of the contents nor any symptoms caused by pressure. The bone around the base was felt as a raised ridge. The measurements were: circumference at base, 11¼ in.; antero-posterior over swelling, 7¼ in.; lateral over swelling, 7 in. He had sought surgical assistance on several occasions, but had always been advised against operation. As the swelling—if a meningocele—had clearly only very slight, if any, communication with the interior of the skull, removal was advised. On March 10 an elliptical incision was made over the center of the swelling and careful dissection of the wall commenced. This was unavoidably punctured, and a quantity of dark-brown grumous fluid escaped. The contents were seen to be sebaceous matter, hair, and epithelial débris. The cyst was then rapidly removed. The bone on which it rested was by pressure flattened, and there was a marked ridge around the circumference, so causing the crater-like condition noted prior to operation. The wound healed by primary union, and the patient was discharged cured on the 16th.

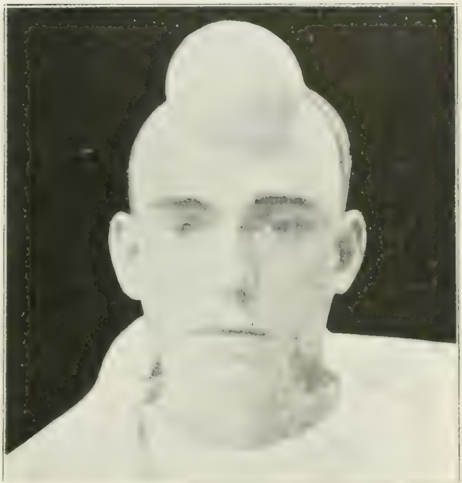
Fig. 1.—Front view.

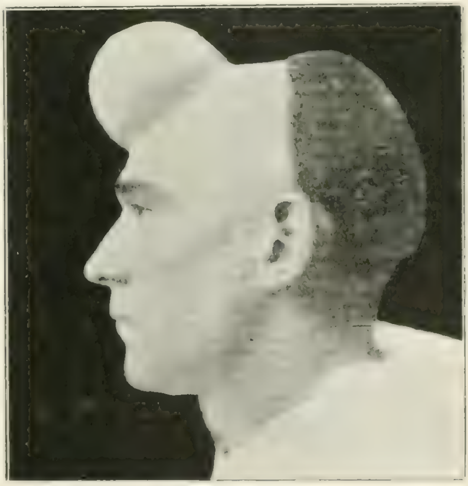
Fig. 2.—Side view.

Queries and Minor Notes.

WASHINGTON'S ILLNESS AND DEATH.

[illegible], Ind., March 6, 1900.

To the Editor:—I wish to know all I can about the last sickness of George Washington and his physicians. Is there anything published or does anything exist that I could get to use in preparation of an essay on The Death of Washington? I wish to get all the information I can of the disease, its cause, its nature, its treatment and the result, and why the result. Was Washington's death caused by the disease or the treatment? What of the qualifications of doctors in those days? What of the science and art of medicine then? What of medical colleges, books, journals, surgical instruments and appliances, etc., in those days? I shall be very much obliged for any information you may be pleased to give me. Yours very truly, J. L.

ANSWER:—The cause of Washington's death was very well discussed by Dr. Solis Cohen in the December number of *Lippincott's Magazine*, and on which we commented editorially in THE JOURNAL of Dec. 2, 1899, p. 1430. His last illness was noticed at length in THE JOURNAL of Dec. 30, 1899, p. 1655. His physicians were undoubtedly as able and qualified as any that were available at the time and the treatment he received was, as Dr. Cohen shows, fully up to the then-generally-received ideas. There was only one medical college in the country prior to the Revolutionary War, and that only a few years old, and physicians had, before 1765, to obtain their education by going abroad or as office students. There have been other articles on Washington's last sickness, one for example, by Dr. James Jackson, published in 1862, but they are not available. Dr. Cohen shows that tracheotomy, which alone could possibly have saved Washington's life, was at the time a very rarely performed operation, and it is possible and even probable that it would have been ineffective in his case. Much in regard to medical education of the time, and other matters about which our correspondent asks may be found in "History of Medical Education and Institutions in the United States, from the First Settlement of the British Colonies to the Year 1850," by N. S. Davis, M.D. The book may be out of print, but can be found in most libraries.

TUBERCULOSIS COMPETITION.

MILWAUKEE, WIS., March 5, 1900.

To the Editor.—Would you kindly inform me conditions, etc., as to entry in the competitive discussion on the prevention of tuberculosis, in Sweden, and in which cause King Oscar is active. Yours truly, G. S.

ANSWER:—As far as we know, the competition referred to has been closed and the prizes awarded some time ago.

PRIVATE ASYLUM.

A subscriber in Cincinnati, Ohio, desires to know whether there is any private asylum or sanitarium for the treatment of mental diseases, in Iowa, and if not, whether there is such an institution in northern Missouri or Kansas. Information sent to this office will be forwarded.

The Public Service.

ARMY CHANGES.

Movements of Army Medical Officers under orders from the Adjutant-General's Office, Washington, D. C., Feb. 23 to March 1, 1900, inclusive:

Peter V. Ballou, acting asst.-surgeon, from Louisville, Ky., to the Department of California.

Frederick D. Branch, acting asst.-surgeon, from Albany, N. Y., to the Department of California.

Jere B. Clayton, lieutenant and asst.-surgeon, U. S. A., from Fort Mason, Cal., to duty at Vancouver Barracks, Wash.

Peter J. A. Cleary, lieut.-col., deputy surgeon-general, U. S. A., sick leave extended.

John G. Davis, major and surgeon, U. S. V., from New York City to San Francisco, Cal., and thereafter to Manila, P. I., for duty in the Department of the Pacific and 8th Army Corps.

George W. Ely, acting asst.-surgeon, from Pittsburg, Pa., to the Department of California.

Samuel Friedman, acting asst.-surgeon, from New York City to the Department of California.

Hugh Goodwin, acting asst.-surgeon, from Fayette, Mo., to the Department of California.

George H. R. Gosman, acting asst.-surgeon, from Brooklyn, N. Y., to the Department of California.

Charles Richard, major and surgeon, U. S. A., member of a board at Fort Leavenworth, Kan., to report on the location of certain [illegible].

Henry G. G. Schmidt, acting asst.-surgeon, from Elgin, Ill,, to the Department of California.

Thurston Smith, acting asst.-surgeon, from Bloomington, Ind., to the Department of California.

William Stephenson, captain and asst.-surgeon, U. S. A., member of a board in New York City, to examine officers of the corps of [illegible].

William E. Vose, acting asst.-surgeon, from Fort McHenry, Md., to the Department of California.

NAVY CHANGES.

Changes in the Medical Corps of the U. S. Navy for the week ending March 3, 1900.

P. A. Surgeon F. W. Olcott, detached from the naval recruiting rendezvous, Detroit, Mich., and ordered home to wait orders.

[illegible] Pensacola navy yard.

P. A. Surgeon W. F. Arnold, detached from the Pensacola navy yard and ordered to the naval hospital, Norfolk, Va., for treatment.

Asst.-Surgeon D. H. Morgan, ordered home from the Asiatic Station and to wait orders.

MARINE-HOSPITAL CHANGES.

Official list of the changes of station and duties of commissioned and non-commissioned officers of the U. S. Marine-Hospital Service for the seven days ended March 1, 1900.

Surgeon S. D. Brooks, to proceed to Bar Harbor, Me., as inspector.

P. A. Surgeon T. B. Perry, to proceed to Buckhannon, W. V., for special temporary duty.

P. A. Surgeon R. M. Woodward, granted leave of absence for thirteen days from April 16.

P. A. Surgeon J. O. Cobb, to proceed to Folsom and Catskill, N. M., for special temporary duty.

P. A. Surgeon, G. B. Young, granted leave of absence for one day.

Asst.-Surgeon S. R. Tabb, to proceed to Fernandina, Fla., as inspector.

Asst.-Surgeon R. H. von Ezdorf, to proceed to Atlanta and report to the Governor of Georgia for temporary duty.

Hospital Steward Walter Newbern, relieved from duty at the Tortugas quarantine station and directed to proceed to Mobile, Ala., and report to the medical officer in command for duty and assignment to quarters.

Hospital Steward J. F. Beck, upon being relieved from duty at Mobile, Ala., to proceed to San Francisco, Cal., and report to medical officer in command for duty and assignment to quarters.

Hospital Steward E. M. Holt, to proceed to Boston, Mass., and report to the medical officer in command for duty and assignment to quarters.

APPOINTMENT.

Edwin M. Holt, of Pennsylvania, appointed as junior hospital steward.

HEALTH REPORTS.

The following cases of smallpox, yellow fever, cholera and plague have been reported to the Surgeon-General, U. S. Marine-Hospital Service, during the week ended March 10, 1900:

SMALLPOX—UNITED STATES.

Arkansas: Searcy, Dec. 25, 1899, to Feb. 27, 1900, 40 cases.
Illinois: Aurora, Feb. 17 to March 3, 4 cases; Chicago, Feb. 24 to March 3, 1 case.
Kentucky: Covington, Feb. 24 to March 3, 5 cases.
Louisiana: New Orleans, Feb. 24 to March 3, 61 cases, 12 deaths.
Michigan: Detroit, Feb. 17 to March 3, 12 cases.
Minnesota: Minneapolis, Feb. 17 to 24, 11 cases, 1 death.
Ohio: Cleveland, Feb. 24 to March 3, 26 cases.
Pennsylvania: Philadelphia, Feb. 24 to March 3, 3 cases.
Tennessee: Nashville, Feb. 24 to March 3, 1 case.
Texas: For the state, Feb. 21 to 28, 142 cases, 3 deaths.
Utah: Salt Lake City, Feb. 24 to March 3, 1 case.
Virginia: Portsmouth, Feb. 24 to March 3, 3 cases; Roanoke, Feb. 1 to 28, 7 cases.
Washington: Tacoma, Feb. 18 to 24, 13 cases.
West Virginia: Buckhannon, Feb. 9, present; Calhoun County, Feb. 9, present; Camden on the Gauley, Feb. 9, present; Fayette County, Feb. 9, present; Gilmer County, Feb. 9, present; Lewis County, Feb. 9, present; Harrison County, Feb. 9, present.

SMALLPOX—FOREIGN.

Austria: Prague, Feb. 3 to 10, 6 cases.
Belgium: Antwerp, Feb. 3 to 10, 3 cases, 1 death; Ghent, Feb. 3 to 10, 2 deaths.
Canada: Ontario, Amherstburg, Feb. 24 to March 3, 3 cases; Quebec, Feb. 15 to 22, 11 cases.
England: London, Feb. 3 to 17, 25 cases.
Gibraltar: Feb. 4 to 11, 1 case.
Greece: Athens, Feb. 3 to 10, 2 cases.
India: Bombay, Jan. 30, 715 deaths; Calcutta, Jan. 13 to 20, 7 deaths; Madras, Jan. 27 to Feb. 2, 3 deaths.
Mexico: Vera Cruz, Feb. 17 to 24, 2 deaths.
Russia: Moscow, Jan. 27 to Feb. 3, 4 cases 1 death; Odessa, Feb. 3 to 10; 10 cases, 2 deaths; St. Petersburg, Jan. 27 to Feb. 17, 63 cases, 18 deaths; Warsaw, Jan. 27 to Feb. 10, 5 deaths.
Spain: Corunna, Feb. 10 to 17, 6 cases, 4 deaths.
Straits Settlements: Singapore, Jan. 13 to 20, 1 death.
Turkey: Constantinople, Feb. 5 to 15, 1 death.

YELLOW FEVER—FOREIGN.

Brazil: Santos, Jan. 29, increasing; Sau Paulo, Jan. 29, increasing.
Cuba: Havana, Feb. 10 to 17, 9 cases, 4 deaths; Matanzas, Feb. 10 to 17, 1 death.
Mexico: Vera Cruz, Feb. 17 to 24, 1 death.

CHOLERA.

India: Bombay, Jan. 23 to 30, 9 deaths; Calcutta, Jan. 13 to 20, 21 deaths.

PLAGUE—INSULAR, UNITED STATES.

Hawaii: Honolulu, Feb. 10 to 19, 5 deaths; Kahului, Feb. 13, 3 cases.
Philippine Islands: Manila, Jan. 13 to 20, 4 cases, 3 deaths; total to date, 16 cases, 12 deaths.

PLAGUE—FOREIGN.

India: Bombay, Jan. 16 to 20, 872 deaths; Calcutta, Jan 18 to 20, 56 deaths.

CHANGE OF ADDRESS.

ERRATUM.—In the issue of March 3 a change of address was given, N. Hickman, from Philadelphia, to 1409 Wood Ave., Colorado Springs, Colo. This should refer to Dr. W. A. Hickman.

DR. HENRY F. LEWIS has taken an office in the Columbus Memorial Building, 103 State Street, Suite 1007.

T. F. Beverige, from Bridgewater, S. D., to 4155 Grand Boul, Chicago, Ill.

S. W. Fain, from St. Petersburg, Fla., to Dandridge, Tenn.

I. L. McCurry, from Toccoa, to Hartwell, Ga.

H. Klein, from German Hospital to 791 S. Halsted, Chicago, Ill.

J. T. Smith, from 69 Washington to 184 Dearborn, Chicago, Ill.

[illegible], from Sheridan to Waukegan, Ill.

W. B. Wallace, from Lima, Ind., to Manton, Mich.

J. J. Hardy, from Cavanal to Sutter, Indian Territory.

C. E. Bowers, from Anthony to Wichita, Kan.

D. W. Byers, from Lexington to Woburn, Mass.

L. W. Zwisohn, from 334 E. 78th to 1085 Lexington Ave, New York City.

The Journal of the American Medical Association

VOL. XXXIV CHICAGO, ILLINOIS, MARCH 24, 1900. No. 12.

Original Articles.

SELECTION OF ANESTHETIC IN SURGERY.*

BY JOHN A. WYETH, M.D.
PROFESSOR OF SURGERY IN THE NEW YORK POLYCLINIC
MEDICAL SCHOOL AND HOSPITAL.
NEW YORK CITY.

I shall state my own views, based on a fairly large operative experience extending over a period of more than a quarter of a century, rather than read a paper fortified with the records of experiments, the statistics of accidents, or the peculiar views of others. I shall deal only with the two well-known anesthetics, chloroform and ether, and these without mixture.

My early experience under my preceptor in northern Alabama, and at the University of Louisville in 1867-68-69, when I was a student there, was altogether in the use of chloroform. I do not think that in those three years I saw any other anesthetic employed. About the time of my graduation in Louisville, in 1869, I witnessed the death of a girl, about 16 years of age, to whom chloroform was being administered preliminary to a minor operation for the removal of a portion of a diseased tarsus. The accident was due to heart failure and occurred before the patient had been completely anesthetized. Soon after this I became a student at the Bellevue Hospital Medical College in New York City, and observed that in the work there and in the large clinics in Bellevue Hospital, ether was almost exclusively employed. With the exception of Prof. Louis A. Sayre, I can not now recall a single well-known operator of that day who used chloroform as an anesthetic.

In the first ten years of my service at the Mt. Sinai Hospital, and at the New York Polyclinic Medical School and Hospital, as well as in private practice, I employed ether exclusively. From time to time I observed not only the very great irritation which the vapor of ether caused to the respiratory tract, but that in a certain proportion of cases, especially in alcoholic subjects, it was extremely difficult to secure a profound narcosis without inducing a threatening condition of asphyxia. Such annoyance as the churning of mucus into froth, which filled the pharynx and nasal cavities and occasionally drifted into the larynx and threatened the patient with asphyxia, were entirely absent in chloroform narcosis, and the comfort both to patient and operator, obtained in this manner, encouraged me to the more frequent employment of this agent. At present, in about 75 per cent. of my operataions I employ chloroform either wholly or at some stage of the narcosis. In using it I invariably inject, beneath the skin, 1/4 gr. of morphia with 1/150 gr. of atropia, about fifteen minutes before the anesthesia is commenced. The action of these combined alkaloids is to stimulate the heart, and to allay to a considerable extent the anxiety of the patient. Their employment is based on what I believe to be a fact, that chloroform is dangerous chiefly to the heart, and that it is in the early stages of its administration that its danger is imminent. All the cases of death from chloroform with which I have been acquainted have been from heart and not respiratory failure, and this depression of the heart has occurred before a complete narcosis has been established. Fright or anxiety is a depressing factor, and the temporary stimulating effect of these alkaloids allays anxiety in great measure, and is useful in stimulating the action of the heart. Chloroform should be administered with very great care, and one not thoroughly trained in its use should not administer it or permit it to be employed. Although I have in my regular employ an assistant who is an unusually well-trained anesthetist, it is my rule to superintend the narcosis myself until I have tested thoroughly the ability of the patient to withstand the anesthetic.

I prefer the Esmarch screen, and administer chloroform very carefully, keeping the finger on the pulse all the time, and watching the pupil to notice any sudden dilatation. If the patient gradually gives way to the effect of the anesthetic, and the pulse holds good without any break or interruption of its rhythm, I am satisfied that the chloroform is having no unfavorable effect. The pulse may be rapid, 100 or 120 to the minute; it may be slow enough to register only 50 or 60 in the minute, but these variations are not suggestive of serious danger so long as the heart beats regularly. If it begins to break off and a beat is lost here and there, or if two or three successive beats fall off in force and fulness and then rise again in volume, it is a signal of alarm which I always respect, and I then remove the screen and wait a few moments to see what the heart will do. If it steadies up with the removal of the anesthetic, I accept the inference that the slight interruption in the heart's rhythm is due to nausea, and continue with the anesthetic. But should there with this condition occur sudden pallor of the face, especially marked about the lips, I remove the chloroform at once and immediately cause the head and chest to be lowered by lifting the patient's lower extremity in the air, or by elevating my operating-table in the Trendelenburg posture. I consider this such an important step in threatened collapse in chloroform narcosis that I always administer it on my operating-table, where this position can be obtained by a few turns of the windlass. If I am satisfied that the heart is showing any resentment to the effect of chloroform, ether is at once substituted, and should the patient continue to do well under ether, the operation may be concluded with this form of narcosis. However, when there has been only a suggestion of trouble from chloroform, and ether has been substituted for a few minutes, if there are kidney or other lesions which contraindicate the use of the latter, I return to chloroform, always, however, with increased precaution in noticing its action on the heart. Another usually alarming symptom of a too profound effect from chloroform is when the pupil is found suddenly and widely dilated, and I always desist from chloroform narcosis when this is observed.

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*Read in a Discussion on Anesthesia, before the New York County Medical Association.

Finally, it is not proper in my opinion to endeavor to bring the patient rapidly under the influence of chloroform. The free admixture of air with the vapor, accustoming the nerve-centers and the heart to the presence of this agent in the blood, is essential to safety. The average time of obtaining a complete narcosis with chloroform in my work is from fifteen to twenty minutes. When ether is employed I always use it with the Ormsby inhaler or some form of apparatus which does not permit the passage of the atmosphere over the ether vapor and thence directly into the respiratory tract. The Allis instrument or any other form of inhaler is extremely objectionable, in my opinion, for the reason that the passage of the atmosphere over the ether vapor lowers the temperature of the inspired air very considerably, and carries this cold vapor into the respiratory tract, often producing severe irritation, and sometimes fatal inflammatory reaction. Moreover, the use of the closed apparatus which mixes air with the ether vapor, with which warm air is carried back into the lung, produces a modified form of asphyxia and makes narcosis possible with a smaller quantity of ether carried into the blood than is possible with the open inhaler, which permits an unlimited supply of oxygen into the lungs. This modified asphyxia is perfectly free from danger, can be controlled with great ease by the anesthetizer, and when it becomes necessary to increase the oxygen in the blood, the simple tilting of the inhaler to one side permits a sufficient quantity of fresh air to pass into the respiratory organs without permitting it to pass over the ether vapor. In a series of demonstrations made in operations at Mt. Sinai Hospital, I proved that with the Ormsby inhaler the patient could be anesthetized with ether, held in narcosis during the operation, and would come out more rapidly and with less vomiting and irritating aftereffects on the kidneys and other organs than by the employment of any of the open methods of inhalation. It is a well-known fact that the elimination of ether vapor from the blood through the kidneys is the cause of very considerable irritation of these organs, and the larger the volume of ether in the blood the greater the volume for elimination by the kidneys. It is clear that the small quantity of ether necessary in the use of the closed inhaler in part removes this danger to the kidneys. Again, the warming of the ether by the expired air prevents much of the irritation and consequent inflammation of the trachea, larynx, bronchial tubes and lungs which follow the use of the open inhaler, in which the cold vapor is carried into the respiratory tract.

In the hands of a tyro, ether is safer than chloroform, and this without regard to the condition of the patient; but in the hands of an experienced operator, one who has studied his case carefully, and satisfies himself that the conditions justify the use of chloroform, this agent is practically without danger. I prefer to use chloroform in all cases where there are pathologic changes in the kidneys, and in which heart lesions are absent. When the lungs are seriously involved, as in tuberculosis, gummatous tumors or any form of pulmonary inflammation, or in pleuritis in which there does not exist an effusion sufficient to interfere with the heart's action by compression, chloroform is in general preferable. When, however, in any way the heart has been crippled, ether is the safer. In general, in all operations within the abdominal cavity chloroform is preferable, for the reason that vomiting is less apt to occur during as well as after the operation. As intimated above, however, when there is any heart lesion, even in abdominal surgery it is better to employ ether than threaten this crippled organ with chloroform.

I am especially afraid of chloroform in patients who have had repeated attacks of rheumatism, and in whom the action of the heart is weakened either by serious valvular lesions, or in whom atheroma of the coronary arteries or fatty metamorphosis of the heart muscle exists. In that class of patients known as "chronic alcohols," chloroform is preferable, by reason of the difficulties met with in producing profound narcosis with ether.

In children, ether is in general the safer anesthetic. In the early part of my career I was taught to believe that chloroform was the better agent in this class of cases, but under 12 years of age it is not without considerable danger. In my service at Mt. Sinai Hospital, a child of 10 years, on whom four days earlier an amputation had been done under chloroform without the suggestion of danger, while the wound was being dressed and while chloroform was again being administered by the same physician and with the same precautions, died from heart failure when not more than a dram of the agent had been employed, and before complete narcosis. Two other fatal cases of chloroform anesthesia in children, in the hands of an experienced operator, occurred in another institution, to my knowledge, and if I know personally of three such instances, many others must have occurred. Chloroform is especially dangerous in children who have been weakened by any inherited or acquired dyscrasia, or from improper nourishment, and great care should be taken to prevent a too rapid administration of this agent, when, as is frequently the case, the little patient begins to struggle and make rapid and deep inspiratory efforts. In children over 12 years of age, well nourished, with no serious lesions of the kidneys or respiratory apparatus, chloroform is, in my opinion, as safe as ether.

19 West Thirty fifth Street.

THE AMOUNT OF THE ANESTHETIC.*

BY THOS. L. BENNETT, M. D.
ANESTHETIST TO NEW YORK HOSPITAL, ROOSEVELT HOSPITAL, HOSPITAL FOR RUPTURED AND CRIPPLED, ETC.
NEW YORK CITY.

The anesthetic is undoubtedly a prominent etiologic factor in the disturbances which accompany and follow surgcal operations. To it may be attributed, directly or indirectly, much of the rapid pulse and respiration, exhaustion, shock, nausea, vomiting, asphyxia, syncope, bronchitis, pneumonia, pulmonary edema, and nephritis seen in connection with surgical procedures under general anesthesia, and clinical evidence abundantly proves that these disturbances bear a more or less close relation to the amount of the anesthetic used. It must, therefore, be of interest and value to look into the question of the amount of the anesthetic and to determine, if possible, the facts which may enable us to reduce this element to the minimum.

Let us consider for a moment the way in which the general anesthetics may cause the disturbances referred to. I am convinced, from long observation, that the rapid pulse and respiration, exhaustion and shock not uncommonly seen after operations free from hemorrhage, are more frequently due to the anesthetic than to the operation, and are in direct proportion to the amount used. This is particularly true of ether, and the condition is here due to overstimulation. This is accompanied by rapid and vigorous pulse and respiration, and these, if long continued, almost invariably result in exhaustion and shock. Quiet pulse and respiration are usually compatible with good anesthesia, and are attained by avoiding the overstimulation of large quantities of ether. Exceptional cases require so much, however, that this is not possible, and it becomes a question whether another anesthetic should not be chosen. While a great many factors enter into the question of nausea and vomiting after general anesthesia, I am satisfied that there is a direct proportion between the amount of the anesthetic and the amount of the disturbance.

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*Read in a Discussion on Anesthesia, before the New York County Medical Association.

Asphyxia during anesthesia is almost invariably due to mechanical obstruction to respiration, resulting from too rapid and free use of the anesthetic. Under such circumstances the upper air-passages become more and more congested, stertor becomes more and more pronounced and the respiratory efforts more and more vigorous. From these causes the obstruction is progressive and may finally become complete if the anesthetic be pushed. Asphyxia may also result from an overdose or from the entrance of foreign bodies into the air-passages. Syncope from the anesthetic is invariably due to an overdose.

While the cause of bronchitis and pneumonia following operations with anesthesia is probably complex, the anesthetic is a prominent factor in the cases not due to sepsis, exposure, the injury, or the operation itself, and its action in this respect would seem to be both direct and indirect; direct in the local irritation and congestion attending the administration, and indirect in the lowering of body temperature and particularly in causing conditions of the respiration which favor the aspiration of foreign matter into the lungs. The latter is no doubt the greatest source of trouble in this connection, and the offending material may be mucus, saliva, vomited matter, blood or other products of the operation. The rôle of mucus and saliva formed so freely during some cases of etherization, is of great importance. This secretion flows into the pharynx and is often drawn into the larynx and trachea, where it is carried back and forth until it is churned into froth. It acts as a mechanical obstruction to respiration; the patient suffers from lack of oxygen and the consequent violent respiratory efforts serve to draw the foreign substance deeply into the lungs. While in the mouth and pharynx this material is exposed to the micro-organisms that inhabit the region, often including the pneumococcus, and if other conditions are favorable, so-called "ether pneumonia" may result.

Acute pulmonary edema is, in my judgment and experience, a rare complication of anesthesia. The condi- from the intense and rapid lung congestion of "ether tion termed "broncorrhea," in this connection, may be occasionally due to a slight pulmonary edema resulting drowning," but in the vast majority of instances is nothing more than the mucus and saliva from the mouth and pharynx above referred to. The relation of the amount of the anesthetic to these pulmonary complications is obvious.

The influence of anesthetics on the kidneys is a subject that has received much attention, a notable example of which is the recent elaborate experimental research of Dr. W. H. Thompson and Dr. R. C. Kemp. While some contend that one anesthetic and some that another is most damaging to these organs, all agree that it is the large amount that is dangerous, and this point is sufficient for the present argument. Assuming that the quantity is an important factor in the disturbances following general anesthesia, and that the minimum amount possible is a desirable consideration, what are the facts to guide us to this end? Granting that a degree of narcosis is required which will assure perfect quiet and relaxation on the part of the patient, the necessary amount of the given anesthetic will be found to depend on: 1. The requirements of the particular patient. 2. The requirements of the particular operation. 3. The method of administration. 4. The administrator.

The requirements of the particular patient will vary greatly with the type and condition presented. In general terms a predominance of the conditions in one or the other of the following groups will determine whether the patient will require more or less of the anesthetic as compared with that taken by what may be called an average patient: 1. Patients who, as a rule, require more than the average are the large, strong, energetic, wiry, excitable, neurotic and intemperate. 2. Those who, as a rule, require less than the average are the small, weak, lethargic, languid, calm, phlegmatic and temperate. Patients who are worked up to a high point of nervous tension and who have only restrained themselves by great effort, frequently require large amounts of the anesthetic. Those who are exhausted and emaciated by prolonged illness not only require small amounts to produce complete anesthesia, but will remain quiet under a much lighter degree of narcosis than will most patients in usual health. Many children at the age of puberty require an unusual amount of the anesthetic.

The requirements of the particular operation will vary according to its nature, severity, location and duration. It is a matter of common observation that certain operations require a particularly deep narcosis, such as those of the rectum, perineum, bladder, urethra, eye and ear, and abdominal procedures involving severe or deep manipulations. On the other hand, a comparatively light narcosis is sufficient for most superficial operations, those on the extremities, bones, joints, cervix, etc.

The method of administration plays, perhaps, the most important part in the amount of the anesthetic used, if not in the amount the patient receives, and the one does not necessarily mean the other. I have in many instances been called on to etherize patients who had previously had ether administered to them by the open method, with partial or complete failure after the use of enormous quantities of ether, and I have experienced little or no difficulty in anesthetizing these patients with small quantities of ether by the close method. In administering chloroform, while several ounces an hour may be required if it is poured on and administered from a folded towel, one ounce will frequently be sufficient if an Esmarch mask and drop-bottle are used, and with a Junker apparatus several drams will suffice. Not only does the method of administration determine the amount of the anesthetic, but the manner in which a given method is carried out will affect the result. Take the administration of ether from a cone, as an example. There are two ways in which ether may be added from time to time, small quantities (ʒi or ii) frequently, or large quantities (℥i or more) at longer intervals. The former plan will consume much less ether and is as preferable to the latter as the "drop by drop" method of giving chloroform is preferable to what may be termed the "dram at a time" method, and for the same reasons.

The administrator, his knowledge, experience, skill and aptitude in this particular direction, will be a most important factor in the question of the amount of the anesthetic. It is a striking fact that men differ greatly in their ability to administer anesthetics. Some acquire the art quickly, others slowly or never. A very great percentage of medical men actually dislike to anesthetize, and these never should.

I am convinced that the smallest amount of the anesthetic compatible with quiet, relaxation and freedom from reflex manifestations during the operation, will give the patient the least possible after-disturbance attributable to the anesthetic. While the actual amount used has not as much significance as the amount of effect produced, there is very apt to be a rather direct proportion between these facts, and the man who uses a pound of ether an hour is vastly more liable to have after-troubles than the one who uses four ounces an hour.[1]

7 East Eighty-seventh Street.

NITROUS OXID AND ITS MODIFICATIONS IN PROLONGED SURGICAL OPERATIONS.*

BY S. ORMOND GOLDAN, M.D.

NEW YORK CITY.

One year ago I presented in this hall a paper on anesthesia, in which nitrous oxid in a general way was principally discussed. I now wish more particularly to bring to notice the possibilities of this and its modifications in prolonged surgical operations. We may consider nitrous oxid, nitrous oxid and carbon dioxid, nitrous oxid and oxygen.

In the early days of nitrous oxid administration, the effects produced by the gas were unsatisfactory, due to impurities, besides a large admixture of air, which produced excitement giving rise to the term "laughing gas." Apparatus with more perfect valve arrangement, by which air was excluded, then came into use, and more perfect anesthesia is attainable. Nitrous oxid has been used in isolated cases, in long operations, but from what we are told in many instances the narcosis was anything but satisfactory, the patient often crying and squirming throughout the entire procedure, though unconscious of having done so. It is usually supposed that nitrous oxid is only applicable in the short operation, the time available ranging from thirty seconds to two minutes, which is the period intervening between the removal of the face-piece and return to consciousness. Operations in the mouth, as tooth extraction, etc., also require rapidity on the part of the operator. It has always seemed remarkable to me that the dentists do not use the Rose position. All text-books mention the danger of fragments of teeth falling into the larynx. I think this position would effectually prevent this, and hemorrhage—which is always free in oral operations—would flow from the mouth instead of into the larynx. There is no objection to using gas repeatedly in operations in the mouth. It requires many interruptions for the surgeon, but this is more than compensated by the quick return to consciousness and the elimination of risks due to a more dangerous anesthetic.

Operations not in the mouth, where the inhaler may be removed or air admitted and gas as quickly readmitted, may be prolonged indefinitely. For this purpose a valved device in most perfect working order is essential. A close-fitting inhaler without valves may be employed in the hands of one experienced, for shorter narcoses. The very best stop-cock at present made is that of Barth & Co., London, for the reason that it is air-tight and has indestructible valves, in my estimation a great advantage over that of Dr. Hewitt. This stop-cock is exceedingly simple, light and durable. It may be said that all stop-cocks are made much the same way, the only difference being that the valves in some work through vertical, in others through horizontal, axes. It occurred to me that in gas administration the valve arrangement might be dispensed with, making the apparatus much simpler, an important factor for the occasional administrator or the hospital interne, as it permits him to give his entire attention to the patient, and not to the apparatus. By this method the gas can be given as well as with the valved inhalers, and with a little practice it works particularly well where the gas is given as a precedent to etherization.

In the inhalation of nitrous oxid for a long operation, say an hour or so, it is recommended that the following precautions be particularly observed: Always have a sufficient supply of gas on hand. Nothing is more unsatisfactory than to have to continue with another anesthetic, a narcosis which would have been satisfactory with gas alone. If, as is usual, the recumbent position is employed, the stop-cock should be turned at right angles to the face-piece. The administrator may then stand at the head of the patient.

During a long narcosis the gas cylinder will often become covered with hoar frost, which is of no importance, but frequently with this the gas will freeze in the tap. The best manner to remedy this is to apply a towel wrung out of hot water around the valve of the cylinder—not the cylinder itself. A simple precaution, but one often conducive to a good anesthesia, is to have the patient's head turned fully to one side, as I recommend in all anesthetization. By this means the pharynx and larynx remain unobstructed by mucus; as in anesthesia by nitrous oxid it is not only essential that the patient breathe the gas easily, but that the air-passages should be free, that it may be exhaled as easily, when air is inhaled.

There are few contraindications to the use of nitrous oxid, and those principally depend on organic lesions of the circulatory apparatus, which I do not think it necessary to enter into here. There are few operations which contraindicate the use of the gas. These are principally operations of delicate dissection, or where venous engorgement is undesirable. Abdominal operations do not contraindicate its use, providing sufficient relaxation can be obtained. A question frequently asked is one regarding relaxation in abdominal cases. I might say, this can often be obtained, providing a small device which I have never before seen mentioned, is employed: that is, flex the legs and thighs fairly well. This will effectually produce relaxation of the abdominal wall in many cases, which would be absolutely tense otherwise, and another anesthetic would become necessary.

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[1] As a rough estimate, allowing for different methods of administration I reckon the average amounts of the different anesthetics mentioned necessary for one hour will be nearly as follows: Ether, ℥iv to vi; chloroform, about ℥i; A. C. E., about ℥iii.

*Read at a Discussion on Anesthesia, before the New York County Medical Association.

During examinations under gas, for diagnostic purposes, the examiner has often assured me that the abdominal wall was perfectly flaccid, so that the pelvic contents could be easily and effectually palpated with both hands. There was then no reason, to my mind, why gas could not be employed, and I always take the precaution to flex the lower extremities. I also have observed that it is undesirable to carry the depth of anesthesia to the production of clonic muscular spasms, which are followed by tonic spasms, and so increase the rigidity of the muscles, instead of relaxing them. This latter point, however, requires great skill to accomplish. In those abdominal cases where gas will not sufficiently relax, I would recommend a method found useful where it was undesirable to subject the patient to too long etherization: Induce and maintain anesthesia, with gas alone, or combined with oxygen during the preparation of the patient on the table. I find an average time of 15 minutes is consumed; in some cases as little as 5 minutes, in others as much as thirty. Continue the gas to incision of the peritoneum; then turn on ether sufficient to obtain relaxation. After the peritoneum is sutured, discontinue ether and employ gas to the end of the operation.

Anesthesia by nitrous oxid is complete, varying in time from thirty seconds to two minutes, depending on the exclusion of air. If the respiratory passages are free, anesthesia is very quickly induced. The phenomena produced are as follows: At the commencement of inhalation there may be a slight feeling of suffocating, which will quickly pass away. After the first few inspirations the patient will experience the usual pleasant sensations, the gas having much the same pleasant, sweetish taste as chloroform, and if pure it has no irritating effects on the respiratory passages. Sneezing and coughing do occur in a very few instances. (If persisted in, it should lead to an examination for impurities in the gas. These impurities consist principally of the higher nitrogen oxids—intensely irritating vapors.) A feeling of exhilaration is produced; tingling sensations in the whole body, particularly in the extremities and tongue, buzzing in the ears, and sometimes dreams of a pleasant or unpleasant nature. Auditory sensations are very acute. Often the patient will describe loud, rumbling noises and a sensation as of falling, just preceding unconsciousness. The respiration, which is at first regular, becomes deep, inspirations becoming prolonged, as the blood becomes surcharged, respiration becomes rapid, short and shallow. The pulse, at first rapid and full, as anesthesia is produced becomes full, hard, regular, and slow, becoming irregular and small if the inhalation is not discontinued. As consciousness returns, the pulse becomes more rapid, approaching the normal, and the respirations become slower and fuller.

During induction of anesthesia by nitrous oxid, the eyelids twitch or open and close rapidly, the eyeballs protrude or roll upward, outward or inward, or may become fixed in the central position. The pupil, at the height of anesthesia, is widely dilated. The ciliary conjunctival or corneal reflexes are not abolished early in, and it is not wise to depend on these signs as a test of, anesthesia. Muscular spasms of the face, thorax, abdomen and extremities occur, stertor ensues, the skin and mucous membranes have become progressively more congested, until they become intensely cyanosed.

The best signs of anesthesia by nitrous oxid are stertor and cyanosis, small, hard pulse and rapid and shallow respiration. With some experience, it is possible to produce anesthesia without intense cyanosis, and it should always be enndeavored to carry the inhalation just to the point of the convulsive movements. After the inhalation is discontinued, stertor ceases, cyanosis disappears and the patient quickly returns to consciousness. The gas should be readmitted before complete consciousness is regained; it should be remembered that it requires a shorter time and less gas to reinduce anesthesia than during the primary inhalation.

It averages about four gallons of pure nitrous oxid to anesthetize a patient of ordinary type, and about 100 gallons of gas by volume, twenty-five ounces by weight, will be used in an operation lasting one hour.

NITROUS OXID AND CARBON DIOXID.

This combination may be used in an inhaler without valves, either in long operations, or to precede ether. In this method the patient simply breathes back and forth into the gas bag, carbon dioxid is produced during the patient's respiration, and consists in amount equal to the quantity of oxygen in the blood at the time the inhalation was begun. It might, at first thought, be supposed that as the patient continued rebreathing the gas in the bag, carbon dioxid would be increased, and the nitrous oxid decreased. This would be so were the old and mistaken view correct, that is, that nitrous oxid produced its effect by hyperoxygenation of the blood, whereas, it is an asphyxiating agent, as no oxygen is present. After the oxygen in the blood is used, no carbon dioxid, which is a product of oxidation, is produced. This plan of anesthesia, I think, demonstrates that nitrous oxid is an asphyxiant, though it also has anesthetic properties, as proved, by its use with oxygen. This method produces anesthesia about as quickly as with nitrous oxid alone. Patients frequently complain of headache with this combination, and this I attribute, not to carbon dioxid, but to the volatile organic substances produced during respiration, and inhaled over and over again. To obviate this, the inhaler should be opened occasionally and the bag collapsed and then refilled with fresh gas. After anesthesia is complete, the obturator is turned and the inhaler removed until the patient takes a few breaths of fresh air; the inhaler is then reapplied and the gas admitted; this is repeated over and over again, throughout the entire operation. The quantity of gas used by this method is slightly less than when using nitrous oxid alone.

NITROUS OXID AND OXYGEN

Dr. Hewitt's apparatus is usually employed for the inhalation of gas and oxygen. With this method it is endeavored to give the gas with as much oxygen as each patient will stand, to prevent cyanosis, and not too much to interfere with anesthesia. To secure the best results the apparatus must be in perfect order, and the administrator should be able to use it automatically, giving his whole attention to the patient. The percentage of oxygen must be varied from time to time throughout the narcosis, depending on the effects produced on the patient, not on the quantity of oxygen used as designated on the index. With this form of anesthesia, the mask is constantly applied, and the inhalation continues uninterruptedly. This form requires the greatest skill.

During anesthesia with nitrous oxid and oxygen, respirations are regular and about normal in frequency. The pulse is about the same as at the commencement of the narcosis; as gas is increased, it becomes slower and fuller; as oxygen is increased, it becomes more normal, until the normal is reached. With this apparatus the gas is administered and the oxygen admitted, and as quickly as possible the oxygen percentage is increased, up to as great quantity as the patient will stand without interfering with anesthesia.

I would also like to show you a very simple method of using gas and oxygen. This consists of one gas bag, attached to which is an inverted Y-shaped tube, to which separate pieces of rubber tubing are attached. Two cylinders are used, and the bag is fairly well filled with gas, then oxygen let in. The proportions are varied according to the effect produced on the patient. Considerable experience is necessary to determine the relative quantities of the gases, and, if preferred, oxygen may be permitted to flow into the bag first. It is desirable to have the oxygen proportion as near 10 per cent. as possible, though in some patients much less than this can only be used to produce good results.

After-effects produced by nitrous oxid are rare. Consciousness is usually, though not always, immediately regained. The patient, often conscious, will not always be inclined to talk. Headache, sometimes intense, lasts for hours. Nausea and vomiting is sometimes intense, especially when the patient has failed to abstain from eating. I remember a patient who, after a half hour of narcosis, had intense retching and vomiting of undigested grapes, eaten five hours before. Another, I was told, had dilated pupils for two days, and could not read during that time. Still another was anesthetized by me seven times with nitrous oxid. At the last three, on her return to consciousness, she had a look of most abject terror depicted on her countenance, and persisted in screaming very loudly. This patient complained of inability to breathe: that is, she could not get sufficient air. Her pulse, respiration and color were good. Hysteric attacks occasionally occur following the use of nitrous oxid and oxygen, and excitement, though rare, occurs far more frequently than when using the gas alone. Glycosuria was observed by me in three cases following the use of nitrous oxid alone.

Nitrous oxid is more expensive in a long operation than ether or chloroform; used to precede ether, it is less expensive than ether alone. The gas, used by the rebreathing method, is about as expensive as when using the pure nitrous oxid. Nitrous oxid and oxygen make the most expensive method of anesthetization. In an operation for double amputation of the breast, and excision of axillary contents, in a patient aged 76 years, and lasting two hours and forty minutes, it took 220 gallons of nitrous oxid and 60 of oxygen, together costing $7.40, and in this case a minimum quantity of the gases were used. Another case, a nephrectomy lasting two hours and fifteen minutes, took 350 gallons of gas and 80 of oxygen. In a vaginal hysterectomy lasting one and a half hours, there was consumed 200 gallons of nitrous oxid and 70 of oxygen.

In conclusion I would say that while, for various reasons, nitrous oxid is not generally applicable, yet in cases where for any reason it is undesirable to give ether or chloroform, or where the anesthetic factor combined with the operation would be more, probably, than the patient could survive, it is particularly indicated and satisfactory, and very rarely fails.

[illegible] W. [illegible] Street.

Itching of the Anus.

℞	Sodii hyposulphitis	30 parts
	Acidi carbolici	5 parts
	Glycerini	20 parts
	Aquæ	150 parts

Mix. Compresses wet with the solution are to be applied to the anus frequently.

EXPERIENCES WITH ETHYL CHLORID IN GENERAL ANESTHESIA.*

BY JAMES P. TUTTLE, M.D.

Surgeon A. H. and W. H. Hospitals, Professor of Rectal Surgery, New York Polyclinic.
NEW YORK CITY.

For many years ethyl chlorid has been known as a local anesthetic, and to some few as having properties of a general one through inhalation. Its use has never been very general, however, and information concerning it has been very meager until recently. Almost all physicians have used the drug as a local anesthetic, some more and some less extensively. In this manner, it has never compared with cocain, and can never supersede that drug. I do not propose to go into the literature of kelene anesthesia, but during the discussion of general anesthesia, it might be well to make public some experiments I have been making for the past three months with ethyl chlorid as an adjuvant to ether anesthesia.

After reading the report of Army Surgeon Weisner, in November last, I determined to give kelene a trial as a general anesthetic. Accordingly, having obtained a graduated tube, with a proper sized aperture for general anesthesia, I made my first experiment on November 15. My patient was a strong, well-developed man of 45, suffering from a fatty tumor under the border of the scapula. The kelene was administered and insensibility to pain produced in four minutes. The muscles, however, did not relax to give me easy access to the tumor, and as I had no encouragement to suppose they would so relax, from the experiences of Hecker, Weisner and others, I ordered my anesthetist to change from kelene to ether. In less time than it takes to tell it, my patient was entirely under the influence of ether and the muscles entirely relaxed. Indeed, so rapid was the effect at first produced that I was alarmed; but as there were no symptoms to justify alarm, I went on with my operation. The result in this case was so happy that I determined to try it on my next patient, one with hemorrhoids. In such cases kelene would not prove a satisfactory anesthetic, because it does not relax the muscles, and here this relaxation is absolutely necessary. Therefore I administered the kelene for three and a half minutes, or until the patient was insensible to touch of his conjunctiva or to the pricking of a hypodermic needle. The Ormsby ether inhaler was then applied, and in two minutes by the watch our patient was completely anesthetized and relaxed, making in all five and a half minutes for the complete anesthesia.

So pleased was I with the results in these two cases, that I began a series of experiments with the drug as an adjuvant to ether anesthesia. The method employed was as follows: A graduated tube of pure ethyl chlorid, with a larger aperture than that ordinarily used for local anesthesia, was employed. An Esmarch chloroform inhaler, covered with several layers of gauze, was placed over the patient's nose and mouth; the kelene was then sprayed on its under surface and the patient directed to inhale deeply. The spraying was renewed whenever the vapor ceased to appear on the patient's exhalation. As soon as the patient became insensible to the prick of a needle or the touch of his conjunctiva, the Ormsby ether inhaler was applied and the anesthesia completed.

I wish to record forty cases. I will not present them in detail, as they vary only in the time consumed in producing anesthesia, which in the successful cases never exceeded seven minutes. I shall detail one case, simply as descriptive of all the others.

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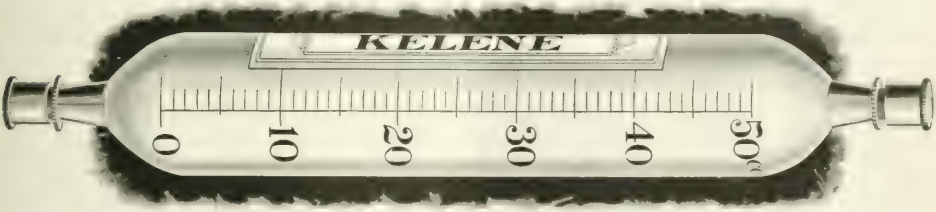
*Read in a Discussion on Anesthesia, before the New York County Medical Association.

J. G., a grocer's clerk, 35 years of age, of ordinary habits had hemorrhoids. Pure ethyl chlorid inhalations were begun at 3:10—pulse 74. Insensibility to touch was produced at 3:12½—pulse 80. The ether cone was applied at 3:13. The patient was completely relaxed and ready for the operating-table at 3:15, just five minutes after the commencement—pulse 80. Consciousness was apparently never lost during the kelene administration. I could talk to the patient and receive answers up to the giving of the ether. He responded when requested to breathe deeply, and would move whichever hand I indicated. There was a momentary spasm of the glottis when ether was begun. There was no struggling and no cyanosis. The patient recovered from the ether ten minutes after the removal of the cone. He had no nausea nor vomiting; in fact, no symptoms that would indicate that he had taken an anesthetic. The amount of ether used was not measured. The thirty-nine other cases, with four exceptions, were practically the same, some of them taking more and some less time, the shortest three and a half minutes, the longest seven. In some cases there was more or less struggling for a minute or less when the ether was begun, but these were isolated cases where the kelene anesthesia was not carried far enough. Ordinarily, I was able to speak to the patient, telling him that the ether would strangle him a little, and thus control him until a few deep inhalations had been taken, thus putting him beyond the point of consciousness. At this point an unconscious struggle may occur, but only in a small minority of patients. Recovery from the ether was always rapid. In a few cases there was some nausea but, on the whole, I think I may safely say that this disagreeable feature of ether anesthesia was greatly reduced. I inquired of a number of patients whether they had any recollection of the application of the ether cone and of the slight struggling it produced, receiving a negative reply in every case.

In the reported patients there were four in whom the use of the drug was unsatisfactory. Two of these, it would seem, were insusceptible to the influence of ether, and in both of them I was finally compelled to resort to chloroform, before I could induce anesthesia and relaxation. In another the ethyl chlorid seemed to have no effect whatever, and even after it was discontinued and ether used with the greatest freedom, it required over twenty-five minutes to induce anesthesia. The fourth was a woman so anemic, and with such feeble circulation and shallow respiration, that it appeared that neither drug was absorbed rapidly enough to produce quick anesthesia. It took more than fifteen minutes to anesthetize her. These four, however, were none the worse for having tried kelene, and I am certain the drug had no influence in retarding the ether anesthesia. The method of using the drug has been described above.

The amount of ethyl chlorid used varied from 10 to 20 c.c. I consider it important to have a graduated tube with a large aperture, so that the drug will not be wasted by evaporation, as it is sprayed on the mask.

The requisites of a perfect anesthesia are: 1. Safety to the patient. 2. Insensibility to pain. 3. Complete relaxation. 4. Easy and rapid production of effect. 5. Freedom from disagreeable or dangerous after-effects. 6. Simplicity of administration. After more than fifty experiences with this drug in connection with ether, it seems to me that most of the above requisites are met with by this combination. The time required has been less than that required with nitrous oxid as a precedent to ether. There have been no accidents and no physical symptoms which would lead us to believe the drug, thus administered, anything but perfectly safe. The amount of ether used has been greatly lessened; the recovery from anesthesia much hastened; nausea and vomiting are practically obliterated, and the elements of shock have been greatly reduced. Moreover, we have had no experts, but simply an operative surgeon (the author) and the ordinary house surgeon, to administer it. There is no complicated, cumbrous and costly apparatus necessary for its administration, and it does not require a Saratoga trunk to carry it around. If such experiences with kelene shall be verified, it seems to me its use will shortly supersede that of nitrous oxid, and much of the dread shock and disagreeable experiences of general anesthesia be done away with.



35 West Forty-fifth Street.

DISCUSSION ON PAPERS OF DRS. WYETH, BENNETT, GOLDAN AND TUTTLE.

DR. HOBART A. HARE, Philadelphia, invited to open the general discussion, said that he is opposed to the cumbersome apparatus that had just been exhibited for use in administering ether and chloroform, for he believes the apparatus should be simple, and above all so constructed as to allow of easy and rapid cleansing and sterilization. There is good reason for believing that many pulmonary accidents originate from using these closed inhalers with their attached bags. Whenever he has witnessed a person anesthetized by the use of one of these bag inhalers, he has been impressd with the fact that, while doubtless the patient was anesthetized primarily by the anesthetic agent, he was anesthetized secondarily by carbon dioxid, and in addition was quite probably still further benumbed by inhaling the poisonous effete material exhaled from his own lungs. It does not seem to him wise to obscure the effects of the anesthetic by the other factors, even supposing they are in themselves harmless. The inhalers most in vogue in Philadelphia are the folded towel for chloroform, and the towel cone or the Allis inhaler for ether. He expressed astonishment at Dr. Wyeth's statement that chloroform is more dangerous in children than in adults, for this is contrary to general teaching and certainly does not find support in medical literature. Ether seems to him particularly objectionable for children because it is so liable to set up, by irritation, an inflammation of the delicate mucous membrane lining the respiratory passages of the child.

As regards the effect of chloroform on the heart, Dr. Hare took the ground that chloroform does not primarily exercise a distinctly depressing influence on the left heart in a healthy person, but that the numerous cases of sudden circulatory failure, reported in connection with the use of chloroform for anesthesia, are to be explained by vasomotor paresis. It is perfectly possible for a person to bleed to death into his own arteries. In illustration of this view, he reported a very striking case. While watching a colleague administer chloroform in a private hospital, the patient suddenly become absolutely pulseless, and, at his suggestion, the abdominal aorta was quickly compressed with the hand. The result was an immediate restoration of the heart's action. If death from chloroform is not due to vasomotor failure, then it is the result of a paralyzing action on the respiratory center. The reason that atropin, when administered shortly before beginning the anesthetic, gives a better anesthesia, is that it is an excellent vasomotor stimulant. For the reasons already given, he is in favor, in very feeble persons, of bandaging the limbs, or even of applying an abdominal compress over the aorta, before anesthetization.

He expressed pleasure that some medical men, like himself, had been asked to join the surgeons in this discussion on anesthetics, for physicians see a somewhat different side of this most important question. This is particularly true of the shock which not infrequently follows the use of any anesthetic. He has repeatedly known persons to recover satisfactorily from the immediate effect of an operation, and yet carry a distinct stigma of the anesthetization for months, in the shape of a vague nervousness, or an ill-defined state of ill-health apparently attributable to the shock received at the time of the anesthetization. He said, particularly for the benefit of the young hospital interne, that if the anesthetic is properly administered, the patient's head being kept in proper position, and the jaw properly manipulated, there should seldom be any occasion for the use of the tongue forceps. While he is of the opinion that the previous use of morphia tends rather to increase the tendency to nausea and morphia after anesthetization, this can be controlled very satisfactorily by combining the morphia with nitroglycerin. In the presence of valvular disease of the heart he would select ether in preference to chloroform, and the same is true of cases of fatty heart. He would also prefer to use ether in young athletes, for experience shows that this class of persons is specially liable to accidents with chloroform.

Dr. R. Coleman Kemp briefly described the physiologic experiments which he has carried on in conjunction with Dr. William H. Thompson, with a view to determining the effect of various anesthetics on the heart and kidneys. These experiments demonstrated that ether apparently exerted a selective and deleterious action on the kidney, causing relatively a greater constriction of the renal vessels, and inducing more marked albuminuria than does chlororform. With the ACE mixture the chloroform effect in depressing the heart's action had been noted, together with the typical effect of ether on the kidneys. The Schleich mixtures, when given, with the closed inhaler, also gave the chloroform heart and the ether kidney. Anesthol, a mixture of ethyl, ether, and chloroform, depresses the heart and circulation. Where the kidneys are damaged or suspected to be, nitrous oxid gas and oxygen seems to be the safest anesthetic, unless the patient is atheromatous. As regards the kidneys, chloroform is a close second to nitrous oxid gas.

Dr. Ferdinand Hasbrouck, speaking for the dentists, described his method and apparatus, and asserted that although he had administered nitrous oxid gas many thousand times he had never lost a patient. He laid special stress on using a tube of very large caliber to convey the gas to the mouthpiece. He has had a fairly large experience with the administration of this anesthetic for operations lasting one or two hours, and he has not noted any very great difficulty in maintaining a proper anesthesia.

Dr. R. H. M. Dawbarn made the assertion, which he declared was based on statistics in the possession of Drs. Kemp and Thomson, that nearly one patient in nineteen in our hospitals here dies from ether narcosis, though it is recorded under other names. The fact that he personally had not had a single death from suppression of urine after etherization or from ether pneumonia, in the past ten years, he attributes largely to his use of a simple modification of the Clover inhaler. By breathing the ether over and over in such a bag inhaler, the ether is warmed, and a fruitful source of irritation of the respiratory passages thereby eliminated. According to Dr. H. C. Wood, of Philadelphia, carbonic acid anesthesia is not dangerous, and hence this oft-repeated objection to the closed inhaler "falls to the ground." The use of 1/150 gr. atropia and of 1/6 gr. morphia, with a little whisky, shortly before administering an anesthetic, reduces the quantity of the anesthetic required, and tends to eliminate one great cause of shock—fear.

Dr. J. A. Bodine alluded to a discovery of Dr. Andrew H. Smith, that when acid urine is shaken in a test-tube with ether, a gelatinous material is formed. He suggested that as this does not occur when the urine is alkaline, some of the irritation of the kidney, consequent on the inhalation of ether, might possibly be avoided by adopting such measures as would render the urine alkaline at the time. He laid great emphasis on fright as a dangerous factor and narrated a case in which the findings at autopsy, as well as the clinical history, seemed to justify the assumption that death had been brought on by fright at the thought of taking the anesthetic. To diminish this fright, he favors the use of morphia.

Dr. A. Ernest Gallant described a simple ether inhaler that he had devised. He said that it could be improvised from a piece of stovepipe or iron leader-pipe, three inches in diameter and 3½ inches long. The lower portion of the frame is covered with a layer of absorbent cotton, held in place by an elastic band, and the pipe itself is loosely filled with gauze. A newspaper, folded eight inches wide, and wrapped in a towel, is then wound tightly around the frame, both ends being left open.

Dr. J. W. Draper Maury said that the use of chloroform after nitrous oxid is likely to induce vomiting, and moreover, the use of chloroform under these conditions is likely to lead to serious cardiac depression.

Dr. M. L. Maduro spoke a word in favor of Schleich's mixtures, and added that no matter how interesting might be physiologic experiments, such as those made by Drs. Kemp and Thomson, their results had been more than offset by extensive clinical experience.

WHAT ARE THE MOST EFFICIENT AND PRACTICAL MEANS FOR LIMITING THE PREVALENCE AND FATALITY OF PULMONARY TUBERCULOSIS?*

BY N. S. DAVIS, M.D.

CHICAGO.

There is no other subject within the domain of medicine that appears to be attracting the attention of the profession at the present time to so great an extent as the prevention and treatment of tuberculosis. And certainly no other disease has greater claims on our attention, an account of its very general prevalence in all the countries of Europe and America, and the great mortality occasioned by it, being equal to one-eighth of the total mortality from all diseases.

To enable us effectually to devise and execute means for preventing or limiting the prevalence of any given disease we must know something of its causes, or, at least, of the conditions under which they become active as well as of the conditions under which they cease to act or are destroyed. Consequently, a correct and full knowledge of etiology contitutes the only legitimate basis for preventive medicine. It is true that in times past much useful work was done to limit the prevalence of both endemic and epidemic diseases, by carefully studying the conditions under which they prevailed, without knowing the specific causes to which the conditions gave rise, and on which the diseases depended. From a very early period in the history of medicine it was well ascertained by clinical observation alone that all the varieties of continued and periodic fever originated from some subtle poison that was generated in moist soils containing much decomposable vegetable matter, or in ill-ventilated and uncleanly houses, or in water and soils impregnated with animal matter or excretions. These conditions were recognized as giving rise to poisons which were termed koino- and idio-miasms; and the laws governing their development and activity were studied with so much success that many of the more important sanitary measures of modern times were founded on them, long before the essential nature or composition of the several miasms could be ascertained. For the latter, the profession had to wait until the progress of physics had developed the binocular microscope for our use, as the only instrument by which the bacteria of fermentation, decomposition and septic poisons could be revealed to the human eye, and the more exact conditions of their development and propagation could be studied in connection with each disease.

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*Presented in a Symposium on Tuberculosis, before the Section on State Medicine, at the Fiftieth Annual Meeting of the American Medical Association, held at Columbus, Ohio, June 6-9, 1899.

The same may be said in regard to the causes and prevention of pulmonary tuberculosis. Persistent and careful study of the conditions that favor the prevalence of tuberculosis long since accumulated an array of facts sufficient to demonstrate that the prevalence of the disease was greatly increased by living in small, ill-ventilated and damp dwellings located on wet or undrained soils; by sedentary habits and close, indoor occupations; by habitual use of alcoholic drinks; by continued mental anxiety and depressing mental emotions; and by hereditary influence. The influence of these facts in guiding physicians and sanitarians to such improvements in the management of tuberculosis as have resulted in the saving of many lives, is well-known to all who have given attention to the subject. But the discovery of the tubercle bacillus by Koch, as in the identification of pathogenic bacteria in connection with many other diseases, quickly concentrated almost the entire attention of the profession on the bacillus and the means of exterminating it, regardless of all previous knowledge of predisposing and prophylactic influences. It was hastily assumed that inasmuch as the disease was caused by a specific germ, or at least accompanied by the development and multiplication of such during its progress, it must be regarded as contagious or communicable from one individual to another by contact or close proximity, and therefore treated by isolation, disinfection and by germicides or antitoxins, on the same principles as we treat variola and other fevers caused by well-known specific viruses. Consequently, the unfortunate consumptive began to be avoided as far as possible and required to catch and disinfect and destroy his sputum, or, at least, not spit in the streets or in public conveyances, lest the bacilli contained therein should, after becoming dry and mingled with the dust, be inhaled by the community and thereby spread the disease. And to more certainly prevent this, some genius proposed having all the members of the community wear antiseptic gauze over the mouth and nostrils. Numerous bactericides have been and are being given, and the laboratories of experimental bacteriology have been taxed for tuberculins and antitoxins, all for the purpose of either neutralizing the specific germ or rendering the living body immune to its effects. At the present hour the most extensive plans are being organized, both in this country and Europe, in favor of destroying all tuberculous cattle so as to prevent the infecting bacillus from coming in our meat and milk, and of segregating all consumptives in sanitariums or colonies for their exclusive occupation, isolated as much as possible from the rest of mankind. It will be noted that all these measures are designed for the isolation and ultimate destruction of the bacillus, which is assumed to be the sole determing cause of the disease called tuberculosis. Yet they are all applied, or become operative, only in individuals after they are already sufficiently tuberculous to render a bacteriologic diagnosis possible.

The cow or animal is not slaughtered until the proper tests show her to be actually tuberculous, and may have been spreading her bacilli not only among the herd but over the whole pasture over which she roamed for weeks or months. The human subject is not isolated in the sanitarium or colony nor treated with germicides nor antitoxins until the morbid processes have so far advanced as to render the diagnosis obvious, which is generally several months after the evolution of bacilli has commenced. For tuberculosis, unlike the acute infectious fevers, commences with no well-defined period of incubation, nor runs any definite self-limited period of time, nor does one attack render the individual immune to future attacks. On the contrary, its beginning is insidious, slow, and, in the majority of cases, its progress is through several months before its presence is suspected or even a physician is consulted. Consequently, if it is true that the escape of the tubercle bacillus in the sputum and moisture of the breath, in the meat and milk of animals, or in any other eliminations, is capable of impinging on and infecting the walls and furniture of dwellings, or drying up and floating in the atmosphere of streets and public places sufficient to infect those who inhale it, then certainly the measures that are now occupying so much attention can never do more than to afford a very limited amount of protection from the propagation of the disease. Furthermore, if the tubercle infection or bacillus is thus spread in an active state, it must have been, long since, diffused in almost every inhabited township in Christendom. And had it been contagious in the same sense as are the infections of variola and rubeola, the human race would have been annihilated by it centuries since. But abundant clinical observation has shown that the infective power of the tubercle bacillus through simple contact with the sick or by atmospheric transmission, is successfully resisted by the natural processes of vital resistance possessed by the healthy living human body. For few persons in civilized communities reach adult age without coming in contact with, or in close proximity to, persons laboring under tuberculosis, yet a very large majority of the entire population live and die without developing any signs of that disease. Physicians and nurses who have been in almost daily contact with cases of tuberculosis, both in hospitals and in private practice for years, have developed no greater ratio of attacks than have been found in the people of the same localities; and even numerous cases are on record in which the tubercle bacillus was found in the upper air passages of persons in good health without any injurious effects following.

The correct inference from all this is, not that the bacillus is harmless and of no importance, but that the natural vital resistance, when in full vigor, is sufficient to render the human body immune to its attacks, and that it only becomes effective in the production of disease when the natural standard of vital resistance had become defective or impaired from other causes. Or, as was well stated by M. Jaccoud,[1] the tubercle bacillus belongs to a group of pathogenic microbes called "etiological dualisms," because they may exist in healthy organisms an indefinite period without injury to the latter, and become noxious only in consequence of changes in the organism itself, from other influences. Hence, he says, in reference to this class of microbes: "Pathogenesis, by changes in the organism, is the rule, and the traditional etiology, based on heredity, congeniality, predisposition, constitution, temperament, or on somatic or cosmic influences, retains all its force. These multiple and variable elements are the *true causes* of disease; the microbe is only the instrumental agent." Logically then, the true field for sanitary work in exterminating the bacillus of tuberculosis is in removing the defects, imperfections and impairments of vital resistance in the living body that make it possible for the microbe to multiply and produce disease either in man or animals. Prevent the formation of the necessary soil and you make sure of preventing the crop. But leave all the important agents and influences that are actively at work in preparing the soil by diminishing man's vital resistance to the microbe, and your crop will continue to appear even though you cremate it as fast as it is harvested. As I have stated elsewhere, the chief elements of vital resistance possessed by the living human body are the inheritance of vigorous, primary cell-bioplasm, leucocytic, internal oxidation, metabolic and excretory activity. And it is only when these elements have been impaired by persistent depressing mental emotions, such as anxiety, despondency, or grief, or by living in overcrowded, ill-ventilated houses on damp soils, or by insufficient food, clothing and open air exercise; or by the use of alcoholic drinks and other anesthetic and narcotic drugs, or by prior attacks of other diseases; or by hereditary defects of organization, that the tubercle bacillus is able to develop its destructive effects on the human organization. If this is true, the great leading object should be to so instruct the people that these various causes of vital impairment would be avoided. The sanitary authorities should, with increased vigor, continue their work of everywhere enforcing cleanliness, house ventilation, soil drainage, pure water, wholesome food, and the discontinuance of the use of all varieties of alcoholic drinks and narcotic drugs, which so invariably diminish nerve sensibility and vital resistance to all morbid agencies. In so doing they would accomplish vastly more in limiting the spread or prevalence of tubercular disease than by all other agencies combined. And in this work the authorities should be efficiently aided by every physician who gains access to the fireside and confidence of a family. Every family physician should regard it as one of his most important professional duties to note the special morbid tendencies of all the families who rely on him for medical services, and be as careful to point out the means for correcting them as he is to prescribe medicines when they are actively sick.

In conclusion, I would say, continue to take care of the infected sputum and cattle, and provide as good sanitariums as possible for those already tuberculous, but as the bacillus or germ is already diffused over both hemispheres, our success in preventing it from germinating and continuing its annual harvests of death will depend mainly on the efficiency of our efforts to restore and maintain in their full vigor, the natural conditions and processes of vital resistance to toxic agents possessed by the living human body.

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[1] Semaine Méd., January, 1896.

PREVENTION OF TUBERCULOSIS.*

BY HOMER M. THOMAS, A.M., M.D.

CHICAGO

Of the seventy-five million people in our land to-day, ten million or more will die of tuberculosis, unless we develop methods for its prevention. The age of those dying from tuberculosis averages from 18 to 40 years. This is the most productive period in the individual life. The best results of education, culture, and labor are then achieved. The climax of one's usefulness in the world is at its zenith. What an appalling fact, then, to appreciate that from 14 to 15 per cent. of all these deaths occur from a disease which is absolutely preventable! Viewed from the standpoint of money loss alone—$5000 being the amount a human life is valued at in Illinois—all the expenses for maintenance of our great government are not to be compared with the financial loss sustained by the nation from tuberculosis. How the people live is one of the most pertinent questions that can occupy our time, and through what causes and at what ages they die is of equal importance. Nothing can be of higher value than teaching the race how to live longer, healthier, and happier lives. Confident hopes are now entertained that tuberculosis can be exterminated as a disease, and the present active interest on the subject of its prevention is worthy the serious consideration of all. Pathogenic microbes that have the bacillus of tuberculosis are doubtless the most widely disseminated. No one is absolutely free from the possibility of their infection. The general results of post-mortems show that an average of from two-fifths to one-half of all persons dying, from whatever causes, give evidence of tubercular infection of the lungs—the region where this germ exerts its most deadly action. The truth of this observation has been confirmed in the living by the use of the Roentgen ray. It appears to be a fact that tuberculosis has, within recent years, been diminishing in importance as a cause of human mortality; this may be due to our better knowledge of the nature of this special disease, the best means of avoiding and counteracting it, general hygienic environments, and improved modes of living. Tuberculosis in some form or other may fairly be considered the universal disease of the race.

Biggs demonstrated characteristic lesions in the lungs alone in 60 per cent. of his post-mortems. Grawitz found primary tuberculosis deposited in the lungs in 152 out of 221 patients, being nearly 70 per cent. of all infections. The mortality among civilized people is usually less, one-seventh, or 14 to 15 per cent., but the death-rate from this disease at present is often from 40 to 50 per cent. It is estimated that a consumptive expectorates, at times, as many as seventy millions of the bacilli in twenty-four hours. If the sputum contains these germs, and it is not properly disposed of, if it dries on the floor, about the clothing, in the handkerchief, or on the beard, it will soon become pulverized and inhaled by those who come in contact with it. Should these be vigorous and well nourished, there is little fear of contamination, for a healthy nasal mucous membrane has strong bactericidal properties. Should, on the other hand, others have a lowered vital resistance, they will probably acquire tuberculosis. To make our conception of tuberculosis sufficiently comprehensive, we must include not only the bacillus but changes in the cellular and the chemical constitution of fluids and solids brought about by its activity. There is a condition which makes the human tissues a receptive soil and a favorable culture-medium for the tubercle bacillus. That state of the system which might be termed a diathesis or susceptibility, being a departure from the normal health standards, is a disease in itself and undoubtedly an important element in the morbid changes of tuberculosis.

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*Presented in a Symposium on Tuberculosis, before the Section on State Medicine, at the Fiftieth Annual Meeting of the American Medical Association, held at Columbus, Ohio, June 6-9, 1899.

The mode of entrance of the tubercle bacillus into the body is: 1, by the lungs; 2, by the alimentary canal, and 3, by inoculation of the skin. The infection leaves the body mainly in sputum coughed up from the lungs, and also may occur in secretions or excretions from other diseased organs. The infectious sputum is mainly that from the lungs. The tubercular sputum, when dry, is especially dangerous. The tubercular sputum of inclosed air-spaces constitutes a far greater danger than that which remains out-of-doors. The preservation of the vital infectious material is secured by the protection afforded in inclosed areas, as rooms, workshops, railway cars, state-rooms, cabins, etc. The out-door group is subjected to the same influences, but in a much less degree. Ventilation is not needed, since the out-door air affords the necessary protection from its enormous diluting powers. Diseased germs lose their vitality under the destructive influence of the air, the sun, and the rain. The chief danger arises from the conveyance of such material in-doors on boots, shoes, and skirts.

With reference to tuberculosis in dogs, Dr. Walter H. Sheldon[1] states that a study of the subject in veterinary journals, and books treating particularly of diseases of dogs shows that it is more common than is generally supposed. The dog is far from being immune to this disease. In these times when dogs are fondled by children and are allowed to live long for association's sake, there is frequently real danger of the spread of this disease through them. In thirty-four essays, mostly in German and French, over 150 cases of tuberculosis in dogs are cited, all of which were authenticated by finding the bacilli. The compiler draws the following conclusions: 1. Tuberculosis, probably of the mammalian type, is not as rare in dogs as is ordinarily supposed. 2. Dogs are prone to become infected by licking up the sputum of tubercular patients, but the location of the primary point of the lodgment in such cases is not yet clear. 3. The gross lesions of tuberculosis in the dog resemble those of the subacute and chronic forms found in man, especially when the pericardium is involved. The absence of caseation and the absence in its case of giant cells are points of deviation from the common type of human tuberculosis. Dogs with cough, emaciation, or other symptoms that may be due to tuberculosis should, as a prophylactic measure, be killed. They may spread the disease, especially if the lungs are involved. We are warned, in a recent editorial[2], that disease is often communicated to human beings by their animal pets. More than 10 per cent. of canaries and other captive birds die of tuberculosis, and most of the monkeys in captivity succumb to the same disease, so that a child's visit to the monkey-house in a zoologic garden may be a source of infection. Recent examinations of dogs show that of these animals, which have been regarded as very refractory to this disease, fully half are subject to it in a greater or less degree. Parrots are known to be peculiarly susceptible to a disease so peculiar to themselves that it is called from the Greek word for parrot, psittacosis. A number of fatal cases in human beings, of what was at first supposed to be a malignant influenzal pneumonia, were in Paris traced to the bacillus at present thought to be causative of the parrot disease. A certain proportion of parrots are known to die from tuberculosis. Cats are known to sometimes have tuberculosis, and that they have in many cases been carriers of diphtheria and other of the ordinary infections, directly and indirectly, is more than suspected. These would seem to be the facts in the matter. They are, perhaps, not enough to justify a crusade, on sanitary grounds, against the keeping of pet animals. These animals are, however, the fad of the day. They are multiplying more and more, and it does not seem unreasonable, nor is it dictated by any desire to produce a sensation, that we should demand of their owners care in the matter of detecting the first signs of disease in them, and then so guarding them as to prevent their being a source of contagion to man. Especially does this warning seem necessary with regard to children. With them the animals play more freely, and readier opportunities for infection are given. Moreover, growing children are less resistant to disease, and they present excellent cultural opportunities for micro-organismal growth when implantation has once taken place. The older and better informed people may take foolish risks, if they will; there should be no such option in the case of children.

From my own observation I am of the opinion that in many instances diseased caged birds, such as canaries, communicate tuberculosis, to a certain extent, among human beings. As about 400,000 canaries are reputed to be sold every year in the United Kingdom, and as it is stated that tuberculosis is one of the most common diseases of birds, it does not seem unlikely that the canary may have considerable influence in the distribution of tuberculous infection. (Dr. Tucker Wise: The Hospital).

Dr. Paquin raises the question whether the marriage of consumptives should be discouraged. What should we, as medical educators, say in reference to the relation that marriage sustains to the propagation of consumption? Too long has the scientific world viewed this ground as too sacred for decisive invasion. The medical practitioner has avoided the duties which his knowledge commands he should exercise. We have earnestly labored to educate the people regarding the grave danger arising from the tubercular infection from all other sources, but the unavoidable danger in the marriage of consumptives has been either timidly considered, or, if at all, but slightly discussed as it should be. Science is justified in attempting to regulate the ground-work of human constitutions, so as to produce the best physical, mental and moral health. Scientific teachings are lax in exerting the force of their knowledge toward influencing the prevention of consumption as it occurs through the family relations. I appreciate that in the study of this problem we are confronted at the start with complicated and grave conditions to manage. The soul and moral forces of man and woman, with respect to marriage, are hard to educate. Marriages, as a rule, are universally entered into without proper reflection or regard of physical, mental, and moral defects. The close union and intimacy of married life brings the infectious principles into each other's lives. The home may become a foci of tuberculous pollution. It therefore follows that the healthy person marrying a consumptive is very seriously exposed, in a way, to contract the disease. When this occurs you at often have two parties suffering from the disease instead of one. Children born of consumptives, whether their constitutions are weak or not, are predisposed to the development of the disease, because their surroundings are continually infectious; and those thus feebly constituted have necessarily a favorable soil for the growth of the germs of tuberculosis in their system. What means should we establish to prevent such marriages? As physicians, we should assiduously discourage them and educate our patients to properly guard themselves against tuberculosis; again, public lectures should be given as a means of general education on this subject.

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[1] Medicine, February, 1899. [2] Medical News, April, 1899.

Dr. Ravenal says: "Of all diseases to which the animals from which we derive our food are liable, tuberculosis is the most prevalent, the most far-reaching in its effects, and it seems not unlikely that there is a close connection between the prevalence of the disease in man and in our food animals." An examination of the geographic distribution of tuberculosis reveals the fact that there is a close connection between the presence and absence of tuberculosis and the presence and absence of healthy cattle. In northern Norway, Sweden, Lapland and Finland, where reindeer constitute the bulk of farm animals, or about the Hudson Bay, and in the islands of the Pacific, where no cattle exist, in the Scottish Hebrides, Iceland and Newfoundland, where there are only a few cattle, tuberculosis is far less prevalent in man. In Algiers the cattle are few, and live, for the most part, in the open air, away from cities, and it is found that tuberculosis does not increase among the natives. In Italy, where cattle are housed, Perroncito states that tuberculosis has become the scourge of man and beast. No disease known attacks more numerous genera of animals than does tuberculosis. The bovine species is the most susceptible, but the disease is found in chickens, guinea-pigs, swine, rabbits and goats, and also frequently in caged apes, lions, kangaroos, deer, elk, gazelles and birds, and in one case, noted by Theobald Smith, in a tame bear. Among animals usually thought to be exempt, such as dogs, cats, sheep and horses, the disease can readily be produced by inoculation.

The conclusions of the royal commission on tuberculosis are: As to the proportion of the tuberculosis acquired by man through his food or through other means, we can form no definite opinion, but we think it probable that an appreciable part of the tuberculosis that affects man is obtained through his food. No doubt the largest part of the tuberculosis which man obtains through his food is by means of milk, containing tubercular matter. The remedy lies in the careful inspection of milch cows and the immediate weeding out of all diseased animals found. Milk from suspected cattle should be sterilized before using and especially should not be given to infants or invalids. Inspection of the animals should be at intervals frequent enough to prevent the disease from gaining headway before being discovered. Milk containing the bacillus of tuberculosis may be the cause of tubercular meningitis and tabes mesenterica of infants, the infection being by way of the intestinal glands. The benefit of strict inspection of cattle slaughtered for food is shown by the distinguishingly lower mortality from tuberculosis among the Jews in our American cities, as shown by the results of recent censuses. This fact is all the more striking when we consider that these people do not always live under the best hygienic conditions, and it must be ascribed, in the very large part, at least, to their rigid meat inspection.

The spread of tuberculosis by means of sputum and fine droplets expelled during coughing has been exhaustively investigated by Flugge of Breslau. He concludes that infection with dried sputum, ground up into fine dust, is unquestionably possible. The dried sputum alone is dangerous. There is another mode of infection, namely, the expulsion of fine drops of saliva mucus containing bacilli during the cough of tubercular patients, which constitutes a great danger. Of thirty-five tuberculous patients, 40 per cent. deposited droplets of mucus sputum containing tubercular bacilli on a slide held a half meter away from the mouth. The size of these droplets containing bacilli reaches as much as 30 mm. in diameter. The bacilli were found mostly in groups in the mucinous central part of the droplet. The intensity of the cough is of considerable influence; the stronger patients, who are walking about, throw a spray of sputum with tubercle bacilli farthest. Short violent coughs, while the mouth is partly closed and the lips somewhat puckered up, cause the droplets to go farther. The crucial demonstration of the liability of tuberculous infection, occurring in this manner, is furnished by another set of experiments in which Flugge succeeded in infecting guinea-pigs directly by the coughing of tuberculous patients. The guinea-pigs were placed in a disinfected room, and put into a specially constructed box so that their heads were turned toward the coughing patient; the distance between the latter and the heads of the guinea-pigs varying from 20 to 45 cm. The animals were exposed every second day for about three hours, for from several weeks to months. The result was that of twenty-five guinea-pigs which did not die from other causes, six developed symptoms of an inhalation tuberculosis. Thus the liability of infection through the expulsion of tubercular matter by means of coughing seems fully demonstrated from all points of view. The practical results of these experiments, generally outlined here, is that a person in the neighborhood of a coughing consumptive may inhale tuberculous droplets which are expelled from the consumptive during efforts at coughing, sneezing, or talking. Flugge formulates the following conclusions: Rooms in which tubercular sputum becomes dried on the floor, or other particles of dust, either caused by dry dusting of the room or by currents of air, offer danger of tubercular infection. Intimate association with coughing consumptives, especially when one frequently approaches the consumptive nearer than one meter, is dangerous. This applies especially to nurses, workers in factories, and other places where the room between the individuals is small. Both these sources of infection may be completely neutralized, or their danger much reduced, by simple preventive measures. Infection by coughing is easily preventable by the patient holding a cloth or handkerchief before the mouth during cough.

In preventive medicine there are two great lines of procedure: the first aims to remove or avoid the disease-producing agent—destroy tuberculous sputum; the second looks to an increase of the disease-resisting power, to render the individual or race less susceptible—more immune to the disease agents. What prevents ideal conditions which look to removing tuberculous sputum? Ignorance of the people, both rich and poor, and disregard of what constitutes real cleanliness of mind and body. A scientific demonstration of the spread of tuberculosis by infection has had the natural consequence of developing preventive measures. The general application of these measures, however, has been very much neglected. Properly conducted sanitariums for consumptives not only serve as hygienic educators of individuals but educators of communities as well. There can be no objection to the establishment of municipal sanitariums or special hospitals for consumptives. The sanitary benefits derived by all communities, large or small, have been clearly demonstrated. It can be shown that through the manifold creation of special institutions the commonwealth will be the financial gainer, and that these establishments would not increase the abuse of medical charity. According to the latest published report of the commissioners of public charities in New York City, the daily expenses per capita of the general hospitals is $1.16; thus a patient costs the city, up to his death $522 outside of the money expended for the family of the patient, should the latter have been its only breadwinner. The general hospitals claim many cases of pulmonary tuberculosis, and it seems almost as if this money had been uselessly spent, since a general hospital can not even be considered a safe place for isolating a consumptive. If the same patient had, for example, been treated at a properly-equipped sanitarium, and been sent there at an early period of his disease, he would have had 60 per cent. more chances for his recovery and would have cost only $1 a day, and that during a period of perhaps six or nine months.

Knowing the source of the disease and its methods of infection we have the means in our hands of controlling it, and that too without working hardships on loved ones, but in reality making life pleasanter and the chances of their recovery manifoldly greater.

The most fertile source of infection is from the sputum which, when dried, finds an entrance into the body. Therefore all patients must destroy the sputum before it passes from their control. The following suggestions will be helpful, as formulated by Dr. F. W. Reilly:

1. At home, expectorate into a cup kept for that purpose. This cup should be half full or three-quarters filled with a solution consisting of one part of carbolic acid to twenty of water. A solution can be made and kept on hand. The commercial carbolic acid is as good as the refined and is much cheaper. Burn the contents and boil the cup.

2. Never expectorate into a pocket handkerchief or cloth which will be allowed to dry. Keep the sputum wet, and best with the above solution. Soak handkerchiefs in the same and immerse them in boiling water before storing them with the soiled linen.

3. For use on streets, or when away from home let the patient be provided with thin Japanese napkins. After using fold them up with the sputum inside and burn at the first opportunity. A special pocket lined with waterproof material should be provided for these used napkins, and these pockets should be frequently sponged with the above-mentioned solution. Napkins can be had at a low price, about $1 per 1000.

4. Do not spit where domestic animals have access to this matter. Cattle and fowls are very susceptible and become in turn sources of infection. In fact, do not spit at all where sputum is not destroyed before it can dry.

5. Do not spit on streets, and never swallow the sputum.

6. No tuberculous person should kiss any one on the mouth.

7. Tuberculous patients should be smooth shaven. It is not possible to keep a beard clean and from being infected.

8. The tubercular must always sleep alone.

9. All bed clothing should be changed often—every day when the case is far advanced—and should be at once immersed in boiling water for five minutes.

10. Have separate table utensils and cause them to be scalded as soon as used, and washed separately.

11. Do not permit others to use a patient's personal property.

12. A tuberculous mother must not nurse her baby nor kiss it on the mouth and, in preparing its food, must observe special care.

13. Tuberculous persons should not engage in occupations where they are compelled to handle food-supplies. If this is unavoidable use every precaution to prevent infection.

14. Be careful not to infect sleeping berths when traveling. There is no need of isolating patients nor of depriving them of a single home comfort.

Next, I give a few directions to those who would avoid contracting the disease:

1. Avoid resorts devoted to the treatment of the tubercular.

2. Summer and winter, women must wear skirts that clear the walks by not less than four inches, and five or six would be better. Avoid all kinds of fur or soft trimmings around the lower border of dresses. Americans are expectorating animals and all the laws in the world, and all the good advice that may be offered, will serve only to diminish, but not eradicate, this nuisance. Note the filth, especially the sputum, on sidewalks. Skirts dragged through this are taken home, dried, brushed and cleaned, and then infection is introduced into the household. Especially reprehensible is the prevailing fashion of long "en train" skirts. It had been hoped the bicycle would prove to be the physical emancipator of woman, but if she persists in wearing long skirts it is a step backward, not forward.

3. Do not move into a house where your predecessor was tuberculous, without an efficient disinfection of the premises. To secure such disinfection have the walls cleaned of old paper and wash with a solution of mercuric chlorid, 1 to 1000. The woodwork should be painted after cleaning with this solution and all the floors thoroughly saturated with it. The solution is a poison.

4. Do not share a consumptive's bed nor use the personal property, including dishes, belonging to one.

5. Avoid tuberculous foods. Fowls and cattle are found to be especially susceptible of tuberculous infections. However, when food is thoroughly cooked infection is destroyed. Milk, especially that for children, must be from cattle free from infection. By heating it to 180 F., for half an hour, it becomes non-infectious.

6. Never put coins or other money in the mouth.

7. Never use a pipe or wind instrument belonging to a consumptive.

8. Probably the most important of all is to see that the digestive functions are kept in perfect order. Dyspepsia is more often a forerunner of tuberculosis than any other disease. The secretions of a healthy stomach will dispose of a large amount of infected material, but when diseased, the stomach is the principal avenue of infection.

9. Spend as much time in the sunlight and open air as possible. Keep sleeping and living rooms well aired and filled with sunlight, which acts as a powerful destroyer of the germ.

10. If possible to choose the site of your home, locate it on porous soil; if not, see that the drainings are perfect.

14. Protect all raw or wounded surfaces from any possible tubercular infection.

15. Do not forget that every case of consumption comes from a preceding one.

Now that tuberculosis is known to be a communicable disease, and therefore a preventable one, the importance of recognizing cases, and of assuring purity of their surroundings, must be obvious. This can not be effected, however, without a knowledge of the existence of such cases, on the part of some centralized authority with intelligence and power to act. It is for this reason that the notification of cases of tuberculosis to health boards, or other like, or specially designated bodies, is of the utmost importance, and particularly so when the disease is among those who, by reason of carelessness, ignorance and want, are the most exposed and most subject others to the dangers of infection. Recent action on these lines by the government of South Australia, as cited by the *British Medical Journal,* is therefore worthy of the highest commendation and deserving of intelligent imitation. According to the legal act of 1898, assented to Jan. 1, 1899, by the government, with the advice and consent of the Parliament of South Australia, every medical practitioner attending on, or consulted by, any person suffering from pulmonary tuberculosis shall, so soon as the fact becomes known to him, report the same to the local board of the district in which the person resides. If the case has been previously reported, a second notification is not necessary. The practitioner is entitled to a fee of 2s 6d for his certificate. Disinfection is provided for at the discretion of the medical attendant or the health officer. Provision is made for the inspection of cattle and meat, and the destruction of tuberculous cattle, with compensation only when the diagnosis has been at fault. Milk from tuberculous cows can be sold only after having been boiled for ten minutes, and the board notified. The adoption of measures like the foregoing inspires the hope of a reduction of the prevalence of, and the mortality from, tuberculosis, that having already been set in motion, will go on with increased and increasing momentum.[1]

If any government is in earnest in its endeavor to effectually combat tuberculosis, besides the enforcement of laws against bovine tuberculosis, and thorough hygienic and prophylactic measures against this disease in man, it must take on itself the care and the treatment of the curable and incurable cases among the poor. We might create a commission of general practitioners and health officers to investigate the cases on the following lines: 1, determine the applicant's condition by a medical examination; 2, visit his home and institute such hygienic measures as seem necessary; 3, examine other members of the family and see if they have contracted the disease and if so institute proper treatment; 4, report in full to the sanitary authorities concerning the condition of the patient's dwelling. The dwelling may be so saturated with tuberculosis as to make it imperative to bring about its destruction, owing to the condition of the soil and of other sanitary defects.

To prevent the hopeless cases from communicating the disease to the large number of susceptible individuals with whom they will come in contact, to give the tuberculous patient, not in the early stages of the disease, but with little or no means, the best possible chances of becoming a well man and a useful citizen, we need municipal sanitariums. Let physicians, statesmen, and philanthrophists unite to further the creation of such institutions, for through them we will not only alleviate much suffering, but will solve one of the most important and difficult problems in medical and surgical science. Public school children should be instructed in sanitary science, and particularly to avoid spitting on the floors. The old slate, with its saliva, bred disease, and should be replaced by one that receives thorough antiseptic washes each day. The school floors should be thoroughly swept at least twice a week, and painted and sprinkled with antiseptic solutions. There is nothing which will do more for the next century than to impress on the children of to-day the lessons of prudence in sanitation. It costs but a trifle to prevent the spread of the disease in the schools, but it may cost many lives and vast sums of money to follow the neglected and industrious germ and attempt to repair the havoc which it has wrought. When we have properly cared for our public schools we may consistently demand from manufacturers and those who control public buildings the care which the city ought to assure to every child sent to the schools to take up life's work.

Churches are frequently a center from which is spread tubercular infection. The sacred communion cup may, and often does, become loaded with tubercle germs. The holy rite it commemorates, while saving the soul, may destroy the body. Individual cups, if only on sanitary grounds, should always be supplied. Again, the ventilation of churches is notoriously defective, the disease-laden air being confined, for the most part, from one Sunday night until the following Saturday, when a more or less perfunctory ventilation and superficial sweeping is instituted. This becomes a serious matter when we reflect upon the millions who frequent our churches. Urgent and stringent measures of reform on these lines are to be earnestly commended.

The British Medical Association gives these recommendations for the prevention of tuberculosis: Every house newly erected should be on a dry site and dry foundation, and have sufficient space around it to allow a free access of air and sunlight. These conditions should be enforced by regulations of a national and not a local character. Properly qualified men should be appointed as meat inspectors. Public slaughter-houses should be provided, and a compulsory examination of every cargo of imported meat, with large air-spaces in cow-sheds, that will permit a free ventilation. There should be a systematic inspection of all dairies and cow-sheds from which milk is sent, and exclusion of the milk if application of the tuberculin test to any cow, suspected of being tuberculous, is refused. The inspector should have power to take samples of milk from any special cow or cows, and power to prohibit the entrance of milk into any district, if there are reasonable grounds for suspicion of its being tuberculous. Local authorities should undertake, free of charge, the disinfection of the house in which a tuberculous patient has resided, together with the bed clothing and other articles capable of retaining infection. Local authorities should be encouraged to provide suitable accommodations for the treatment of consumptive patients. Medical health officers are advised to draw up leaflets for distribution, describing the precautions to be taken with patients, to prevent the spread of infection. A circular, stating the best method of selecting, collecting and preserving sputum and other excretions for bacteriologic examinations should be issued to medical practitioners. There should be compulsory disinfection of hotel rooms, sleeping-car berths, steamer cabins, and prison cells, which have been occupied by consumptives, before any other persons are allowed to occupy them. Railroad and steamship lines are constantly carrying invalids in great numbers. The transportation companies, which receive vast revenues from this traffic, should be compelled to thoroughly disinfect all cars and beddings so as to avoid the possibility of re-infection to others. Dr. Baker says: Three thousand new causes of tuberculosis each year, three thousand deaths, and six thousand persons constantly sick with consumption in Michigan implies a loss of more than $3,000,000 a year, and such an amount of human suffering, so entirely unnecessary, is simply appalling.

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[1] Philadelphia Med. Journal, May 6, 1899.

The annual reports of the Bureau of Health of the city of Denver, for the years 1897 and 1898, illustrated the good work that can be done by a well-organized and well-directed body, and they appear opportunely as a rebuke to, and a condemnation of, the political methods that have led to the removal of the efficient health commissioner under whose supervision most satisfactory results were brought about. Among interesting matters taken up was a collective inquiry as to opinions with regard to the communicability of tuberculosis and the means to be taken to prevent its dissemination. A majority of the 233 replies agreed in the communicability of tuberculosis and in the practicability of the restriction; were in favor of reporting and registering cases, of furnishing the patient with an educational leaflet giving information as to the care of the expectoration and the secretions, to be issued by the health board, and of disinfection by the health officers, of all apartments in which tuberculous patients have lived; and approved of the present plan of requesting the public, by placards, not to spit on the sidewalks or on the floors of public buildings or conveyances. A large number—108—favored making the spitting on floors of public conveyances and on sidewalks a nuisance and misdemeanor, punishable by fine; 163 opposed the placarding of apartments occupied by tuberculous patients in tenements and lodging-houses.

Tuberculosis is the prevalent disease in reformatory institutions, and is due to the close confinement of the inmates, absence of proper ventilation and sunshine in their sleeping accommodations, as well as when at labor. Warden McClaughry, of Joliet, says: The average deathrate the last ten years from tuberculosis has been 16.3 per cent. in every 1000; two died from it to one from any other cause. One reason for the scourge at Joliet is found in the condition of the cells. At present they are four feet wide, seven feet in length, and seven in height. In such narrow quarters two men are frequently put. Even with appliances for pumping air into the cells the ventilation is bad. The walls are of stone, and damp; hence the conditions are ripe to develop incipient cases of tubercular disease. They might never develop if the men were not brought there. But once in the damp cells, with their narrow limits, and crowded quarters, and their bad air, together with the mental depression and brood to which the convict is subject, if he has the taint in his system it develops. The object of imprisonment is for moral regeneration: not physical disintegration. We are justified in demanding of state authorities such hygienic environments as will, by their salutary effects, make impossible the acquirement of tuberculosis among the inmates, through any exciting cause within the walls of the institution. This is a simple humanitarian proposition, and its truth is so evident that it calls for no further elaboration at this hour.

Our sister republic, Mexico, in the city of that name, has furnished to the world an example of the ideal penitentiary. Under the supervision of Dr Liceága, she has constructed a building in general contour like the spokes of a wheel radiating from a central hub. Each wing has an abundance of outdoor ventilation, because entirely apart and free from contact with adjoining walls. The cells all face on green foliage, flowers, a variegated landscape, and have an abundance of sunlight. A large supply of pure running water is automatically sent to each cell every three minutes, day and night. Under such enlightened sanitary measures the physical well-being of the convicts is assured. Oh, that my own state might pattern after the example of the City of Mexico in these matters!

Having in this general way considered the underlying principles on which the prevention of tuberculosis must rest, having given in some measure the details for the carrying out of many of the principles of prevention involved, let us rally around these great principles for the maintaining of life and longevity, on which rests so much of the future happiness and prosperity of the human race!

The age of practical sanitation has come. This great work in the cause of humanity is in the hands of physicians and sanitarians. There is every probability that the absolute extinction of tuberculosis in the world is not far distant. It is inevitable that when the race becomes fully cognizant of the dangers from tuberculosis and the simple measures necessary to stamp it out of existence, they will rise and forever make this scourge a thing of the past. Most hopeful is the outlook for the accomplishment of this great result. Not alone are the masses awakening to the needs of the hour, but those in high places, even royalty itself, in England, is championing the cause of race emancipation from tuberculosis. Innumerable societies are springing up in every village, hamlet, and city throughout the land; prevention, like territorial expansion, is in the air, and so comprehensive is this reform in its scope that a great international conference for war on tuberculosis has, but recently, held sessions in Berlin.

"Let us all do something to restrict this disease, so that with the dawn of the new century, we may hope to see the tuberculosis problem solved, conquered at least in North America, by the most humanitarian methods; thanks to the combined efforts of physicians, statesmen, philanthrophists, health officers of states, provinces, and cities, and the good will of an intelligent people."

DISCUSSION ON TUBERCULOSIS.

DR. F. D. FERGUSON, of New York. I have devoted some time to this work, and, during the twenty-five years that I have been making post mortems, I have taken every opportunity to study this disease, and I have found, in my experience, that about 60 out of every 100 persons who die from any cause are to some extent affected with tuberculosis. Some time ago I made up my mind to go into sanitary work, and just to-day I have been trying to get on a committee to investigate and report on means of preventing tuberculosis. From a pathologic point of view it is the most loathsome disease that we have; from a sanitary point it is the most widely scattered; and, furthermore, it is the disease that carries off more than any other one.

I have conducted several experiments with articles with which we all come in contact every day, and do you know that the paper bills that we carry in our pockets may contain tubercle bacilli which can be cultivated? I found that in experiments of some years ago. Again, the towels suspended in the lavatories of New York restaurants contain tubercle bacilli, as I also found. And these bacilli were in the circulating library books too. They are everywhere, and we come in contact with them whether we wish to or not. The grasp of the hand, the touch of the lip may carry infection, to say nothing of the danger of the communication of that disease from the lower animals to the higher. Facilities for contracting tuber-cases are practically innumerable. After an injury one may develop the disease. Over and over again injured joints have turned out to contain tuberculous matter. The human body is not a solid formation. When we examine it with a microscope we will find it is full of little lymphatic spaces, which communicate with larger ones, with the ear, the ankle-joint, the hip-joint, the peritoneal cavity, the pericardium, and there we find these spaces communicating with larger cavities, and where those spaces appear a hundred bacilli could march abreast; there they find the proper culture at the proper temperature.

No one disease, I insist, is more potent than tuberculosis. No greater subject comes before this convention, and I earnestly hope that we shall combine all the different Sections of the AMERICAN MEDICAL ASSOCIATION and make one great Section that will deal with tuberculosis from every point of view, and impress on this government with all our combined efforts the importance of caring for this question in some way, because the welfare and prosperity of any nation must depend on the health of that nation, and its health depends on that of its individuals. No one disease in the United States carries off more people than tuberculosis. You can not count the number, on account of the difficulty of diagnosis. Here is your meningitis! You do not know the origin of that. It is tubercular meningitis. And how about tubercular pericarditis? Are you familiar with the tuberculosis of typhoid fever, with tubercular peritonitis, and with the majority of joint diseases?

Yet we are allowed to come in contact with this terrible disease every day, through the communion cup, the common drinking fountain, the common drinking cup on the trains. These are just the facilities for the spread of it, and just as it involves all the nations of the earth, so too it involves every single organ and tissue of the body; and so too it pays no respect to persons or to sex, while health can not stay its progress. It sits upon its throne swinging its fatal scepter, proud king of mortality, and all persons, all classes, and all conditions must bow before it.

DR. E. FLETCHER INGALS, Chicago—The remarks of the last speaker on this subject emphasize the great prevalence of tuberculosis. Surgeons tell us that 80 per cent. of the human family have tuberculosis in one form or another, and it is probable the percentage is even larger than this, for many recover who do not consult a physician or surgeon. This being so, it is more than likely that every one of us has tuberculosis. The reader of the second paper cited the well-known fact that in from two-fifths to three-fifths of all dead bodies, where there had been no evidence of tuberculosis before death, tubercle bacilli may be found in some of the organs. Possibly if all the organs in these bodies had been examined bacilli would have been found in them. The first paper brings us face to face with the fact that we have to deal with much more than indicated in the more optimistic papers.

Are we going to prevent tuberculosis by isolating or colonizing patients? Are we going to prevent it by the various bactericides? Are we in a position to stamp out tuberculosis? The experience of the reader of the first paper would seem to indicate that we are not. The isolation of patients, the free use of antiseptics, and greater care will have some effect now and then in checking the disease, but the tubercle bacilli are so universally diffused that we can not reasonably entertain these optimistic views about stamping out the disease, and I too believe that it is not by destruction of the tubercle bacilli that we are going to accomplish much, for the army is too great. We can not overcome it, but must direct our efforts to keeping the people as well as possible, and to building up the vital resistance. If 80 per cent. of the human family have tuberculosis, and only a small per cent. of these die with the disease, surely the vital resistance has a great deal to do with the recovery of the remainder.

One question arises which I hope the profession will carefully study, viz: Where does this bacillus come from? It is not at all probable that it is a new organism, or that it is attacking the human family now for the first time, or that it made the initial attack at any time within the recollection of historians. On the contrary, it is more than likely that tubercle bacilli were numerous long before history was written. Are we to suppose that tubercle bacilli originated in the dim past with some one individual, and were from him transmitted to others, and finally scattered broadcast until they became diffused throughout the world? The bacilli being vegetable instead of animal bacteria, therefore the question arises: Is it not possible that they were originally, and are still, developed from some of the plant life about us? It does not seem to me reasonable that they have at all times developed in animals of some kind. Möller, whose standing and skill as a bacteriologist are beyond question, claims to have found tubercle bacilli in great numbers on certain grasses. If this is true, does it not seem natural that cattle should get tuberculosis from feeding on the grass? If bacilli, like the pollen of certain flowers, may be carried many miles by the winds, is it surprising that they should spread all over the earth, excepting in deserts and other regions where these grasses can not grow? Let all reasonable measures that are effective for the spread of this disease, by the communication of germs from one patient to another, be adopted, but do not let us deceive ourselves into thinking that when we have done this we have the battle won, and that tuberculosis will speedily be stamped out.

DR. WALTER WYMAN, Washington, D. C.—I wish to briefly mention the work of the United States Marine-Hospital Service in trying to determine how far this disease is transmitted through the medium of the railway coach. We have had, under the direction of the director of the laboratory, Dr. Kinyoun, a large number of experiments conducted during the last two or three years, but not yet completed. The first thing we started on was to find just how dangerous the Pullman coach is in disseminating tuberculosis, and then to find a way of thoroughly disinfecting the coach. The two investigations have been going on simultaneously. We have not yet prepared a report on the amount of infection, but in a general way the infection is much less than is generally supposed. At the same time it is necessary to disinfect these coaches, not only for tuberculosis, but for many other diseases. The director of the laboratory, two or three years ago, conducted a series of experiments with formaldehyde gas for the purpose of finding a method of disinfecting the coach without ruining it. Very complete experiments were made as to its effect on the various fabrics used. The Pullman Company sent us specimens of every kind of fabric that they use, and these were subjected to the action of this gas. It was found that there is no deleterious effect whatever, so we have really finished that part of our work, and we have published a report on the proper way to disinfect the railway coach, and hope to publish, later, the result of the experiments with regard to the amount of infection or danger of infection in the Pullman coaches..

DR. W. A. EVANS, Chicago—When I came to this meeting of the AMERICAN MEDICAL ASSOCIATION, I did not expect to discuss this question, and this is my apology for some lack of accuracy in references and in figures, for the difficulty in quoting the latter exactly will be apparent to you.

I wish to argue on four propositions: 1. Tuberculosis is the most widespread of all diseases. 2. It is the most costly of all diseases. 3. It is the most important economic problem that confronts the American people. 4. Tuberculosis is, relatively, gaining in frequency.

As to the first proposition, according to Hirsch, the number of people in the entire world dying each year is 35,000,000. Of this number 5,000,000 die of tuberculosis. It is held, that in the United States, each year, 150,000 die from this disease, according to the census of 1890, 102,000 during that year. It is safe to say that in statistics of this character there is a large ratio of error. Any statistics bearing on any question that involves the expectancy of life, that affects the marriage relation, or that increases the premium on life insurance must always be subject to a very considerable percentage of error. I take it that you will agree with me that 10 per cent., as a range of error on the subject of tuberculosis, would easily be within the bounds of safety. In all France, according to statistics, there die each year from 150,000 to 200,000 people with this disease. In Germany, according to Legden, each year 170,000 die from it. According to Tatham's statistics for England, 241 out of each 100,000 inhabitants die from tuberculosis annually. For Vienna, the statistics are as follows: out of each 100,000 inhabitants 450 die each year from this disease. In Budapest the statistics are 646 for each 100,000. In Philadelphia the average death-rate from tuberculosis is approximately 2800, or 11.8 per cent. of the total death-rate. In New York City, according to Biggs and Prudden, there are, it is safe to say, 20,000 people walking the streets each day affected by tuberculosis and carrying the possibility of infection to the other people of that city.

In Chicago, from 1851 to 1896, 39,000 people died from this disease. This constituted one-tenth of the total mortality. In the last six months, according to the Bulletin of the Health Department, there has been one death from tuberculosis to 8.4 deaths from all other causes. During the last six months 1552 people died in Chicago from tuberculosis, this being at the rate of 31.4 for the twelve months. In France, Germany, Austria, Italy, approximately one out of every five of the total deaths is due to tuberculosis. The figures that are given for the world at large, and the figures that are perhaps more nearly accurate for America, especially for the United States, are one in seven. According to Vaughan, out of the people of America one in sixty at any given date are affected by tuberculosis. According to the conclusion arrived at by the Worms commission in Germany, at any given date, one person out of every fifty of the entire population, of all ages and conditions, was affected with tuberculosis.

On the basis of one out of every sixty, which is perhaps a better figure, and a more accurate basis for America, there are to-day in the limits of the United States 11,100,000 people who are due to die from tuberculosis, who are to-day and every day moving among their fellow men, sources of contagion and infection to everyone, not only those with whom they are directly or immediately in contact, but to those with whom they come even in remote contact. In Chicago, according to these estimates, there are each day 30,000 people walking the streets, acting as points of infection for the other inhabitants.

Let us for a moment compare the statistics of tuberculosis with some of those on other diseases that engage the attention of the public. We know the commotion that is widespread whenever contagion threatens American shores. We know that if a telegram tells us that a case of Asiatic cholera has left the Far East, bound for America, instantly the wheels of commerce are paralyzed in order that America may be sheltered from this dread disease. We know that when the cable informs us that yellow fever has left the countries of the Gulf for the States, a panic of fright seizes at least one-half of this United States, and then for many months all endeavor, all effort, all striving in that region is at rest. Yet we have right among us, always, a disease in comparison with which the diseases that I have mentioned are puny and inconsiderable.

According to German statistics, tuberculosis kills thirty times more people than smallpox and scarlet fever combined. It kills sixteen times more than typhoid fever; it kills eight times more than diphtheria, and four and one-half times as many as all of these diseases combined.

According to the statistics of Laveran, in France, from the year 1832 to the year 1854, cholera killed 57,335; tuberculosis killed the same number of people in one-third of a year. According to the statistics of Celli, in Italy, from 1865 to 1893, cholera killed 214,551 people; tuberculosis in the same space of time killed 2,000,000. The Bulletin of the Health Department of Chicago demonstrates that tuberculosis kills nearly four times as many people in Chicago as does diphtheria, that it kills nearly seven times as many as does scarlet fever; that it kills 1 2/3 times as many as does diphtheria, smallpox, scarlet fever, typhoid fever, measles and meningitis combined.

Not only is the question of great importance as regards mankind directly, not only is it most widespread in the human subject, but it is spread perhaps usually widely throughout the animal kingdom. The statistics of Germany show that 6.9 per cent. of the cows of Germany are affected with tuberculosis; that 3.6 per cent. of the oxen have this disease, 2.6 per cent. of the bulls and 1/10 of the calves. The importance of this you will understand. It is seldom that we take our meats uncooked, therefore we do not care very much as to any of these animals except the cow. Milk is the one large food element that is eaten uncooked, and by reason of this the fact that 6.9 per cent. of cows are affected with tuberculosis becomes a matter of exceedingly grave moment. The German government report for 1889 said that 2 per cent. of all the stock was affected by tuberculosis. The investigation made by the United States Veterinary Association, in 1889, showed that of the cows of the Eastern States, especially those contiguous to the large cities, from 10 to 15 per cent. had tuberculosis. Statistics of France show that 1 per cent. of the stock of France have tuberculosis; in Belgium, 4 per cent.; in Holland, 2 per cent. Beng of Copenhagen claims that from 15 to 16 per cent. of the stock of that country have tuberculosis. Statistics show that 10 per cent. of the imported cattle of the Argentine Republic die of tuberculosis. In Berlin, in the years 1892 and 1893, 15.1 per cent. of the slaughtered animals were demonstrated to have tuberculosis.

I have in my possession replies from the agricultural stations of ten of the states of the Union. Letters were sent to many and ten have replied. Professor Russell of Wisconsin stated that of the stock that had been examined in his state, 10 per cent. had tuberculosis. He said that a large percentage of this stock had been examined because tuberculosis was suspected. He stated further, however, that they had examined some cows in which no tuberculosis was suspected. In spite of these facts, 10 per cent. is probably higher than the actual percentage of that state. My reply from Colorado was that in cows in dairies close to the city there was 3 per cent. of tuberculosis; in cows on the range there was practically none. The reply from Vermont was perhaps more valuable than any other. It said that one-fifth of the cattle of Vermont had been treated with tuberculin, and these observations showed that 2 to 3 per cent. of the cattle of that state had tuberculosis. My reply from Pennsylvania was to the effect that the probable amount of tuberculosis in cattle in that state was from 2 to 3 per cent.

My second proposition is that tuberculosis is the most costly of all diseases. You can understand the difficulty of arriving at statistics along this line. It has been estimated by Knopf that the cost of a tubercular charity patient in the city of New York is $522. The figure $522 might be high for the charity patients throughout America, but it is a low one for the average patient, both charity and pay, throughout the American continent. At this figure the cost of tuberculosis each year in America is $574,000,000. If we figure on the basis of those who die of tuberculosis, and count the cost at the legal compensation for the life of an individual, we find that the cost of tuberculosis to the American people each year is $750,000,000.

Kohler tells us that of the people who die between the ages of 15 and 60, one-third die from tuberculosis. Let us understand the force of this proposition; until the child becomes 15 he is dependent on the effort of his parents, and after a person has passed 60 years of age he again becomes a dependent, as a general proposition. He is dependent either on the state, on his family, or on the accumulation of his years of greater activity. Thus do we divide mankind into two great classes, the class of dependents and the class that bears the burden of the world, and therefore, the class on whom everything that this world accomplished depends. Of those who die in these years of greater activity, in these years of greatest usefulness, one-third die from tuberculosis. According to statistics 50 per cent. of the people who die of this disease die between the years of 20 and 35. According to German statistics, the source of which I have not at hand, 75.8 of the people who die from tuberculosis die between 20 and 60 years of age. I trust that you will see the full force of the statistics that I have just quoted to you. It means that during the years when a man should be caring for a family, that during the years when a mother should be rearing her children, he or she is a dependent for an average of fifteen months. When we know that 75 per cent. of tuberculosis subjects come from the working class, and that 25 per cent. only are from the non-working classes, we then remember that one-third of the providers are carried off with tuberculosis, and we see that into the marts of trade, into the field of labor, into competition with people who are depending on their endeavor for bread are thus ruthlessly thrown people who must provide, at any wage, not only for the families that should not depend on them, but for the invalid who should be providing.

I call your attention to another feature: A man has smallpox. The course is run in two or three weeks. He is then dependent for a short time only. A man has tuberculosis. For from one to three years, averaging fifteen months, that man is a care on his family. Not only is he taken out of the list of wage earners but is put into the list of dependents.

As to my third proposition, that tuberculosis is the most important economic problem that confronts the American people, I must confess that I have not the abundant statistics at hand that I would like and could offer under somewhat different circumstances. I wish to call attention to the fact that tuberculosis kills 152,000 people in the United States each year. In the late war there were killed in all directions and in every way 6300 people. I wish to call your attention again to the fact that this disease costs the United States, easily, $574,000,000 each year. The war loan for the prosecution of the last war was $150,000,000.

The last proposition is that tuberculosis is gaining relatively in frequency. I do not mean that there is as much tuberculosis now as there was some time ago. It seems to be established that in England the percentage has increased, and to be well established that in certain places the amount of tuberculosis is less than it has been. But that does not alter the fact that the proportion between the tubercular and the general death-rate is increasing. This is as true of England as it is of Chicago, and of the balance of the United States. There are some reasons for this. In the first place tuberculosis is a disease that increases in frequency and importance as men are gathered together in masses, and the Americans are becoming a people of cities. This would indicate that the amount of tuberculosis is increasing. Whatever other considerations there may be, this fact you can keep clearly in mind, that every germ that is parasitic to man finds in man a place in which it can grow and propagate to good advantage.

It doesn't matter particularly what we think as to whether the bacillus is spread alone by moist excretions, or whether it can be spread as a dry powder. Each of the contestants on these points has shown very good reasons for his opinion. As Cornet has had the last say, his views appear the most clearly proven, but for our purpose it matters little what side of the controversy we take. We know that there are few organisms that are so little tenacious of life outside of the body as the bacillus of tuberculosis. The importance of this we can understand when we know that two or three billion bacilli are expelled from each tubercular patient in twenty-four hours. The very fact that we are alive must be a demonstration that the tubercle bacillus can not be an organism that is tenacious of life outside the body. That which does concern us is that every susceptible human being may be a culture-tube for the bacillus, wherein it can grow, propagate and spread.

European statistics demonstrate the fact that tuberculosis is more abundant there than it is here. Our death-rate from tuberculosis is perhaps one in seven; their death-rate in this is one in five. They are gathered together more closely than we. Again, the Indian on the western frontier is comparatively free from tuberculosis. The disease increases, however, as the Indian approaches civilization, and the death-rate in those scattered reservations that are left in the East is something enormous.

The statistics of Chicago show that tuberculosis from 1891 to 1896 made up, approximately, 10 per cent. of the total mortality; the statistics for 1898 to 1899 show that of the total mortality tuberculosis made up 11.9. Understand that on the basis of each 100,000 inhabitants the percentage has fallen materially, but it has not fallen in comparison with the other diseases that are killing mankind. In the same period of time diphtheria has fallen 46 per cent. Typhoid fever in 1891 and 1892 furnished 6.4 per cent. of the total mortality. Typhoid fever in 1893, '94, '95, '96 and '98 furnished approximately 2.4 of the total mortality, a fall of more than 50 per cent. The statistics from Philadelphia show that while there has been a marked decrease in the percentage of tuberculosis for each 100,000 inhabitants, there had been no material decrease as compared with the death-rate from all diseases.

I have purposely refrained from entering into any discussion of the question as to how we are to combat this most terrible of all diseases. That is not the need now. The great need is to awaken the people. I differ from the speaker who says that the future holds nothing of hope. It holds everything of hope (applause). The statistics of Beng demonstrate that the policy of separation of tubercular cattle in Copenhagen has reduced the percentage amongst those herds to one-seventh of the original figure. He will, within a few years, by no policy of killing, but by simple seclusion, completely wipe out tuberculosis from the cattle that he had under his supervision. The future is pregnant with hope. We will stifle tuberculosis. I will live to see the day, and many of you far older than I will live to see tuberculosis become of secondary importance.

Dr. H. M. Bracken, St. Paul, Minn.—The figures that have been presented are appalling. We all appreciate the importance of doing what we can to eliminate or eradicate this disease. The question naturally arises: What are we going to do? It is known to some of you, probably, that much has already been done, not only by individuals who are interested in this work, but by various associations, and it is simply a reference to such work that I wish to make. Two years ago, tuberculosis was under discussion at the Conference of the State Board of Health. There was a resolution presented urging the state officials to bring about, so far as possible, the isolation of tuberculous patients in state institutions. The various state officials, I presume, followed this matter up on their return home.

It was not necessary to go to Mexico to find a state penitentiary where isolation has been carried out. In 1897, on inquiring as to what the various state institutions in Minnesota were doing, I found that the physician at the state prison at Stillwater had for several years isolated the tuberculous prisoners. The disease had been reduced to a minimum by this action. The diet of these prisoners was entirely different from that of the others, their mode of life was different; they were kept in separate cells, their cells and their bedding were carefully cared for, and on the death of one his cell was thoroughly disinfected. The isolation was so apparent that this particular row of cells was known as the "tuberculous row." It pleased me to find that such action had been taken at this prison.

There is another thing that I wish to refer to. It has been mentioned that the Hebrew is exempt, to quite an extent, from tuberculosis; as an explanation for this fact the manner in which he selected his meats has been cited. It is well known that meat is not a very marked source of infection, for the reason that it is usually thoroughly cooked before being used as food. You must find some other reason for the exemption of the Jews from tuberculosis than their methods of inspecting meat. I know it to be a fact that Hebrew butchers will go into the market and buy cattle that are known to be tubercular, for the sake of getting them cheap.

Dr. Wm. H. Daly, Pittsburg, Pa.—Serious inaccuracies often creep into statistics. It is not in accordance with my observations that the Jews are more immune to tuberculosis than other people, and I do not think, even if granted they are immune, that it is due to their manner of inspection of cattle. The inspection of cattle by the Jews is done more to prevent the consumption of cattle that have had pleurisy, as evidenced by the presence of pleuritic adhesions. So far as I know, they make no microscopic investigation as to tuberculosis in meats.

The great prevalence of tubercle bacilli makes us wonder that it is not more infectious than it really is. I find that when I am attending to my private practice, which is largely in diseases of the chest and throat, and while working in the consumptive wards of the Western Pennsylvania Hospital, Pittsburg, any day while I am at work I can find the tubercle bacilli on my pharyngeal mucous membrane. I do not want to detract for one moment, or by one word, from the great importance of our giving attention to the prevention of contagion, and I am well aware that in the discussion of tuberculosis more time is given as to how prevalent it is and as to how infectious it is than to the taking care of and curing the cases we have to deal with. The former is too evident, the latter too insufficient. Such work as General Wyman is engaged in is worthy our best attention and skill by looking farther, if possible, into the cure and regulation of tuberculosis. But in its regulation in such cases as this penitentiary spoken of, where they have cells four feet wide, etc., needs no comment; the facts are sufficiently opprobrious. I would rather take one page of experience and careful observation, honestly reported, than whole tomes of theory or statistics, especially if they are not gotten up by painstaking and accurate people. I am not questioning any statistics for their honesty, but I would feel it proper to question statistics for their accuracy.

In my observations of over thirty years in Pittsburg, in active practice, I have not observed that consumption is more prevalent among the working classes pure and simple than any other class. But you take that portion of the working classes who are vicious, a subclass who only work occasionally, then I admit that if you include only that vicious class among working people, it is very prevalent, indeed, but the physical vigor, pure blood and wholesome constitutions are seen at their highest type in the working classes after the vicious element or subclass is eliminated. It is a serious question and, as far as I am personally concerned, I feel at a loss as to what is best to be done. I have lost confidence in sending advanced patients away for a cure, especially to sanitaria where consumptives congregate, and if my advanced patients have proper surroundings at home, I do not send them away. I know of hundreds who have gone to such places only to die, but if they can go to a properly selected climate early, and live in their own establishment, if that may be only a tent, and have some occupation and proper food, and I wish to emphasize the latter, then it is well. But in advanced cases a modest, clean home with the family is quite as advantageous to the patient as a poor room and poor food in a strange land. The end is the same in either case, but the home treatment is more merciful to the advanced one.

DR. T. M. MCINTOSH, Thomasville, Ga.—As I live where consumptives, in all stages of the disease, come, I wish to say that I think physicians do wrong in sending patients with advanced phthisis from home at all, unless they be people of wealth who can obtain all comforts anywhere. I have often been pained at the personal and financial discomfort that surrounds these poor unfortunates, slowly dying, away from home and friends, with the vain hope of climatic cure. In reference to the spread and prevention of consumption, the best and most practicable means to this end is a matter of personal hygiene—fresh air, sunshine, sleeping, eating, clothing, exercise.

My observations do not lead me to believe as strongly in the contagiousness of consumption as is now done by the majority of the profession. The high death-rate in prisons and penitentiaries from consumption, as well as from other diseases not referred to, is due to the confinement and resulting bad effects on the general health. The penitentiary system of Georgia, of hiring out the convicts, which puts them in different parts of the state—mining, farming, saw-mills—is the best in the world, for the death-rate from disease will compare favorably with that among any other class or condition, being 13½ per 1000. It is highly proper and desirable to establish sanatoria, and set apart large tracts of lands for consumptives, for this will give them pure, fresh air, and the conditions conducive to the most perfect physical existence, but that these means, and the isolation of consumptives will eradicate the disease can but fall far short of realization. The public must be taught more clearly the methods and importance of personal hygiene, and of perfect physical condition, as the safeguard against consumption, and not lay too much stress on the idea of contagion. As to what climate is most suitable for consumptives, broadly speaking and not considering the individual case, that climate is best where one can have the purest air, the most sunshine, be most out of doors, and have the most agreeable surroundings, physical, mental and financial.

DR. B. STANTON, Cincinnati, Ohio—I was a little surprised at the statement made by Dr. Evans in regard to the death-rate from tuberculosis. As I understand it, there has been no relative decrease in this death-rate in the last ten years. In an investigation on this subject, which I made last winter, in regard to the cities of Ohio, I found that the last ten years did show a proportional decrease. I am not able now to give the figures, but every Ohio city which published reports in the last ten years, and that had published reports for the ten years preceding, showed a reduction in the proportion of the death-rate from tuberculosis. I was under the impression that the same condition would be found in nearly all the cities. I did not attribute it to any medical treatment for these cases, or any improvement in the medical care, but I believe that it is attributable to the decrease in the disease because of better sanitation, from the work that is being done by such sections as we have here to-day.

DR. W. J. FAIRFIELD, Anderson, Ind.—The germs of this disease haunt all civilization, and sanitarians are everywhere striving to formulate methods for stamping them out, but the tubercle bacilli, like the poor, we will always have with us.

I believe it is a perfectly acceptable proposition to every one in this hall, that the best preventive of consumption is good health. And while it is all right to practice the rules of the various health boards, as they are in the right direction, yet, if our municipalities and states would offer a premium on good health, and set to work systematically to lay out lines which the people could follow to bring them up to a high physical condition, we would have the question practically settled. How many of us are following the lines of hygiene, the science of life, regarding food and habits, best adapted to keep and support the body in the best possible way to attain a high grade of cell vitality, on which the immunity depends.

With a good degree of vital resistance, and no derangement of mucosa, teeth, mouth, throat, and stomach, all with normal integrity, the great open gate to consumption is practically closed; but with bad teeth, dental caries, ulcerated gums, cracked and fissured tongue, catarrhal tonsils, nose and throat, and most of all, a defective stomach, a favorable opportunity and soil are furnished for the introduction, planting and growth of the tubercle bacilli.

Our bodies are the most wonderful and admirable of all things, in which we have the highest expression of unknowable intelligence. And the greatest work of the physician is to have the body so related to all the conditions of life to secure the best man, physically, mentally, and morally. Secure this high attainment and the home will realize the promise of the Psalmist: "Neither shall any plague come nigh thy dwelling, and with long life will I satisfy thee."

DR. WALTER WYMAN, Washington, D. C.—I have very little to say in closing except that I believe that there is a climatic cure for most cases. The same climate is not always beneficial in every stage of a given case, nor to all cases, but by careful selection and trial a climate can be found that will benefit nearly every one. The medical profession will probably look with great interest for the results of our experiments at the Marine-Hospital Sanitary Ranch, at Fort Stanton. We propose there to carry on a very careful course of experiments, keeping very accurate records and testing the latest discoveries that are brought to our attention, and if these experiments prove that the sanitarium there, and the way it is conducted, is of great value to this class of patients, it seems to me that it will lead to the establishment of like sanitariums in the same region by each individual state. I believe that some day this sanitarium will prove to be of very great value to the country at large and to the different states.

DR. H. M. THOMAS, Chicago—The central point in this symposium was pertinently expressed by Dr. N. S. Davis. It is clinically established that it is simply a question of vital resistance. My own experience would tend to demonstrate that. In the course of my clinical work in tuberculosis I have had three physicians associated with me, all working under the same conditions, and all of whom succumbed to tuberculosis of the lungs, while I, working under essentially the same environments, escaped. That illustrates, in my own experience, the observation of Dr. Davis as to the varying vital resistance of individuals.

In regard to the scepticism of Dr. Ingals that we are too forward in our hope that the tubercular germ can be exterminated, I feel that we can not place too much emphasis on the fact that we *can* control tuberculosis. The germs may have antedated the earlier civilization with which we are familiar, but our knowledge of them is so extensive, now, and our means of controlling them so great that I feel that with the intelligent co-operation of the vast number of highly-educated physicians in this country, and the people as well, it is not a Utopian dream to say that tuberculosis will be prevented and controlled, and that not at a far distant date. Our immunity from tuberculosis rests on four fundamental principles: the necessity of every individual having an abundance of pure air, pure water, pure food, and judicious exercise.

Dr. N. S. Davis, Chicago, in closing—I do not wish to trespass on the time of the Section longer. In my paper I freely admitted the importance of all reasonable means for destroying the tubercle bacillus or preventing its diffusion, but I also endeavored to emphasize the importance of removing all those causes that diminish man's vital resistance to the invasion of tuberculosis and all other infectious diseases. And as nothing has been said militating against the correctness of this view, I will not consume your time by presenting further illustrations.

Dr. W. A. Evans, Chicago—I would like to offer the following motion: *Resolved*, That, whereas it is the sense of the Section on State Medicine that tuberculosis should be systematically investigated, and that an effort should be made to awaken public intelligence and public conscience on this subject; therefore, we instruct the President of this Section to appoint a committee on tuberculosis, said committee to proceed along such lines as their judgment may direct.

The motion was carried.

THE FREQUENCY OF RICKETS IN INFANCY IN BOSTON AND VICINITY.*

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BOSTON.

My attention was directed to this subject by the apparent frequency with which a rosary was met with in the routine examination of infants. There seemed to be but two explanations for this frequency—either rickets was much more common in infancy in this vicinity than was commonly supposed, or else a rosary was normal and not an evidence of this disease.

In order, if possible, to answer these questions, 400 infants under 2 years of age were examined in the medical out-patient department of the Infants' Hospital, during June and July, 1898, for evidences of rickets. The majority of these children came from the more densely populated districts of Boston, Cambridge and Somerville; the rest from other parts of these cities and from the neighboring towns. The hygienic conditions of their homes were probably often of the worst, usually bad and rarely good. These 400 cases were consecutive, none being omitted for any reason. The cause of their attendance at the hospital was not, except in a few instances, rickets, but a great variety of diseases, mainly gastro-enteric in origin.

In this investigation evidences of rickets were sought for mainly in the bones. It was recognized, of course, that as the result of the impaired nutrition in rickets changes occur in all the tissues. It was deemed impossible, however, to detect these changes, or at any rate to be able to attribute them with certainty to rickets, except in the case of the bones. Here only could the changes be considered at all characteristic.

The following changes in the osseous skeleton were considered as evidences of rickets and were sought for in every case:

1. Increase in size of the frontal and parietal eminences.

2. Failure of the anterior fontanelle to diminish in size as rapidly as normal or to close at the usual time. The normal time of closure was placed at eighteen months; late, if anything.

3. Open sutures and craniotabes.

4. Delayed eruption of teeth. It was considered that an infant should have 1 tooth at 8 months, 2 teeth at 9, 6 at 12 months, 12 at 18 months, and 16 at 2 years. These figures are all rather later than the average.

5. Rosary. In order to avoid error only those enlargements were considered as a rosary which could be felt both parallel and vertical to the long axis of the rib. Three grades were distinguished; slight, medium and marked.

6. Other deformities of the chest: *a*. Protrusion of sternum. *b*. Retraction of sternum. *c*. Retraction at the insertion of the diaphragm and flaring of the lower chest.

7. Enlargement of the epiphyses at the wrists and ankles.

8. Deformities of the long bones of the extremities: *a*. Bow-legs. *b*. Knock-knees. *c*. Bowing of the arms.

Three other points were also studied as being important and common manifestations of rickets, although not diagnostic, as are the skeletal changes. These were: 1. Weakness of the spine. It was considered abnormal if the infant was not able to hold up its head alone at 3 months, and sit alone at 8. Marked general kyphosis—the curve of weakness—was also considered abnormal even if the infant could sit alone.

2. Marked enlargement of the abdomen.

3. Splenic enlargement. The spleen was considered enlarged only when it could be felt.

Only 82 of the 400 cases, or 20.5 per cent., showed none of the above signs of rickets. This number, moreover, is really larger than it should be, as it includes many babies only a few days or weeks old. At this age perceptible osseous changes have hardly had time to develop. Unfortunately no accurate data were kept with regard to the diet and surroundings of these cases. My impression is, however, that the great majority of them were breast-fed, and that they had no better surroundings than the others.

The fact that 20 per cent. of these 400 infants had no rosary shows conclusively that a rosary is not a normal occurrence in infancy, but an evidence of disease. Corroborative evidence in this connection is the fact that a considerable number of infants examined in private practice, who were properly fed and lived in the best hygienic surroundings, failed to show a rosary. Further proof that a rosary, palpable during life, is abnormal, is furnished by the fact that slight beadings, imperceptible during life, are often found post-mortem and microscopically show marked rachitic changes.

Three hundred and eighteen, or 79.5 per cent. of the 400 cases showed more or less marked evidence of rickets. That is, if these 400 may be considered representative, and there seems no reason why they should not be, 80 per cent. of the poorer classes of Boston, Cambridge and Somerville suffer from rickets. This percentage is larger than *a priori* would have seemed possible. The explanation probably is that a large proportion of the cases were mild and would not ordinarily have been recognized as rickets unless a careful examination had been made. It is probable too, I think, that rickets is absolutely on the increase.

The ages, by months, of these 318 cases were as follows:

1 month	4	10 months	23
2 months	13	11 months	16
3 months	25	12 months	21
4 months	20	13 months	14
5 months	20	14 months	11
6 months	24	15 months	10
7 months	22	16 months	10
8 months	24	17 months	1
9 months	28	18 months	9

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*Presented to the Section on Diseases of Children, at the Fiftieth Annual Meeting of the American Medical Association, held at Columbus, Ohio, June 6-9, 1899.

19 months	1	22 months	2
20 months	10	23 months	4
21 months	6		

These figures are of little value as showing the relative frequency of rickets at various ages, because they show only the relative proportions in the 318 cases, and not the proportion of cases of rickets to the total number of children living at these ages. They do not show, for example, that rickets is more common in the first year than in the second, but only that more babies under 1 year were brought to the hospital than from 1 to 2. They do, however, emphasize the fact that rickets is very common in the first year, and that well-marked bony changes may be produced, even in the first month of life.

The analysis of the individual symptoms in the 318 cases, under the conditions detailed above, gives the following results:

1. Enlarged eminences: frontal alone, 7; parietal alone, 35; frontal and parietal, 18; that is, 60, or 19 per cent. The youngest of these patients was 4 months old, but only 12 were under 9 months. The shape of the head was hydrocephalic in type in 2, and asymmetry of the head and flattening of the back of the head were each noted in 1 case.

2. The anterior fontanelle was larger than normal in 49 cases, or 15 per cent. The youngest of these was 5 months old. The posterior fontanelle was open in 5, varying in age from 5 to 10 months. The anterior fontanelle was prematurely closed in 4, whose age ranged from 7 to 11 months.

3. The sutures were open in 1 patient, and craniotabes was present in 1 other.

4. Dentition was delayed in 98 of the 190 infants 8 months or more old, i. e., 52 per cent.

5. Rosary: This was slight in 172, or 54 per cent., the only symptom in 103, with one other in 40. It was medium in 103, or 33 per cent., the only symptom in 24, with one other in 23. It was marked in 43, or 13 per cent., the only symptom in 4, with one other in 3. Of these 318, it was therefore the only symptom in 131, or 41 per cent., with one other in 66, or 21 per cent.

ROSARY AND ONE OTHER SYMPTOM.

Rosary.	Slight.	Medium.	Marked.	Total.
Delayed Dentition	17	7	1	25=38 per cent.
Large Eminences	8	3	1	12=18 per cent.
Large Fontanelle	5	2		7
Large Epiphyses (Wrists)	3	3	1	7
Large Abdomen	3	3		6
Weak Spine	2	3		5
Splenic Tumor	2	1		3
Retraction at Diaphragm		1		1
	40	23	3	66

That is, a rosary was present in every case. It was the only sign in 41 per cent., and was associated with but one other sign in 21 per cent. Slight degrees of beading were much more common than the more marked and, as would be expected, were more often the only sign than were the severe forms. Delayed dentition was the most common single associated symptom, and enlargement of the cranial eminences the next. This relation corresponds to that given by them when considered as single symptoms.

6. Other deformities of the chest were: protrusion of sternum, 1; retraction of sternum, 2; retraction at diaphragm and flaring of lower chest, 43, or 14 per cent. But 4 of these were under 9 months old.

7. Enlargement of epiphyses occurred: wrists alone, in 48; ankles alone, in none; wrists and ankles, in 2, a total of 50, or 16 per cent. The youngest of these was 5 months old. Only 8 were under 9 months. The great preponderance of enlargement at the wrists is striking.

8. Deformity of the long bones of the extremities was noted as follows: bow-legs, 16; knock-knees, 1; both, 1; bowing of arms, 2; a total of 20, or 6 per cent. The age of these was rather evenly distributed among the months between 5 and 23. The very small number presenting deformities of the lower extremities is probably to be explained by the fact that the great majority of the children were under 1 year old, before which time little or no weight is borne on the legs.

Weakness of the spine was noted in 42, or 13 per cent.; 13 of these were under 9 months old.

Marked enlargement of the abdomen was present in 47, or 15 per cent.; 15 were under 9 months, 4 of them being only 3 months old.

Splenic tumor was detected in 24, or 8 per cent.; 9 of these were under 9 months, and one was but 2 months old.

Too much importance must not be attached to these last three signs, as they are not all characteristic of rickets and may occur as the result of many and varied conditions. In these cases they may as well have been symptoms due to the same cause which produced the rickets, or to complications, as to the rickets.

A summary of these figures shows that a rosary is the most common symptom of rickets, in fact that it is an invariable symptom. It may be developed very early, even in the first month of life. It is the only symptom in about 40 per cent. of the patients under 2 years old. When it is the only symptom it is more likely to be small or medium-sized than large. It is accompanied by but one other symptom in 20 per cent. of the patients. This associated symptom is most frequently delayed dentition; next, enlarged cranial eminences. The next most common symptom is delayed dentition, which occurs in more than 50 per cent. of all cases. Enlarged cranial eminences are present in about 20 per cent. Abnormal size of the anterior fontanelle, retraction of the chest at the insertion of the diaphragm, with flaring of the lower ribs, and enlargement of the epiphyses each occur in about 15 per cent. Although these deformities are occasionally found in infants as young as 4 months, but few of them are met with under 9 months; that is, compared with the rosary, they are symptoms of somewhat late development. This is more evident when we consider that the majority of the patients were not over 9 months old. Enlargement of the parietal eminences is much more common than that of the frontal. Craniotabes is very unusual. Other deformities of the chest, besides retraction at the insertion of the diaphragm and flaring of the lower ribs, are rare. Enlargement of the epiphyses at the wrists is common; of those at the ankles, rare. Deformities of the long bones of the extremities are uncommon under 1 year of age. Bow-legs is by far the most frequent form. Weakness of the spine and abdominal enlargement are met with in about 15 per cent. and splenic tumor in about 8 per cent. of the cases of rickets in patients under 2 years old. These symptoms, while probably due in many cases to the rickets, are certainly not in all.

The parentage of the 318 patients was as follows: Russian and Polish Jews, 122; Irish, 93; American, 32; English, Scotch and Canadian, 17; Negro, 15; Italian, 15; German, 11; French, 7; Swede, 2; Finn, 2; Portuguese and Syrian, each, 1. These figures must not be taken, however, as denoting the relative frequency of rickets in the various races. They merely show the relative proportions of the races that attend the clinic and make up the poorer classes. They are of importance, nevertheless, in that they show that no race is exempt from the disease and that the cause must be sought elsewhere.

An attempt was made to determine what had been the diet of these infants. It was found impossible, however, to make anything out of that in those over 9 months old, as the children of the classes from which these came are almost invariably given everything to eat after that age. The diet of the 180 not over 9 months old was as follows: breast only, 31; breast and cows' milk, 20; breast and condensed milk, 11; breast and general diet, 12; breast and proprietary foods, 3 (=77); modified cows' milk, 17; cows' milk and water, 24; cows' milk and general diet, 7; condensed milk, 26; condensed milk and general diet, 2; various proprietary foods, 27.

The great variety of foods used in these cases and the large number of children which were fed on the breast alone—the ideal food—or on the breast in combination with other foods, seems to show rather clearly that the food can not have been the most important factor in their etiology.

Since race and diet are not sufficient to satisfactorily account for the origin of the rickets in these cases, some other influence, acting on them all, must have been at work. The only one common to all is improper hygienic surroundings. These, therefore, must be considered, in this vicinity at least, to be the most potent cause of rickets in infancy.

CONCLUSIONS.

The following conclusions seem to a certain extent justified: 80 per cent. of the children under 2 years old, of the poorer classes of Boston and the adjacent cities, have rickets. A rosary is not a normal phenomenon but is an evidence of rickets. It is a constant symptom of rickets. It is the earliest symptom to develop and in 40 per cent. of all cases in patients under 2 years old, is the only symptom. The next most common symptom is delayed dentition. Other symptoms, while they may show themselves at any age, do not, as a rule, develop earlier than the tenth month. The cause of rickets in Boston and vicinity is to be found in improper hygienic surroundings rather than in race or diet.

MENTAL FATIGUE.*

BY EDWARD THORNDIKE, Ph.D.
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The science of psychology has lately been coming into closer relationship with the science of medicine, and much may be expected from this connection. Psychology, the science of mental phenomena, ought surely to contribute something to medicine, which cares for the preservation and restoration of health to both body and mind. But up till recently the contributions were most frequently the other way around. The greater part of our knowledge of abnormal states of mind has been the gift of medical science to psychology. However, as the latter grows and solves some of her own peculiar problems, she will doubtless turn and try to help medicine, one of her nearest neighbors. As a sign perhaps, of such an attempt, I wish to present the results of a psychologic study of mental fatigue.

The word fatigue may mean either a fact or a feeling. By the fact of fatigue one means relative inability to do mental work—mental incompetency; while by the feeling of mental fatigue, one ordinarily refers vaguely to feelings which lead us to stop or avoid mental effort. In the fact of mental fatigue the student or medical practitioner may rightly be interested because of the part that it may play as a cause of, or a symptom of, nervous exhaustion, and because as a matter of mental hygiene, everybody doing mental work needs to know how to do it economically, to the best advantage, and when to stop. Each may rightly ask of the psychologist a clear, definite description of this thing, mental fatigue, an account of its causes and conditions. The feeling of mental fatigue is important because it is one of the common mental symptoms with which the physician has to deal. Even in normal ordinary life it is important in a high degree, because of its influence on conduct. Psychology should be required to more accurately describe the different mental conditions in people, which might be referred to by the words, "I feel mentally tired;" to discover to what degree these feelings are evidences of real mental inability, what connection there is between the feeling and the fact of mental fatigue, etc.

A common, if not a general, notion about the facts of mental ability and temporary inability or fatigue, is that the mind stores up during rest a sort of energy which it expends when it thinks. The mind is thought of as something like a storage-battery, or even like a barrel, which fills up with water as a consequence of nutrition and lets it run out when thinking goes on. A corollary of this view has usually been that as the mental energy was expended, the mind, by a sort of instinctive economy, spent it more and more slowly, that the rate of expenditure decreased as the amount to be expended diminished, that consequently the rate at which mental work could be done, the amount that could be done in, say ten minutes, decreased in proportion to the amount already done since the last rest. Something like this is Kraepelin's view. He says in his pamphlet ("Zur Hygiene der Arbeit"): " . . . the fact of fatigue is . . . an inseparable companion, nothing but the necessary consequence of work. So if we take the matter strictly, the fact of fatigue begins as soon as work begins"—*beginnt mit der Arbeit selbst.* The common view of the *feeling* of mental fatigue has been that it is a particular, unique feeling, which parallels the *fact* of mental fatigue, and is directly caused by the latter.

During the last few months I have been studying the fact and the feeling of fatigue in myself and others. My conclusions differ decidedly from the common view stated, and also from the special views of some other investigators, particularly of Kraepelin, Griessbach, Henri and Vannod. I present them, accordingly, only as hypotheses which one may from his own experience correct or approve.

When we consider mental activity, we find that it follows the general biologic type of a reaction to a certain situation. A boy is asked: "How much is 13 multiplied by 17?" He reacts to this situation, viz., having the sense impression of the sound of that question—by remembering the way to multiply, by recalling the association formed in school between 7×3 and 21, by recalling 7 as the proper associate of 7×1, and 9 as the proper associate of 7+2. So he gets 91, and similarly 13, and so on with the other associations necessary to complete the example. The value of the reaction depends on the accuracy of his associations; its speed depends on their readiness. Again, a person faces the situation of having to decide whether an animal, say a whale, is a fish or a mammal. He reacts by thinking: "The essential features of a mammal are a four-chambered heart and cerebral hemispheres of a certain sort," by looking at the whale, and, finding them, and so deciding. He acts correctly here by picking out the essential features which make his comparison decisive. If he had thought only of the characteristic of aquatic life, he never could have decided. Having correct associations and picking out the essential features in a situation seem to be the chief phenomena of successful, rational mental activity. And the fact of fatigue, of relative inability to carry on such activity, would seem to be necessarily a fact resulting in inaccuracy, inappropriateness of associations, decreased speed of associations and aimlessness and slowness in the choice of the features in a situation which we shall take as essential. Now how such a simple change as decrease in mental energy can cause these very complicated changes seems a mystery, and almost an impossibility. Mere quantity of thinking is not mental ability. It must be *appropriate.* And a decrease in mental energy would seem at the most to account for a decrease in the quantity and intensity of consciousness, not in its correctness or fitness to the situations faced. If one interprets mental energy to mean nervous energy, some store of potential energy in the form of chemical compounds which may by breaking down send out nerve currents, one fails to see how the decrease in the amount of nerve energy can account for anything more than a decrease in the number or intensity or speed of nerve currents, or in psychologic terms, of mental associations. The *direction* of these currents, the *fitness* of the associations would not seem to be influenced at all. But these are the more important signs of mental ability.

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*Presented to the Section on Physiology and Dietetics, at the Fiftieth Annual Meeting of the American Medical Association, held at Columbus, Ohio, June 6-9, 1899.

Moreover, if such a decrease in a store of mental energy were the cause of mental fatigue or inability to do mental work, this inability would probably come on gradually, step by step, in proportion to the amount of work done since rest. It does not. As a fact, in some individuals seven or eight hours of mental work fails to at all decrease the ability *to* work. And in general, one finds no such gradual progressive inability as a consequence of having done mental work without rest. In general, too, what change there is is *not in the amount done, but in the increased number of mistakes or inappropriate reactions.*

It would seem, therefore, as if we ought to discard the notion of mental energy in general and of mental fatigue as the result of its exhaustion. We ought rather to resolve the fact of inability to do mental work into a number of different things. There is first infertility of associations, where nothing is suggested by a situation. For instance I have at times, in experimenting with arithmetic problems, said to myself 6 times 8 over and over again before the 48 would come. All of us have probably at times tried to think out some problem and spent an hour in blank, empty straining for ideas.

There is, secondly, the failure to get *appropriate* ideas. This may be due either to not getting the right ones or to not inhibiting the wrong ones, the latter cause being perhaps the more frequent.

There is, again, the distraction and confusion resulting from the intrusion into our stream of thought of feelings of ennui, of impulses to stretch, rest, sleep, go out of doors, or what not, of feelings of pain in the eyes and head or of a cramped position of the body. These three sorts of elements by no means exhaust the list, but they suffice to show that the phenomenon of mental fatigue is an extremely complex thing, and that its causation can not be conceived after any simple mechanical analogy.

If one wishes an analogy of some sort the inhibition of action by the formation of by-products which act as poisons is a better one to take. One might, speaking roughly, say that the relative inefficacy of the work of one who has worked, say eight hours, at arithmetic, was due to the formation as by-products of such thoughts as: "Why not let this stuff go?" "I wish that I could lie down and take a nap," "I wonder how much longer this nauseating adding must go on?" etc., of feelings of sleepiness, dullness in the head, or repugnance at the thought of the sums undone, at the feeling of the familiar association-processes, as they pass through the field of consciousness, etc. These feelings act as distractions which prevent the desired trains of thought from going on speedily and accurately, as impulses to a cessation of them and to an inauguration of rest, sleep, amusement, etc., and possibly are symptoms of a slight general weakening of the higher inhibitory processes. This sort of an analogy is admissible because it gives room for all the complexity of the facts and for the multiplicity and mysteriousness of the ways in which these by-products of mental activity may injure the quality and lessen the quantity of the work done.

It would, however, seem equally wise to go without any analogy at all, to cling closely to the facts of the case. We should be especially careful not to presuppose that mental fatigue follows the same laws as muscular fatigue, for so far as the present store of facts goes, they seem to show more differences than resemblances between the two.

So much for the *fact* of mental fatigue; now for the *feeling.* So long as anybody thinks of the fact as a simple thing, he will be likely to think of the feeling as a simple feeling caused by the fact, and caused in varying degrees of intensity by various degrees of this simple fact. He will interpret the common-sense statement—"the more mental work I do, the more mentally tired I feel"—as meaning that doing more and more mental work causes greater and greater inability to work and consequently more and more of the feeeling of mental fatigue. Now we have seen that the fact of mental fatigue is not a simple but a very complex thing, and that a regular increase in the amount of work done does *not* cause a regular increase in the inability to work. It is equally true that the intensity of the feelings of fatigue is not directly dependent on the degree of real inability present. A man may feel utterly unable to do mental work and yet be able to do work almost up to his normal standard. The feeling of fatigue is not a measure of the fact of fatigue.

The truth is, so far as I can ascertain it, that there is no such thing as a pure feeling of mental incompetency, no fatigue sensation comparable to a hot one, or a light or a hunger sensation. When I examine my mental state at times when I should declare that I felt mentally fatigued, I find certain definite bodily sensations, such as oppression in the head, occasionally feelings of muscle-strain or cramp in the eyes, fingers, back and chest—all probably due to purely physical causes—feelings of sleepiness, certain ill-defined feelings of aversion to familiar forms of mental activity when I think of going to work again, impulses to stretch, yawn, do something pleasant, etc., and at times an additional feeling of mental lassitude, comparable to the physical feeling of faintness. This last is most like what the feeling of incompetency might be supposed to be, but it is not regularly present, does not vary in intensity with the amount of work done, and is among the least prominent of the complex elements which make up my feeling of mental inability.

If others are like me in this matter it would seem that Nature's preventive of overwork and nervous exhaustion is not one simple warning sign, a definite feeling of inability like the feeling of hunger by which she warns us to eat, but that it is a mixture, in fact a confusion of different influences. Moreover, these warnings can far more readily be set aside or neglected than those of hunger or muscular fatigue. It is more common for men to kill themselves by mental overwork than by willful starvation or bodily labor. One might roughly say that the first sign was boredom, ennui, emotional repugnance to mental work; the second would be definite pains, headaches, etc., and feelings of sleepiness; the third might be such utter mental prostration as really makes mental work impossible. Now the first two sets of signs are habitually neglected by a majority of mental workers. But the last signal is not of oncoming, but of already-present, danger. It is not comparable to the feeling of utter physical fatigue which is normal and from which one normally revives, but is a pathologic loss of function which has to be slowly regained. The evolutionist might see, in the imperfection of the first two sets of signs, in their inability to check mental work, evidence of the newness of mental work in the world's history. The danger from mental overwork, he might say, is a new danger that has not yet been provided for. A future race of men may be warned to stop mental work as clearly as we are warned to eat.

At all events we need a thorough account of these different warning signs, of their relative importance, of their abnormal appearances, of the physical and mental causes, such as bad diet on the one hand or worry on the other, which prevent sleepiness from doing its proper work and providing rest for the mentally weary even against their will. We need, too, a careful study of the conditions of effective mental work, so that we may provide them; of the unnecessary mental exhaustives, such as worry, overexcitement, muscular tensions and irritability, so that we may eliminate them; of the general diathesis of a mind incapable of much mental work, so that we may proscribe limits which such minds must not overstep.

Perhaps the most important question, at least at the start, is the question of the relation between the fact of fatigue, or mental inability, and these feelings. In how far are these warning feelings measures of real inability? How justifiably can one reason from the presence of these *feelings* to the existence of the *fact?* Many of my experiments were directed toward the solution of this problem. Mental work of various sorts was done late in the evening when the subjects—students—had stopped their regular work because they felt too tired to go on with it. Yet the quality of the work was then almost—and in some cases just—as good as that of the work done in the middle of the forenoon after a good night's rest. As one of the subjects said: "I hate to do it at night, and I don't feel like working at all, but I can do it just as well." These feelings of mental fatigue, then, may be present in considerable intensity with no diminution in the ability to work. That is one reason why they are neglected. Mental workers find that they *can* do as well in spite of these feelings, and foolishly think that because they can work, they are fit to. But we have seen, too, that it is at least possible that the power to do mental work is not a consequent of the amount of work done, and may not diminish gradually but persist unimpaired through a long period of excessive work, and then may drop to the minimum found in nervous prostration, and may therefore be consistent with danger to mental health. Because a man can do mental work may not be a proof that he ought not to rest. I do not mean to say that mere mental work is the cause of many, or even any, nervous breakdowns, but I only aim to show that a sudden immense drop in the curve of mental ability may be possible.

To sum up the matter presented in this paper: mental work is not a simple matter of mental energy, of quantity of positive or inhibitory nervous discharges, but of their *direction* as well; mental fatigue is not like a physical weariness, and requires different treatment; its warning signs are more complicated, less efficacious and so more often neglected; there is, in particular, no pure feeling of mental incompetency which might be a reliable symptom; the feelings that we *do* have are not measures of the degree of inability but indefinite and at present ill-understood signs of danger; the degree of mental inability does not vary proportionately to the amount of work done without sufficient rest, but increases much less quickly up to a certain amount of mental work and then may increase much faster, so that one straw of mental work may then break the camel's back. These facts seem only to make the problems of mental fatigue harder than they were before, but I am sure that a realization of their complexity, even without a solution, is better than a false solution on an artificial and over-simplified basis, and is the first step toward a scientific hygiene of mental work.

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THYROID FEEDING IN OBESITY.*

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Physiologists are agreed that obesity is due to a perverted nutrition, and that this perversion is due to many different causes, the chief of which is heredity. It is a difficult matter to determine just where it begins and healthy nutrition ceases; but soon after the boundary line is passed we observe several concomitant ailments which are closely associated with obesity, viz., anemia, weak circulation, scanty menstruation and sterility. History shows that obesity, sterility and amenorrhea have always been associated.

Hippocrates observed that "enormous fulness of woman is responsible for their frequent sterility, and their slaves, who are lean, conceive as soon as they have connection with men." The indolent habits and rich diet of the wealthy favor obesity and sterility, while the hardships and privations of the poorer classes favor leaneness and large families.

Under normal conditions about one-twentieth of the weight of the human body is made up of fat. It is derived either from fat ingested with food, or is elaborated in the body from carbohydrates and proteids. The tissues in which it is normally deposited are bone marrow, subcutaneous and subserous tissues. If the amount of fat-forming substance ingested is too great, or if the body is unable to properly consume it, there arises a disturbance in the balance between fat production and fat consumption which leads to an accumulation of adipose tissue in the body. This in time, if unchecked, leads to a pathologic condition in which the functions of the body are seriously deranged. The tissues first affected are the bone marrow and the subcutaneous and subserous tissues. Subsequently, fat appears in regions where it is not normally found, as in the connective tissues between the muscular fibers of the heart, in the lining of the endocardium, the auricles and ventricles, and in the perimysium of the skeletal muscles; finally it is found deposited within the cells of the liver. It is first seen here as small drops of oil; gradually these coalesce into larger ones, which ultimately fill the entire cell. This condition of obesity may continue till death closes the scene by weakening the heart and circulation. Again, it may gradually disappear, the large drops of fat breaking up into smaller ones and ultimately disappearing altogether, the connective tissues and hepatic cells gradually regaining their original form and resuming their normal functions.

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*Read before the Eastern Iowa Medical Association, Fairfield, Iowa, June 29, 1899.

According to Voit, the important factor in the elaboration of fat within the body is the cell, and not oxygen. Its protoplasm possesses the power to break up complex chemical compounds and convert them into simpler ones. The substances most easily thus acted on are the carbohydrates and soluble albumins. If fat is supplied to the cell in too great quantity, or if the metabolic power of the cell is lowered so that it is no longer able to break up fat into simpler chemical compounds, it remains within the protoplasm of the cell; when the cell thus produces fat in excess within its protoplasm, and is lowered in its metabolic power so that it is unable to further break it up into simpler forms, we have the most favorable conditions in the production of obesity.

Two indications in treatment are thus clearly suggested. 1. Diminish the ingestion of fat and fat-producing foods. 2. Restore to the individual cells of the body their lost power to break up fat into simpler chemical compounds.

Heredity plays an important part in the production of obesity. It is a matter of daily observation that certain families are always lean, while others are always fat, regardless of diet or station in life. A study of the family history will show that these are family characteristics, and it matters not what the mode of life, the offspring of the lean families will remain lean, while those born to obese parents will in time become obese. There are at times apparent exceptions to this rule, but if the family history is carefully traced back for a few generations, it will be found that somewhere not many generations back, there is a history of leanness or obesity, as the case may be.

It is a matter of constant observation that the balance between fat production and fat consumption varies greatly at different periods of life. During youth and adolescence obesity is only exceptionally seen; after mid-life, however, there is a general tendency toward fulness, which often amounts to obesity, if such is the family tendency. This is one of the early signs of senile decay. It is clearly stated by Paget, who says: "Some people, as they grow old, seem only to wither and dry up—sharp featured, shrivelled, spinous old folks, yet withal wiry and tough, clinging to life and letting death have them, as it were, by small instalments slowly paid. Such are the 'lean and slippered pantaloons,' and their shrunk shanks declare the prevailing atrophy." Others, women more than men, as old and as ill-nourished as these, make a far different appearance. With these, the first sign of old age is that they grow fat, and this abides with them till, it may be, in a last illness sharper than old age, they are robbed of even their fat. These, too, when old age sets in, become pussy, short-winded, "pot-bellied," pale and flabby; their skin hangs, not in wrinkles, but in rolls, and their voice, instead of rising toward a childish treble, becomes gruff and husky. Such individuals bear sickness and hardships badly. Their feeble hearts, the crippled condition of all their glandular organs and, lastly, the low protoplasmic power of all the different individual cells in the body, make them a ready prey for disease, yielding easily to death.

It is on account of these conditions that obese people bear surgical operations badly. It is the custom with many surgeons to prepare their obese patients by reducing their weight before undertaking an operation, thus reducing the danger and deriving better results.

Treatment.—Broadly speaking, we may say that anything that improves the general nutrition diminishes the amount of fat; the very treatment that makes lean people fat makes fat people lean. It embraces diet, exercise, massage, baths, electricity and the use of various medicinal substances. While all these different means of treatment are of value, either singly or combined, I shall only speak of thyroid feeding; and in speaking of this I shall not discuss its value in the treatment of other diseases for the cure of which it has proved so valuable. Its use in the treatment of obesity was discovered by accident. The rapid loss of weight, when treating cases of myxedema, suggested the possibility that it might also be of value in reducing obesity. Empirically it was tried in numerous cases with most gratifying results, and to-day it is thus used by thousands of physicians all over the civilized world.

Many different theories have been suggested as to its *modus operandi*. There are two leading ones to which I call attention: 1, the auto-intoxication theory; 2, the internal secretion theory. The first assumes that certain toxic substances circulate in the blood, and it is by the action of the thyroid gland that these are removed from the system. Should the gland be removed or diseased, these toxins remain in the body and produce harmful results. According to the second theory, the thyroid gland secretes certain substances which are necessary to preserve a healthy condition of the body. This secretion is taken up by the lymphatics and carried to the different tissues of the body, where they play an important rôle in the biochemical changes there taking place, or, as Ewald says, "The secretion of the gland acts as an antitoxin against certain toxins that appear as the by-products of tissue change."

As to the exact manner in which it affects obesity, it is at present impossible to say. If it is true that the important factor in the production and consumption of fat is the protoplasm within the cell, and the oxygen in the blood only plays a secondary rôle as an oxidizing agent, then it would seem reasonable to suppose that thyroid in some way increases the metabolism in the cells of the body and enables them to more vigorously split up the fat within their walls.

It has been shown by Thierfelder, of Berlin, that: 1. The metabolism of nitrogenous substances is only slightly increased. 2. The effect on general nutrition is shown by a decrease in the weight of the body. As the elimination of nitrogenous products is not increased, the loss must come chiefly from the non-nitrogenous elements of the body. These are the fats or carbohydrates. To prove this he shows that: 1. There is a marked increase in the elimination of CO_2; this shows increased oxidation of carbonaceous material. 2. The loss of weight is most marked in obese people.

During the past four years I have used thyroid extract in a number of cases, to reduce obesity. My results have been very satisfactory, both to myself and to my patients. Unfortunately, in most of these cases I have not preserved notes showing the exact results, and consequently it is impossible to report them. However, the results compare very favorably with those of the case I report below. In many of the patients I made no attempt to regulate diet and habits of life, nor did I hear complaints of weakness or derangement of circulation. I did, however, combine the thyroid treatment with iron and bitter tonics, and always gave especial attention to the excretory organs.

Recently I have had one very interesting case, the notes of which I give below:

Miss X., aged 26 years, gave a good family history except that her parents are quite fleshy. Her past history was negative, except that she has always been constipated and had frequent headaches. Feb. 12, 1899, her weight was 215 pounds. She complained of severe pain in her feet, headache, severe constipation, menstruated every three weeks with pain, was obese and anemic. She was especially anxious to get relief from her obesity, as her weight was a burden to her. She found it difficult to stoop down to lace her shoes or do anything that required stooping. Her size was also a great embarrassment to her.

I placed her on 2.5-gr. doses twice a day, and gradually increased to 5 gr., which dosage was continued to May 29, when the thyroid was omitted till June 17, thinking a short rest would cause the medicine to have a better effect.

The following record of weights and measures will be of interest in showing her progress:

February	1.	1899.	her	weight	was	215	pounds.
March	6.	"	"	"	"	206	"
March	13.	"	"	"	"	204	"
March	20.	"	"	"	"	201	"
April	1.	"	"	"	"	202	"
April	4.	"	"	"	"	199¼	"
April	5,	“	“	“	“	198¼	“
April	7.	"	"	"	"	197	"
April	10.	"	"	"	"	196	"
April	15.	"	"	"	"	195	"
April	18.	"	"	"	"	194	"
April	20.	"	"	"	"	193	"
April	21.	"	"	"	"	192	"
April	22.	"	"	"	"	194	"
April	26.	"	"	"	"	193	"
April	28.	"	"	"	"	191½	"
April	29.	"	"	"	"	189	"
May	3.	"	"	"	"	189½	"
May	5.	"	"	"	"	188½	"
May	8.	"	"	"	"	187	"
May	10,	“	“	“	“	187½	"
May	12.	"	"	"	"	187	"
May	15,	“	“	“	“	184½	“
May	16.	"	"	"	"	181	"
May	17,	“	“	“	“	181	"
May	25,	“	“	“	“	179½	“
May	26.	"	"	"	"	177½	"
May	27,	“	“	“	“	178½	“
June	7.	"	"	"	"	177½	"

MEASUREMENTS.

March 6 Bust	April 20 Waist	May 21 Hips
42	32	47½
40	32	44
38	28	

From February 1 to May 29 she decreased from 215 to 178½ pounds, or 36½ pounds:[1]

As a result of her treatment she feels stronger and does not get fatigued so easily. Her form is greatly improved and her present weight is not a burden to her.

My observation in ordinary cases is that, if thyroid tablets are used occasionally after regular treatment has been stopped, the weight can be kept down almost indefinitely. I have used them only as the weight begins to increase. After a few days it is discontinued until needed again.

In presenting this paper I make no special claim for the treatment, more than that it reduces weight, adds to comfort, and I have seen no deleterious effects from its use. I believe that in properly selected cases it is of very great value.

CASE OF DOUBLE CONGENITAL LUXATION OF THE HIPS: ONE REPLACED BY MANIPULATION AND THE OTHER BY OPERATION.*

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The patient, a little over 5 years of age, started to walk when 9 months old. It was noticed that her gait was unnatural and, as she grew older, her back became hollow and her buttocks prominent. At the age of 3½ years, after she had been walking for two years and nine months, she came under my care at the Orthopœdic Hospital. She then possessed the marked waddling gait of this affection. Lordosis was quite marked, the hollow in the back being pronounced. Both trochanters were well above Nélaton's line. In standing she did not hold herself perfectly erect, but slightly flexed both the hips and the knees. Ether was administered and tenotomy of the adductors of both thighs performed. Then, by manipulation, both femurs were restored to their sockets. Both the luxations being dorsal ones, the limbs were put up in plaster of Paris, in an abducted and outwardly rotated position. They were so kept for six weeks, and, on examination, the right hip was found still in position while the left was again out. The right leg showing a tendency to inward rotation, a silicate of soda dressing with an iron strip was applied to keep it in proper position. Extension was applied to the left hip. The patient then had an attack of measles, and, about six months after the right hip had been replaced, the left was again put in place and an incision made down to the capsule and it was gathered together and sewed with three, chromicised catgut sutures. The wound was packed with gauze. It was thought that perhaps enough contraction might be produced in the capsule to hold the bone in place. On removal of the plaster cast six weeks later, the hip was found to be again out of place, so two months afterward the joint was opened and a fairly well-developed femoral head was found. The capsule was stretched and the acetabulum was nothing more than a flat surface about the size of a thumb-nail. By means of a gouge and rose-burr (for a description of which see Trans. Am. Orthopedic Assn., 1899), a new acetabulum was formed and the head of the femur placed therein.

About two months after this operation a belt with perineal straps was fitted around the trochanters, and the patient was allowed to walk around. Shortening on the operated side was about a quarter of an inch. A skiagraph, kindly taken for me by Professor Goodspeed, a short time after, showed both hips in place. At the present time, eleven months since the last operation and a year and ten months after the non-operative replacement of the right hip, she walks with a slight limp. The shortening amounts to one-half inch, and she has entirely lost the waddling gait. The back is now straight, the lordosis having disappeared. About three months ago she had an attack of scarlet fever, and since that time has not worn her hip belt nor any apparatus whatever.

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[1] July 28, 1899, her weight was 168 pounds, bust measurement 38, waist 28, and hips 42 inches. This makes a total loss of 47 pounds. Of late I have used thyroid extract, gr. x, morning and evening. Her health is much improved.

*Read before the Philadelphia Pediatric Society.

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PROGRESS IN BACTERIOLOGY.*

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As there have been no epoch-making discoveries in bacteriology during the past year, I shall not confine my remarks to what has been brought to light during that time, but rather attempt to show what bacteriology of to-day is in its relation to the sphere of medicine, and incidentally mention a few of the resuts of more recent investigation.

While bacteriology is still in its infancy, and thousands of bacteriologists are devoting their best energies to the development of the science in its various phases and along different lines, we are all of us aware that the benefits which it already affords to the practitioner and to the public are manifold and far-reaching. Though broad in their scope, they are definite and tangible. Some of the most patent ways in which bacteriology has contributed to the advancement of medicine are: 1, in affording a quick and certain diagnosis; 2, in affording valuable remedies for the prevention and cure of certain diseases, and 3, in giving us more definite knowledge as to the nature of disease and the prevention of its spread.

So important and valuable has the work of diagnosis become, that many municipal, state, and other public and private laboratories have been established for its execution. Thus, in the laboratory, by the examination of cultures, excreta, diseased tissues, and their products, we are able to make a diagnosis which is practically certain in a large number of diseases. Of these I may mention cholera, plague, yellow fever, influenza, septicemia, pneumonia, meningitis, malaria, gonorrhea, anthrax, glanders, hydrophobia, typhoid fever, diphtheria and tuberculosis. In most of these the diagnosis is equally certain and can rarely fail when properly performed, though much depends on the stage of the disease at which the test is made. Some of them, either because of necessary delay or because we seldom or never have to deal with the disease for which they are performed, are of little practicall value to us. Those diseases in which the laboratory diagnosis is perhaps of most value to us are tuberculosis, diphtheria, typhoid fever, gonorrhea, malaria and hydrophobia.

In tuberculosis, for instance, we are able, on account of the peculiar staining qualities of the bacilli, and their power to resist decolorization, to make a diagnosis from the sputum or pathologic tissue of tuberculous patients. It is possible to make the diagnosis in cattle by another method quite as simple, i. e., by the use of tuberculin, which will be mentioned later in its relation to the prevention of disease. In diphtheria, by the examination of cultures from the diphtherial exudate, it is possible to make a nearly certain diagnosis, on account of the peculiarities of morphology as brought out by staining. In hydrophobia, though we have not as yet discovered the germ which we have good reason to believe is the cause of the disease, we are able in the laboratory to make a positive diagnosis. In gonorrhea we are not only able to make the diagnosis from the examination of the usual discharge, but it has recently been shown by Drs. Thayer and Lozier,[1] and by others, that the gonococci may be present in the blood and tissues of patients during the various complications and sequelæ of gonorrheal urethritis. The results of their work are summed up as follows: 1. Acute gonorrheal urethritis may be the starting-point for a grave general septicemia. 2. It may be a mixed or secondary infection. 3. Endocarditis is sometimes a complication of gonorrhea. 4. Endocarditis may be transient or rapidly fatal. 5. Endocarditis following gonorrhea is due usually to gonococci alone, but may be a secondary or mixed infection. 6. Pericarditis may occur, but is less frequent. 7. Grave myocardial changes are common in severe cases. 8. In some cases the diagnosis of gonorrheal septicemia may be made from blood, culturally, during life.

But perhaps the diagnostic test which is most strikingly useful and reliable is one which is much newer than any of these, and which is performed in quite a different manner, i. e., not by finding the organisms in the excreta, etc., but having the organisms in pure culture, by the effect produced on them when brought in contact with the blood or serum of patients afflicted with the disease of which they are the cause. I refer to the serum reaction of Pfeiffer and Grueber. This is due to a certain agglutinating property in the blood and serum of patients affected with many of the bacterial diseases, and is specific for the bacteria which cause a given disease. It is especially useful to us in the diagnosis of typhoid fever.

While everyone is more or less familiar with the test, there may be some who are not familiar with the method and the reliability of the test. I will, therefore, briefly go over the method as performed in most laboratories. Blood is obtained by pricking the finger or the lobe of the ear of the suspect, is placed in neat drops on a glass slide or piece of hard-finished paper and allowed to dry; or preferably the serum from a small blister is drawn in a capillary tube which is then sealed and sent to the laboratory. Some of this blood or serum is there mixed with water, a loopful of a fresh bouillon culture is then added and mixed—the exact dilution being noted—and the preparation is examined under the microscope. If the case be one of typhoid fever, the bacilli will usually be seen to lose their power of motion, and will collect in clumps or small rafts. The test may also be performed by the use of dead bacilli, as has been shown by Vanda Valde, Widal and others. I have used the dead cultures in hundreds of cases, and have found them quite as reliable as the living. The reaction when present is absolutely diagnostic when occurring in high dilutions. When not present, the converse can not be said, for the reaction is not always present, especially early in the disease, and may not occur until convalescence. It usually occurs by the end of the first week.

For obvious reasons, none of the ordinary tests as performed in routine diagnostic work are reliable when taken apart from clinical data and their circumstances. There are several bacilli which closely resemble tubercle bacilli in their staining properties, such as those found in timothy hay, in smegma, in leprosy, and in the early lesions of syphilis. A bacillus has recently been discovered which not only has these characteristics, but which also produced similar lesions in domestic animals. The bacilli can, however, be differentiated culturally, and the diseases can be differentiated by the use of tuberculin. There are several bacilli closely resembling the bacillus of diphtheria, but which do not usually occur in the throat. Recently,[2] however, one has been discovered which does occasionally occur in this location, but which causes general septicemia, and none of the local diphtheria lesions in animals.

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*Read before the N. J. Medical Society.

In passing, we may mention a few of the results of recent investigation. J. W. Eyre[3] has discovered the cause of a disease which he terms diplo-bacillary conjunctivitis, in the bacillus lacunatus, so named from its peculiar method of growth. Koplik has discovered the bacillus causing whooping-cough.

Recent research has shown that the bacillus of tuberculosis is probably not a bacillus but a minute fungus.[5] Nocard, Roux and Metchnikoff were among the first to call attention to the branched forms, and Babes, Levaditi, Friedrich and others have succeeded in producing, intracranially, ray-like colonies resembling actinomycosis. The cause of cancer,[6] according to a number of investigators, has been shown to be a blastomyces. Many diseases which are at present only named by terms referring to the part of the body affected will perhaps in the future be more clearly defined and diagnosed bacteriologically. In the modification of media and along other lines, there is here a wide field for investigation.

We will next turn our attention to bacteriology in its relation to therapeutics. Following the discoveries of Behring and Koch, much more was hoped for serum therapy in the treatment of all manner of diseases than is hoped at the present day. For most of the sera which have thus far been tried have proved of little or no benefit in the prevention of disease. This is largely due, no doubt, to our lack of knowledge as to the nature of toxins, antitoxins, immunization, etc., and partly to the fact that certain diseases from their very nature are not amenable to such treatment.

Therapeutic sera act in one of two ways: They either prevent the growth and activities of the bacteria, eliminating them from the system or holding them in abeyance; or they counteract the effects of the poisons which the bacteria produce, by fortifying the tissues against these poisons, or by so combining with them as to render their action neutral. In no case can they repair the damage already done, and in many they are of little benefit once the disease is under way. The exact nature of none of these substances or of their action is as yet understood, and perhaps never will be, though recent research is throwing much light on the subject.

But against a number of diseases we are able to wage successful warfare, be it by fortification or by open combat. Against diphtheria we have an antitoxin so potent that 1/700 of a c.c. will immunize a guinea-pig against 100 fatal doses of diphtheria toxin. Against tetanus we are able to obtain a serum of such strength that 1 c.c. will protect against 1,000,000 times the fatal dose. Of the efficacy of diphtheria antitoxin in animals, there can be no more question than of the fact that a stone, when severed from its support, will fall to the ground. As to its value in the treatment of diphtheria as it occurs in man, practitioners of the civilized world, with few exceptions, are agreed that it is equally certain in its effects when applied before the disease has made its ravages on the system and that even late in the disease it is of some benefit. The few who arbitrarily deny that it has any value would seem to be almost as lacking in the ability to reason as the learned member of the R. C. S. E. who has recently, in an elaborate article, as arbitrarily denied that bacteria are a causative agency in, but rather the result of, disease.

Tetanus antitoxin in its action is even more potent than is that of diphtheria. In immunization and early in the disease before violent symptoms appear it is certain and reliable. But in the treatment of the disease as usually applied, it has much less value, for two reasons: 1, because the disease is not usually discovered until the symptoms appear and the toxin has already poisoned the tissues; 2, because when used thus late in the disease it can not repair the damage already done by the toxin of tetanus.

A method of administration, however, has recently been discovered, by which, even after violent symptoms have appeared, we may still protect the patient from its ravages and save his life. That is, by the intracerebral injection of antitoxin. Wasserman was the first to show that when tetanus toxin is mixed with emulsion of nervous tissue of a susceptible animal and this mixture injected, no symptoms appear, and that therefore tetanus toxin has a special affinity for nerve tissues and is a direct nerve poison. Semple has shown that though an animal is injected with a protective dose of antitoxin, and later subdurally with the toxin, it will still develop cerebral tetanus. Following these discoveries Roux and Borrel[7] brought out the fact that the disease may be treated successfully even after violent symptoms have appeared, by injecting the antitoxin intracerebrally. Therefore, in practice it is recommended to inject subcutaneously, if the disease is suspected, or has only just appeared; if late, and violent symptoms have appeared, to inject intracerebrally. The first case actually treated in this way was in April, 1898, by Chaufford and Quenin[8]. Since then many cases have been treated with good results.

For plague we have an antitoxin which has been shown to be antitoxic, bactericidal and curative. Opinions differ as to the therapeutic value of tuberculin. The antistreptococcus and antipneumococcus sera are uncertain and unreliable in their action. The antitoxin of typhoid fever has been shown by Wright and Kemple to have some value in immunization. The Pasteur treatment of hydrophobia has proved to be thoroughly reliable in the hands of many investigators. Some experiments by Dr. Cobat[9] on cauterization in hydrophobia, are worthy of mention. He finds that cauterization with fuming nitric acid, within twenty-four hours after infection, will save 91 per cent. of cases.

We have seen a few of the ways in which bacteriology has contributed to medicine in the diagnosis and treatment of disease. In its relation to personal and public hygiene the results are still more notable. Time will not permit me to go into the subject in detail, and I shall have to be content with simply hinting at a few of the most striking illustrations.

By affording us a more definite knowledge as to the cause of diseases, the manner in which they spread, the conditions which are favorable and unfavorable for the growth of bacteria both inside and outside the body, and the limitations of their resistance to deleterious agents, bacteriology shows us how we may and may not prevent the propagation of disease. I will briefly mention a few of the results of recent investigation as bearing on this subject.

Theobald Smith[10] has shown by some careful experiments that the death point for tubercle bacilli in suspension is 60 C., in fifteen to twenty minutes, and that the scum of milk, after sterilization as ordinarily performed, may contain living, virulent tubercle bacilli. Careful comparison of bovine and human tubercle bacilli has shown the bovine variety to be more virulent to animals[11]. In tuberculin we have a reliable diagnostic test for tuberculosis in cattle. We can thus, by destroying all tuberculous cattle, remove all danger of infection from tuberculous meat and milk. Mitchell and Cronk[12] have shown that our ideas as to the value of sunlight as a disinfectant need modification, for they found that tubercle bacilli on soil may still live after an exposure to direct sunlight for thirty-five hours, and that dried sputum is therefore dangerous even after long exposure. When, by the education of the masses, we can secure proper cleanliness in their habits, the principal sources of danger will be removed. In regard to typhoid fever, it has been shown by Hiss[13], by Richardson[14], and by others, that the feces and urine of typhoid patients contain typhoid bacilli until far into convalescence, and may therefore be a fruitful source of danger unless the excreta are carefully disinfected.

That flies, mosquitoes, and other insects are a prominent agency in the spread of disease has long been surmised, but by recent investigation this has been proven beyond a doubt. Major Ronald Ross, in a recent number of the *Ann. de l'Institut Pasteur,* has given us the results of a very careful series of experiments on the rôle of mosquitoes in malaria. He has found the organisms in the stomach and in a gland, the venomo-salivary, which is connected with one of the styles with which the mosquito pierces the skin. The cycle he shows to be complete. The hemotozoa enter the stomach of the mosquito, grow in its walls and give rise to germinal filaments. These penetrate the venomo-salivary gland and thence are disseminated through the capillaries of the sound subject. These experiments were performed on birds, but probably hold true for man. Nuttall has found the bacillus of plague in the stomach of flies. In some of our camps, during the late war, it was shown that flies were an important factor in the spread of typhoid fever. These are sufficient hints to show us the importance of protecting all infectious material from flies.

In the matter of disinfectants, as a result of many careful experiments, our ideas have undergone considerable modification. It is no longer considered rational, for the purpose of disinfecting a room, to set out dishes containing a disinfectant or to hang up cloths saturated therewith. To be efficacious the disinfectant must be in direct contact with the organisms for a sufficient length of time and under suitable conditions to destroy them. The best disinfectant known at present for rooms, clothing, bedding, etc., is formaldehyde; but even this has its limitations, which are well brought out in an article by Dr. Park in the *Medical News* of May 13, 1899.

Many of the great problems of bacteriology are still unsolved. Most bacteriologists are simply following in the lines of a few leaders. As in other fields, only now and then does a great genius arise to bring forth some new and important discovery. Perhaps the time will come when, by the use of suitable media and of suitable methods, we shall be able to find the cause of all diseases, and a specific cure for most of them.

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Disinfection After Measles. *The Lancet* of March 10 says that in 1895 disinfecting operations were undertaken in 38,000 cases, and during 1898, in 63,000, mostly cases of notifiable disease.

SHOULDER-HUMERO-SCAPULA ARTICULATION.

SOME OF THE COMPLICATIONS AND SEQUELAE ATTENDING OR FOLLOWING REDUCIBLE OR IRREDUCIBLE DISLOCATIONS, WITH A BRIEF REVIEW OF THE VARIOUS MODERN OPERATIVE MEASURES NOW EMPLOYED FOR THEIR TREATMENT.*

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The subject of the displacement of bones from their articulations constitutes one of the most interesting and important in traumatic surgery, though of late years, since regional and visceral surgery has so engrossed our attention, we find that in current medical literature but comparatively little attention has been bestowed on it.

It can not be said that the treatment of shoulder luxations has shared in the advance so notable in other directions, through the discovery of anesthetics and antiseptics; nor that we always have a proper understanding of all the anatomic factors involved in the various phases and types of dislocations, their pathologic changes or clinical features. Holmes has noted our indefinite knowledge of the pathology of shoulder luxations, and observes the wide diversity of views between the English and French surgeons. Pott declared that "no part of surgery is thought so easily understood as that which relates to fractures and dislocations, for even the most inexpert practitioner deems himself perfectly qualified to fulfill the part of the surgeon here."

Pott inveighed against the abject servility of his time, and shows that a century since "authority" had been a dead weight on scientific progress, and he adds, "when a thing is submitted by a living writer it ought to have as much weight as though it had proceeded from the remotest antiquity; its use and not its date should give it value. If practitioners since the time of Albucansis had been contented with his doctrines and never ventured to think for themselves, surgery would not be what it is to-day, and its greatest reliance would have consisted in a multiplicity of hot irons."

Progressive science and ever-enduring art have revolutionized our therapy of osseo-arthritic lesions, and led to restoration of function, and the sparing of much which formerly had to be sacrificed; still, not until very recently have those made any special impress on the management of the complications attending the luxations of joints.

The stagnant state of progress in this direction may perhaps in part explain why, with but unimportant exceptions, the same stereotyped, indifferent, and inaccurate descriptions of shoulder luxations are servilely copied from one author to another without any material alteration or amendment. And if the descriptions of the causes and conditions existing are faulty or deficient, their pathology and morbid anatomy have, until late years, been quite generally ignored. But the painless, aseptic, exploratory incision and skiagraphy have revolutionized all this.

CONFUSION AND MISAPPREHENSION THROUGH AN INDEFINITE AND MISLEADING NOMENCLATURE.

Through the absence of a clear conception of the complex functions of the shoulder, of a practical knowledge of its mechanisms, and the faulty designation of some of its traumatisms, mistakes and oversights have been committed through which improper or injudicious treatment may follow.

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*Presented to the Section on Surgery and Anatomy at the Fiftieth Annual Meeting of the American Medical Association, held at Columbus, Ohio, June 6-9, 1899.

Before it is possible to have a clear comprehension of what a shoulder dislocation is, it is well to know that there are three articulations at the shoulder, that the articular head of the humerus moves under the acromian vault, and that the outer head plays under the coracoid process; what Bichat designated "the accessory or physiological articulation."

We speak of the "head" of the humerus, sometimes meaning one thing, and sometimes another. What is commonly understood by "the head" is the greater tuberosity of the humerus, Astley Cooper being the only author who correctly called it the *external* head. The articular head has no osseous socket, but moves on a nearly flat surface.

The physics of the humero-scapula joint is exceedingly complex, and has not yet been adequately explained.

In obedience to custom, though in violation of scientific nomenclature, the term dislocation of the "shoulder" will be used for the humero-scapula, joint here.

GENERAL OBSERVATIONS ON SHOULDER DISLOCATIONS.

Dislocations at the shoulder or humero-scapula articulation present many striking and unique features. As to their frequency, they are about as numerous as all others combined. In 1828 there were admitted in the service of Dupuytren 1515 surgical cases, of which 12 were shoulder dislocations—1 to 126. In the years 1818 and 1819 there were admitted into the Hotel Dieu, 3900 surgical cases, of which there were 20 dislocations—1 to 145. Malgaigne, in estimating on these statistics, very properly observed that the proportion of dislocations in a surgical service must depend very largely on the class there treated, and stated that at the St. Louis, where traumatic surgery predominated, the ratio was 1 to 26. But in our time, when the domain of operative surgery has so enormously expanded, the proportion of cases of dislocations to all others surgical is very greatly reduced.

Through the kindness of Dr. Schoonover, house surgeon of Harlem Hospital, New York City, I have had the total number of surgical cases preceding 1898, and find that 6694 were admitted, of which 79 were shoulder dislocations—1 to 84. The greater number of cases admitted to this service are traumatisms—about two-thirds. Statistics show that the ratio of dislocations to fractures is 1 to 10; those of the shoulder to fractures of large shafts—1 to 30; Malgaigne placed the figures 1 to 12. Into the Harlem Hospital service there were admitted during the decade from 1888 to 1898, 2607 fractures of the long shafts and 79 shoulder dislocations—1 to 33. It may be said that in general practice they are seldom met with.

Varieties and Complications.—In no other articulation do we encounter so many distinct varieties of luxation as at the shoulder; and in none are complications so common or so serious in the extremities, if we exclude the knee. In many instances it is quite impossible to decide at the primary examination just what type of dislocation is before us, or what the character or degree of complication is.

Causation.—Violence, direct or indirect force or muscular contraction alone, will displace this articular head of the humerus. A very remarkable case of the latter is recorded by H. Watson. The patient was seized with pain in his arm during sleep; the patient was first treated for rheumatism. McLaren has published another of a similar character, where the attending physician at first believed that the patient had neuralgia and treated the patient with hypodermics of morphin.

Symptomatology and Diagnosis.—In a considerable number, the symptoms following shoulder dislocation are so indefinite that we may go on for days or weeks without suspecting the real character of the injury; and no dislocation is so often attended with difficulty in diagnosis. In some of these, unless great caution is observed, the most experienced surgeon may fall into error in diagnosis, may even go so far as to labor in vain, to reduce a dislocation which does not exist.

EFFECTS OF DISLOCATION AT THE SHOULDER; ITS COMPLICATIONS AND SEQUELAE.

A *complete* dislodgment or luxation of the humeral head must always entail a subsequent impairment in action and strength of the joints. Such dislocations, Erichsen declared, were often followed by serious effects on all the joint structures.

Fractures of various descriptions complicate dislocations here, in many the muscular, neural, and vascular structures suffering serious damages.

Incomplete dislocation of the humeral head is very frequent. It is rarely found in any other arthrodia, and for various anatomic reasons may at times be equally as serious as the complete. The number of sequelæ of these dislocations is large. Some of them are of a constitutional character, depending on morbid susceptibilities inherited or acquired; besides there are the sequelæ inherent to the injury itself.

In a young growing chlid the most marked changes induced by a complete dislocation, whatever may be its cause, or however soon reduced, is an evitable alteration in the nutrition of the tissues. Hippocrates noted that the limb of a child which had been dislocated did not make as good progress as the other unaffected.

Irreducibility is always a serious sequel. In shoulder dislocations, we observe some of the most remarkable vagaries in their resistance to efforts at reduction. Some of them can not be reduced by any means short of section; sometimes after the complete failure of all expedients, they undergo spontaneous reduction during sleep or by the ordinary handling of the limb. Velpeau cites a case in which the arm was reduced in helping the patient to rise. A woman had a dislocated shoulder which resisted manipulation and traction; the following day she accidentally fell on her shoulder, after which the shoulder was found reduced. Many times reduction is effected automatically by manipulations of the patients themselves.

It is my belief that a considerable number of dislocations of the shoulder are spontaneously reduced when complications are not present. Many dislocations are said to be "reduced" when this is but incomplete.

Malgaigne noted this at the Hotel Dieu, where, he said, after reduction there yet remained a lengthening of the arm, and the external head remained rather below the acromian. This he ascribed to a diminution of the capacity of the glenoid cavity. In my experience, this descent of the arm has been found to more generally depend on pathologic changes in the muscles.

(To be Continued.)

Treatment of Keratitis Profunda.

E. Guttmann writes to the *Wiener Klin. Rund.* of February 11 that treatment of keratitis profunda with silver nitrate—small children excepted—is ineffectual and has rather a tendency to be injurious. Atropin has no influence on the process in the cornea, and should therefore be sparingly used, and irritating measures of all kinds avoided. On the other hand, the systematic application of cocain has a favorable effect on the corneal process and is to be recommended for its freedom from irritating properties and its direct healing influence.

Therapeutics.

Methylene Blue in Malaria.

In certain individuals, the administration of quinin gives rise to unpleasant symptoms, says J. W. P. Smithwick in the February number of *Merck's Archives*. The untoward results have caused investigators to search for some substitute for quinin. For several years certain physicians have been experimenting with methylene blue, and have found it to possess very decided antimalarial properties. The medicinal preparation is a simple hydrochlorate of tetramethylthionin and is free from arsenic and zinc. It is usually administered in two-grain doses six times a day, in the form of capsules or pills. It will appear in the urine about an hour afterward, making it intensely blue. It acts as a diuretic, which is a valuable consideration in cases where there is a tendency to hematuric complication.

A table of fifty cases of different types of malaria accompanies the article. Of these, there were 24 cases of quotidian, 4 of tertian, 3 of quartan, 5 of estivoautumnal, 3 of hemorrhagic and 1 of double quotidian malarial fever. All but 7 recovered; 3 of these refused to take methylene blue after the first day, and the remaining 4 were in bad physical condition, their deaths resulting from organic disease. The remedy has a two-fold effect in the hemorrhagic type of malarial fever—that of a parasiticide and a diuretic. A relapse in one instance responded to the treatment, in this respect differing from the usual results of quinin administered under the same condition. The treatment was continued ten days after the last chill. He concludes that cases need not be selected on account of idiosyncrasies, as the methylene blue produces no bad effects if given intelligently; he believes it to be a perfect substitute for quinin. It is of especial value in the malaria occurring during pregnancy, as it has no oxytoxic effect and increases elimination by the kidneys.

Notes for the General Practitioner on the Treatment of Iritis.

N. B. Jenkins (*New York Medical Journal*, Feb. 24, 1900) says that this is one of the most deceptive and destructive of eye diseases and is often mistaken for conjunctivitis. Predisposing causes are syphilis, rheumatism, or disease or injury of the cornea; the symptoms are severe pain in the temple, forehead, or cheek and eyeball, these being increased by light, redness of the white of the eye, and generally an increased secretion of tears, and an unusually small pupil. The diagnosis is made by placing a few drops of 2 per cent. solution of cocain into the eyes and having them closed for a half hour. If iritis is present, there will be little or no dilatation, or dilatation will be irregular, slight discoloration of the iris, the deep vessels of the white of the eye back of the edge of the cornea will be congested, the pupil will not respond to light and the eyeball will generally become harder to the touch. If not present, the pupil will be dilated and perfectly round.

The results of iritis are liable to be complete attachment of the pupilary margin of the iris to the lens capsule, stopping the flow of the aqueous fluid through the eye, and an increased tension of the eye-ball, either of which may destroy the eye in a few hours.

When iritis is caused by constitutional diseases, treat these. Hot foot-baths, salts, and small doses of calomel are nearly always serviceable. The eye should be treated with one drop of 2 per cent. atropin solution, not oftener than three times a day and less often if extreme dilatation can be maintained. The patient should be kept in the dark and hot compresses applied. Where but one eye is affected, one drop of a 1/5000 atropin solution, should be placed in the other once a day, to overcome the consensual influence of the sound eye; where this is done a smaller quantity will be required to fully dilate the diseased eye. In extreme cases, where the maximum dose of atropin will not keep the pupil dilated to the utmost, the cornea should be punctured to relieve intraocular pressure. This operation may be performed several times if necessary. He thinks that this simple operation is performed once where it is indicated one hundred times, as the persistent use of atropin not followed by dilatation will eventually destroy the eye, especially in the aged. Congestion and pain may be relieved by saturating a large pad of cotton in a corrosive sublimate solution, 1/50,000, and applying to the eye for a half hour several times a day. He prefers to pad the eye with wads of soft cotton wool kept in position with strips of adhesive plaster and covered with a mask or bandage, to keeping the patient confined in a dark room, but absolute darkness must be maintained in acute cases except at examinations. All hot compresses must be applied in a dark room, and undue pressure from these or bandages must be avoided.

In chronic iritis, the oculist should select dark glasses, as those found in the shops are full of defects.

Morphin-Chloral Treatment of Eclampsia.

Forty-five patients with puerperal eclampsia recovered under Stroganoff's treatment with oxygen during the attack; immediately afterward a hypodermic injection of .015 gm. morphin, repeated once or twice at intervals of an hour or possibly less. Two to four hours after the last injection a rectal injection of 1 to 8 grams of chloral is given, and the patient kept slightly narcotized for forty-eight hours by giving 1 to 5 grams of chloral per os or per anum. The mouth and nose must be watched for obstruction with mucus. Milk or tea with brandy is given frequently, with rectal injections of salt solution or milk as necessary. (*Med. Oboz.*, 1899, 10). He considers diaphoretics or chloroform dangerous. Delivery is accomplished at once, if free from danger for mother and child. All the children were saved but 11 per cent. He adds that 25 per cent. of 70 patients, treated by other methods, died.

Cough of Influenza.

Carpenter highly recommends the following prescription:

℞.	Ammon. muriat	ʒiss
	Morphinæ sulphatis	gr. ii
	Tinct. sanguinariæ	
	Syrupi ipecac, āā	ʒiv
	Syrupi glycyrrhizæ	℥i
	Aquæ	℥ii

M. Sig. Dose one teaspoonful.

BACCELLI'S POWDERS FOR INFLUENZA.

In cases in which the fever and the nervous symptoms are severe, Baccelli recommends the following formula:

℞.	Quininæ salicylatis	gr. iii
	Phenacetin	gr. ii¼
	Camphoræ	gr. 3/10

M. Sig. Six such doses may be taken in twenty-four hours.

Fatty Heart.

Dr. A. Robin recommends the following:

℞.	Sodii arsenatis	gr. 1/64
	Potassii iodidi	gr. 3/4
	Pulv. nucis vomicæ	gr. 1/8
	Pulv. rhei	gr. 3/4
	Ext. dulcamaræ	gr. iss

M. Ft. pil No. 1. Sig. One pill daily.

Bartholow advised the following in fatty heart anemia:

℞.	Ferri redacti	gr. xx
	Pulv. digitalis	gr. xx
	Quininæ sulphatis	gr. xx
	Pulv. scillæ	gr. x

M. Ft. massa et in pil No. xx, div. Sig. A pill three or four times daily.

A Hemostatic-Anesthetic Solution.

Legrand (*Journ. des Prat.*, quoted in *Therap. Gazette*) employs the following solution, particularly in lesions of the mouth where it is desired to produce anesthesia and arrest small hemorrhages.

℞.	Gelatin. puræ	gr. xxx
	Sodii chloridi	gr. viii
	Acidi carbolici	gr. ii
	Eucain B hydrochloratis	gr. viii
	Cocainæ hydrochloratis	gr. ii
	Aquæ destil	℥iiiss

Arsenic as a Corrigent in Thyroid Medication.

The *Lyon Médical* cites Dr. Léon Mabille, of Rheims, as having found that Fowler's solution, in daily amounts of from five to fifteen drops, prevents the tachycardia, the nervous derangements, and the loss of flesh that are apt to be occasioned by thyroid medication.

Use of Digitalis in Heart Affections.

J. B. McGee, in the *Cleveland Journal of Medicine* of February, says the most important thing in chronic heart disease is to maintain the integrity of the cardiac muscle—that while it is in a condition to maintain the compensation treatment is rarely required. When compensation is diminished, its restoration must be secured along the lines of lessening the heart labor, increasing its power, and improving the nutritive supply. Almost universally the profession agrees to assigning to digitalis the first place among remedies to bring about these conditions. Physical rest is considered the most important aid in treatment. The drug is eliminated slowly and hence doses at long intervals are sufficient to keep up the repair. Its cumulative effect may be feared where free diuresis does not follow, but this may generally be avoided by giving medium or small doses, diminishing them and occasionally skipping a dose, as dropsy and other symptoms disappear. When the heart becomes normal, a substitute may be employed.

Of the four constituents of digitalis, he has confined himself almost exclusively to digitalin, but refers to the favorable reports of clinicians in the use of digitoxin. In the presence of high tension a vasodilator should be combined with the drug, and in such case, nitroglycerin is oftenest used. The value of the latter lies in its relief to resistance, rather than any stimulating effect. When indicated, the two drugs may be given separately—the nitroglycerin frequently and the digitalis at longer intervals.

There are occasionally cases of dyspnea and dropsy where the representative remedies are followed by slight result; these distressing symptoms commonly disappear when a mercurial is added to the list. In such cases he prefers a mild chlorid, one grain three times a day. He thinks the benefit is due not wholly to the diuresis, but partly to the stimulation of secretory activity and diminishing hepatic congestion. With proper care, the mercurial may be continued over a week, but should then be withdrawn for a short time, to be renewed after an interval if needed.

Treatment of Male Genital Tuberculosis.

F. Albert in *Therapie der Gegenwart*, January, denounces castration in the treatment of tuberculosis of the epididymis. It is not such a dangerous condition as to require removal of the affected organ, or else it involves the seminal vesicles and castration is useless. He has had a typical case under observation for ten years, in which the lesions have remained comparatively insignificant and circumscribed. On the other hand, if rectal examination discloses one of the vesicles enlarged and indurated, it is probably already tuberculous. He restricts intervention to incision and evacuation of the nodules. L. Longuet writes to the same effect in the *Revue de Chirurgie* for January, advocating early conservative operation, as saving of tissues as possible, with an experience of thirty cases to support his statements. When the abscess has been evacuated he curettes, cauterizes or sears it with very hot water, or all combined, generally "marsupializing" the cavity and leaving a wick of gauze in it. "The results surpassed expectation in cases thus treated." Others have related their experience recently, showing that castration in numberless instances is powerless to check the spread of the disease.

For Gastroenteritis in Children.

℞.	Acidi lactici	gr. xv
	Aquæ chloroformi—.5 per cent.	℥iiss
	Essence anthemis	m. ii
	[illegible] anis.	℥vi

M. Sig. A teaspoonful every two hours. This should be used with a carefully regulated diet.—*Emelen: La Presse Medicale*, October, 1899.

Bubo.

To abort the inflammation in the early stage of this trouble the following has been recommended by Dr. E. Q. Thornton:

℞.	Emplastri hydrargyri	ʒiv
	Emplastri plumbi	ʒiv
	Olei terebinthinæ	ʒi
	Ichthyol	ʒii

M. Sig. Apply to gland upon new unbleached muslin.

After-Treatment of Internal Hemorrhage.

In the January issue of his journal, *Therapie der Gegenwart*, G. Klemperer calls attention to the necessity of restricting as much as possible the ingestion of fluids after internal hemorrhage, if the bleeding vessel has not been found and tied. If merely closed with a thrombus, no fluids should be allowed, and thirst should be quenched by rinsing out the mouth and by the use of ice; morphin or codein if necessary.

Ichthyol in Joint Affections.

Edlefsen describes his method in *Therap. Monatsheft* for January. He pours 10 drops of a 10 per cent. solution of ichthyolized vasogen on the joint and works it into the skin with energetic massage, terminating with frictions with a little larger amount. He finds this procedure more effective than any other he has ever tried.

Syphilitic Anemia.

℞.	Potassii iodidi	ʒviiss	30
	Ferri. cit. ammoniat	ʒi	4
	Tinct. nuc. vomic	ʒii	8
	Aquæ destil	ʒviiss	30
	Tinct. cinchonæ comp. q. s. ad	ʒxxx	120

Two to four teaspoonfuls in water daily.—*Grabower.*

Insufflation of Air in Tuberculous Peritonitis.

Salvolini describes, in the *Clinica Med. Ital.*, 1899, 11, six observations of ascitic tuberculous peritonitis treated and cured by first evacuating the fluid and then insufflating air. He ascribes the benefits of laparotomy in such cases to the admission of air, and enhances this effect by insufflating a quantity.

Toxi-Alimentary Epilepsy.

De Fleury has cured a great many cases of mild epilepsy by suppressing alcohol, moderate dieting or an exclusive milk or milk-vegetable diet and lavages of the stomach, or all combined. He writes to *Revue de Therap.* that he is convinced that in many cases the cause of the epilepsy is toxi-alimentary.

Medicolegal.

Exempted from Taxation.—Under such a provision as that of article 207 of the Louisiana state constitution of 1879, exempting from taxation all buildings and property used exclusively for school purposes, places of religious worship or burial, and all charitable institutions, providing the property so exempted be not used or leased for purposes of private or corporate profit or income, the Supreme Court of Louisiana holds that hospitals or infirmaries whose objects are charity are exempt from taxation, though such institutions take pay from patients who can pay. But under such a provisions, property used for gardening, by a retreat for the insane, the court holds, State vs. Board of Assessors, is not exempt from taxation. On rehearing, December, 1899, the court further holds that, while institutions organized exclusively for charitable purposes are exempt from taxation, provided they are conducted to relieve the worthy, helpless, and infirm, the moment amounts are collected to provide revenue to pay large salaries or wages to favored employees, or to conduct a business for income, the exemption ceases.

Free Transportation to Hospital Implied.—In Gulf, Colorado & Santa Fe Railway Company vs. Harney, the Court of Civil Appeals of Texas affirms a judgment against the company for $300 damages for failure to furnish a section-hand with a pass to a certain hospital and necessary medical attention while he was sick, having been taken suddenly and severely ill with what was designated as cholera morbus. Conceding that the hospital association formed for the benefit of the employees of the railway company and the company were different organizations, yet the court thinks that there was such an intimate relation between them, and that there were such reciprocal obligations and duties provided for, that the obligation to provide free medical service at the hospital for the sick and injured employees of the railway, in consideration of fees deducted monthly from their wages, must necessarily, in many cases, to be effective, include free transportation. At least, as a whole, the court finds itself unable to say that there was no evidence showing, or tending to show, a contract for such transportation. There was, it may be added, some evidence that it was customary with the company to furnish such transportation, and that if the foreman's letter asking for it for this employee had been received, or the foreman had yielded to his repeated requests to telegraph for it, it would have been furnished in this instance.

Validity of Pure Milk Laws.—Considerations for the health of the citizen, the Supreme Court of Minnesota says, demand and require the passage and enactment of such police regulations as will prevent the maintenance of diseased animals from which the milk-supply of cities is obtained, and the selling and disposing of impure and unwholesome milk. There can be, it continues, no question as to the validity of such laws. They are everywhere upheld. And the right of the legislature to confer upon cities the right and authority to enact them is also upheld. Such laws are not enacted by the state, nor authorized to be enacted by cities or other municipalities, for the purpose of producing a revenue, but solely as police regulations, and in the interest of the public welfare. Nevertheless, in cases where the authority is conferred upon cities, and such authority is silent as to license or inspection fees, the authorities all hold that the right to impose, as incident to the exercise of the power, such reasonable fees as are necessary to defray the legitimate expense of administration, is implied. But chapter 203 of the General Laws of Minnesota of 1895, which authorizes the city council of any city to provide for the inspection of milk and of dairies and of dairy herds kept for the production of milk within its limits, and to issue licenses, "for which no fee shall be charged," for the sale of milk, etc., the court holds, City of St. Paul vs. Peck, does not, by implication or otherwise, confer upon the city council of a city authority to impose an inspection fee for the inspection of dairy herds kept for the production of milk within the city.

Sued for Slander.—A reputable physician and surgeon of many years' practice attempted, with the assistance of another doctor and a medical student, a surgical operation designed to drain the chest of a patient afflicted with pleurisy, whom he had attended for three months. Noticing immediately an unfavorable effect when the chloroform was administered, the attempt was abandoned and efforts made to restore the patient to consciousness, without avail, death resulting. When the alarming symptoms appeared, the wife was sent for, and when she entered the room she wildly accused the doctor of causing her husband's death, and declared he would be made to pay for it. Then, without the knowledge of this doctor and his assistant, she engaged another doctor to make an examination of her husband's body. He insisted that those present at the operation which resulted in death should also be present at the post-mortem. Five surgeons were present, including these two. When they were about to commence the examination, the widow entered the room, and said, "You doctors who were not sent for can get out." The one who had attempted the operation did go out at her invitation and the urgent request of the other doctors, and had a conversation in the kitchen. Both were excited, and probably both very angry. She accused him of malpractice, and he indignantly denied it. He also charged her with perjury, in that, on the preceding day, at the coroner's inquest, she had testified that the day the chloroform was administered her husband was much better, while, the doctor alleged, she had told him before the operation that he was much worse. For this accusation of perjury, she brought suit for slander. Twice has the case been tried, resulting each time in a verdict for the plaintiff. After the first trial, the verdict was set aside by the court, and the judgment on the second trial is reversed by the Supreme Court of Pennsylvania for error in allowing vindictive damages, the verdict being for $1052. The court evidently appreciates the situation, as it propounds the query, could there be circumstances of greater provocation or pardonability of anger than those preceding the utterance of the slander? for it holds that it was slander, the first statement of the woman referred to by the doctor not having been made under oath so as to constitute perjury under the law. Hence, it does not consider the doctor chargeable with malice, so as to make him liable for "smart money." It says that when he first uttered the slanderous words out of court, at the woman's dwelling, this raised a cause of action in her favor. But it holds, Thompson vs. McCready, that it was error to allow the jury in the second trial to treat as a repetition of the slander that the doctor's defense on the first trial, wherein he did not deny that he was technically guilty, but gave his version as to what occurred, and sought to show extenuating circumstances in mitigation of damages.

Rights of County Board of Health.—Henderson (Ky.) County Board of Health vs. Ward was an action brought against the county judge and others, composing the fiscal court of said county, for a mandatory injunction to compel the defendants to turn over to the plaintiff the control of the county pest-house, and the charge of certain smallpox patients therein; it being alleged that public safety required the change. It appeared that there had been an epidemic of smallpox in the county, and, on the fiscal court undertaking to scale the salaries of the physicians and others employed by the county board of health for the care of patients in the pest-house, the members of the board, and the physicians employed by them, resigned their offices. The fiscal court thereupon appointed a committee of its members to take charge of the smallpox patients until such time as the vacancies in the board should be filled. The committee thereupon employed physicians, nurses, and guards to care for the patients. The epidemic had by this time much abated, and in a few days the greater part of the patients had been discharged, as well as most of those held in custody under suspicion of being infected. The state board of health reappointed the county board, and its members sought to take charge of the pest-house and patients, alleging that some of the patients had been prematurely discharged, and that public safety required the board to have control of the measures adopted for stamping out the epidemic. This being refused, this suit was brought, and the trial court dismissed the petition upon the ground that the pest house was the property of the county, in charge of the fiscal court, which had authority, in case of necessity, to employ physicians, and take charge of patients suffering from epidemic diseases, and that a court of chancery could not compel the representatives of the county to surrender the custody of the county's property. This judgment, the Court of Appeals of Kentucky reverses. It holds that the propriety or impropriety of the resignation of the members of the county board of health "cuts no figure" in this proceeding. Upon their reappointment by the state board, they had the same rights—no more, no less—that they would have had had they been other individuals appointed to the place. It was undoubtedly proper for the fiscal court to take charge of the epidemic during the time there was no local board. But the court of appeals adds that it seems to be undeniable that, under the grant of power to the county board of health to "bring the infected population under prompt and proper treatment during premonitory or other stages of disease," the board had authority to take charge of those suffering from the epidemic or suspected of infection, and this necessarily implied the custody and charge of the pest-house, wherein the patients were confined. In executing this power, it was, of course, necessary to employ physicians, nurses, etc. The board, however, had no power to fix their compensation. That compensation, like the compensation of the members of the board themselves, was left to discretion of the fiscal court—not to its arbitrary discretion, but to the discretion governed by the value of the services. Moreover, while the county board of health is not by statute made a corporation, the court of appeals says that it is a creature or an agency of the state and that a similar agency has been held suable as a corporation. It also holds that, while penalties are imposed for failure to observe the regulations and orders of the board, the enforcement of such penalties by the criminal courts is not its only remedy. The board is a body [illegible] agency, endowed by law with distinct legal rights, and charged with corresponding important duties. In order to the performance of those duties, its rights must be enforced, and the courts of the commonwealth afford the proper means for their enforcement.

Current Medical Literature.

Titles marked with an asterisk (*) are noted below.

Medical News (N. Y.), March 10.

1.—*Recent Methods in Cardiac Therapeutics by Bath and Exercises. Thos. F. Satterthwaite.
2.—*Milk Inspection by New York Board of Health. Herman Betz.
3.—*Surgery of Epiphyses. Charles L. Scudder.
4.—*Unique Case in Obstetrics. Frederick H. Parker.
5.—Case of Brain Tumor with Exhibition of Specimen. Hugh T. Patrick.
6.—*Observation on a Spirillum Occurring in False Membrane on the Tonsil. Charles F. Craig.

Boston Medical and Surgical Journal, March 8.

7.—*Remarks on Influence of Technique on Results of Closure of Wounds of Abdominal Wall. Charles P. Noble.
8.—*Further Experience with Operative Treatment of Anteflexion. W. L. Burrage.
9.—*Gastro-Intestinal Tract in Nervous Disease. F. Savary Pearce.
10.—Method of Determining Digestive Power of Gastric Juice, as well as Absorptive Power of Stomach. A. E. Austin.
11.—Notes from Neurological Department of Massachusetts General Hospital. S. A. Lord.

New York Medical Journal, March 10.

12.—*Six Cases of Chronic Heart Disease Successfully Treated by the Schott Method. Victor Neesen.
13.—*Direct Examination of Larynx in Children. Max Thorner.
14.—*Some Home-made and Homely Appliances. John Leverett.
15.—Shock and its Surgical Significance. (*Continued.*) John H. Rishmiller.
16.—*Results of Hot-Air Treatment in Rheumatism and Gout. Lewis A. Coffin.
17.—*Value of Inorganic Iron in Anemia. G. Milton Linthicum.
18.—*Report of Case of Double, or Twin Uvula. Lewis S. Somers.
19.—*Perineal Lacerations in Country Practice. H. H. Wilson.

Medical Record (N. Y.), March 10.

20.—*Progress and Drift in Pathology. T. Mitchell Prudden.
21.—*Cystitis Due to the Typhoid Bacillus Introduced by Catheter in a Patient not Having Typhoid Fever. Thomas R. Brown.
22.—*Means of Accounting for Gauze Laparotomy Pads. Victor C. Pedersen.
23.—Historic Notes on Sanatorium Treatment of Alcoholism. Chas. J. Douglas.
24.—Interesting Case of Labor Complicated by Utero-Abdominal Fixation. Joseph M. Rector.
25.—Remarkable Case of Chloral Poisoning. Philip F. Rogers.

Philadelphia Medical Journal, March 10.

26.—Placarding of Houses for Contagious Disease. Arthur V. Meigs.
27.—Diseases of the Arteries. T. Clifford Allbutt.
28.—*Surgical Use of Celluloid Thread. W. W. Keen and Randle C. Rosenberger.
29.—*Case of Gastrotomy for a Foreign Body in the Stomach. George G. Hopkins.
30.—Arteriosclerosis. Joseph Eichberg.
31.—New and Simple Breast Binder for Post-Partum Use. Joseph B. Cooke.
32.—Some Old Certificates of Proficiency in Medicine. Francis R. Packard.
33.—Double Fracture of Clavicle. W. H. Hudson.

Medical Review (St. Louis, Mo.), March 10.

34.—*Some Remarks on Treatment of Perirectal Fistulæ, with Presentation of Specimens. Norvelle W. Sharpe.
35.—Pulse as an Aid in Diagnosis. C. O. Molz.

Cincinnati Lancet-Clinic, March 10.

36.—*Prolapsus of Anus and Rectum. Geo. J. Monroe.
37.—*Syringomyelia. F. W. Langdon.

Medical Fortnightly (St. Louis, Mo.), February 26.

38.—*Carcinoma of Esophagus. Augustus A. Eshner.
39.—Case of Aortitis. Dr. Rendu.
40.—Physiology. A. L. Benedict.

Medical Age (Detroit, Mich.), February 25.

41.—Chronic Suppurative Otitis Media. G. C. Eggers.
42.—*Tuberculin Test for Consumption: Its Wide-Reaching Significance. H. B. Boulden.
43.—*Transmission of Tuberculosis from Cow's Milk. W. T. Parker.

American Journal of Medical Sciences, March.

44.—*Gangrenous Dermatitis Complicating Typhoid Fever. B. Franklin Stahl.
45.—*Conclusions Based on Sixty Cases of Fatal Gastrointestinal Hemorrhage Due to Cirrhosis of Liver. R. B. Preble.
46.—*Histology and Histologic Diagnosis of Adenomyomata of Uterus. John C. Hirst.
47.—Case of Traumatic Varix of Orbit in Which Ligation of the Left Common Carotid Artery was Successfully Performed. Charles A. Oliver.
48.—*Ehrlich Diazo Reaction. James R. Arneill.
49.—Case of Tricuspid and Mitral Stenosis with Adherent Pericardium. T. L. Chadbourne.
50.—Critical Summary of Literature on Retroperitoneal Sarcoma. J. Dutton Steele.

Medical Standard (Chicago), March.

51.—Diseases of Heart: Their Diagnosis and Treatment. Albert Abrams.
52.—Tuberculous Pleurisy. James B. Herrick.
53.—Scarlatina; Its Nature, Causes and Treatment. Marcus P. Hatfield.
54.—Urinary Diagnosis and Treatment, Including the Microscopic and Chemical Examination. J. W. Wainwright.
55.—Urethral Bougies, Catheters and Sounds. Aimé Paul Heineck.
56.—*Mastoid Operation; Report of Cases. Geo. F. Keiper.

American Gynecological and Obstetrical Journal (N.Y.), February.

57.—*Dystocia Due to an Anencephalic Monster; Notes on Case. George M. Boyd.
58.—*Omphalocele: Report of Case. W. Reynolds Wilson.
59.—*Anencephalic Monsters: Report of Case. H. C. Largeman.
60.—*Strict Indications for Obstetric Operations. C. A. Von Ramdohr.
61.—*Conservative Gynecology. G. Betton Massey.
62.—*Notes on Cancer. John C. MacEvitt.

Obstetrics (N. Y.), February.

63.—Hysterectomy in Some Phases of Puerperal Infection. A. Morgan Cartledge.
64.—Fibromatous Pregnant Uterus. Daniel H. Williams.
65.—Treatment of Uncontrollable Vomiting of Pregnancy. George Davenport.

Clinical Review (Chicago), March.

66.—Methods and Results in Abdominal Surgery. Charles W. Oviatt.
67.—Peptic or Gastric Ulcer. Randolph N. Hall.
68.—*Symptomatology and Treatment of Gastric Ulcer. John C. Webster.
69.—Multiple Sclerosis of Spinal Cord. Henry M. Lyman.
70.—Clinical Lecture on Etiology, Pathology, Diagnosis and Treatment of Tumors. A. H. Levings.
71.—*Clinical Lecture on Obstetrics and Gynecology. Denslow Lewis.

Southern California Practitioner (Los Angeles), February.

72.—From Miracles to Medicine. Frank D. Bullard.
73.—Puerperal Sepsis. F. T. Bicknell.
74.—Medical Career at Vienna. W. Jarvis Barlow.
75.—Calcium Chlorid as a Hemostatic. J. Lee Hagadorn.
76.—From Miracles to Medicine. F. A. Seymour.

American Medical Quarterly (N. Y.), January.

77.—*Experiences in Intestinal Surgery. Matthew D. Mann.
78.—*Clinical Contribution to Knowledge of Intussusception of Bowel in Children, with Three Illustrations. E. J. Ill.
79.—*Post-Operative Ventral Hernia. Robert T. Morris.
80.—*Antenatal Factor in Gynecology. John W. Ballantyne.
81.—Prognosis of Eddyism. Henry Reed Hopkins.
82.—*Influence of Clinical Laboratory in Surgery. Willis G. MacDonald.
83.—*Classification of Infectious Diseases. W. H. Thomson.
84.—Clinical Illustrations of Tachycardia and Irritable Heart. Frank Woodbury.
85.—Traumatic Ventral Hernia; Eventrations and Vaginal Hysterectomy; Hernia. Thomas H. Manley.

Colorado Medical Journal (Denver), February.

86.—Suppurative Lesions of the Kidney. A. Stewart Lobingier.
87.—Certain Questions of Medical Ethics. H. B. Whitney.
88.—Etiology of Acute Diffuse Pneumonia. Wm. N. Beggs.
89.—Contusion of Eyeball with Rupture of Iris and Choroid; Recovery of Normal Vision: Dermoid Tumor of Orbit. E. W. Stevens.

New Orleans Medical and Surgical Journal, March.

90.—*Association of Paraldehyde with Chloroform. A New Contribution to Study of Mixed Anesthesia. Cosimo Noto.
91.—History of Smallpox. L. G. LeBeuf.
92.—Treatment of Atrophic Rhinitis. D. Braden Kyle.

Canadian Journal of Medicine and Surgery (Toronto), March.

93.—Address to Association of Executive Health Officers of Ontario. J. J. Cassidy.
94.—Rôle of Primary and Secondary Osteoplastic Surgery in Treatment of Complicated or Compound Fractures of Extremities. Thomas H. Manley.
95.—*Experience in Formaldehyde Disinfection. F. Montizambert.
96.—Systematic Intra-Uterine Exploration after Expulsion of Placenta. John Hunter.

Louisville Monthly Journal of Medicine and Surgery, March.

97.—Surgery of Turbinated Bones. J. A. Stucky.
98.—Stricture of the Anterior Urethra. Harry C. Weber.
99.—Quinsy in Children. Adolph O. Pfingst.
100.—Etiology and Treatment of Locomotor Ataxia: With Report of Cases. John J. Moren.
101.—Hernia. J. Lively Johnson.
102.—Radical Cure of Hemorrhoids Without a General Anesthetic. T. Marion Dunagan.

St. Paul Medical Journal, March.

103.—Ramsey County Medical Society: Its Past, Present and Future. Eduard Boeckmann.
104.—Anesthesia. W. V. Lindsey.
105.—*Fracture and Dislocation of Cervical Vertebræ. Soren P. Rees.
106.—Case of Lymphatic Leucemia Apparently Developing out of Pseudoleucemia. Richard C. Cabot.

Toledo Medical and Surgical Reporter, March.

107.—Treatment of Puerperal Sepsis. M. A. Jerome.
108.—Prophylaxis Versus Therapeutics. Mary E. Law.
109.—Uric Acid Diathesis. J. D. Ely.

Bulletin of Johns Hopkins Hospital (Baltimore), February.

110.—Report on Expedition Sent by Johns Hopkins University to Investigate Prevalent Diseases in Philippines. Simon Flexner and Lewellys F. Barker.
111.—Case of Multiple Gangrene in Malarial Fever. William Osler.
112.—*Benjamin Jesty: A Pre-Jennerian Vaccinator. Thomas McCrae.
113.—*Hemophilia in the Negro. Walter R. Steiner.

Medicine (Chicago), March.

114.—*Operative Treatment of Fracture of Patella: Clinical Lecture. Charles G. Cumston.
115.—*Nature of Neurasthenia: Study of Recent Literature. Rosalie M. Ladova.
116.—*Intestinal Neuroses. Wm. J. Rothwell.
117.— Laryngo-Hyoidectomy for Carcinoma, with Report of a Case. Jacob Frank.
118.— Case of Oculomotor Paresis Following Indirect Violence. C. A. Veasey.
119.—*Prevention of Tuberculosis. Charles J. Whalen.
120.—*Case of Ulcerative Endocarditis, with Aneurysm of Sinus of Valsalva and Case Simulating Ulcerative Endocarditis. A. A. Eshner and G. E. Pfahler.

Southern Medical Journal (La Grange, N. C.), February.

121.— Lactophosphate of Lime in Bone Surgery. Southgate Leigh.
122.— Excess of Uric Acid: Its Manifestations and Treatment with Clinical Reports. J. W. P. Smithwick.
123.— Skin Diseases Due to Dysemia. J. W. P. Smithwick.

Columbus Medical Journal, February.

124.—*Nasal Respiration. Francis W. Blake.
125.— Disinfection of School Rooms and Public Conveyances after Exposure to Infectious Diseases. Frank Warner.
126.—*Pathognomonic Sign of Invasion of Measles. C. C. Ross.
127.— Treatment of Measles. E. W. Woodruff.

Southern Practitioner (Nashville, Tenn.), March.

128.— Diagnosis and Treatment of Fractures of Elbow. Duncan Eve.
129.— Jaundice. W. B. Young.
130.— La Grippe: Its Treatment, with Reports of Cases. J. W. P. Smithwick.

Fort Wayne Medical Journal-Magazine, February.

131.— Indians in Medicine. A. W. Brayton.
132.—*Neuroses of the Skin. A. W. Brayton.

American Medical Compend (Toledo, Ohio), March.

133.— Prof. Christian Fenger's Clinic. Byron Robinson.
134.— Clinical History and Treatment of Scarlet Fever. O. W. Kimbell.
135.— Collections, When and How to Make. Lucien D. Clark
136.— Thoughts on Blood-Letting in Diseases of Children. Gustave Aftel.

International Journal of Surgery (N. Y.), March.

137.— Appendicitis: Its Treatment from a Medical and Surgical Standpoint. Thos. P. Scully.
138.—*What May be Accomplished by Electricity in Dysmenorrhea. Augustin H. Goelet.
139.— Treatment of Fractures. W. L. Estes.
140.— Simulated Stricture. Ferd C. Valentine.
141.— Regional Minor Surgery. George G. Van Schaick.
142.—*Abdominal Incision. J. G. Bouvier.
143.— Use of Roentgen Rays in Surgery. Wm. J. Taylor.
144.— Charcot's Joint; Resection: Amputation of Breast for Cancer: Amputation of Leg. Alexander B. Johnson.
145.— Mercurol in Infectious Diseases. Warren W. Alger.
146.— Physical Fitness of Railway Employee from Oculist's and Aurist's Standpoint. Jos. A. White.
147.— Physical Fitness of Railway Employees: Medicolegal Features. L. L. Gilbert.

Medical Times (N. Y.), March.

148.— Nervous System in Pathogenesis of Albuminuria. J. H. Brownlow.
149.— Modern Views of Kinship of Neurotic Diseases and Their Relation to Insane Impulse. J. M. Fort.

AMERICAN.

1. **Recent Method in Cardiac Therapeutics.**—Satterthwaite describes the Nauheim theratment of cardiac disease, with his own ideas on the subject. He points out that Bright's disease is a contraindication to the bath treatment, and in Graves' disease it is of doubtful value. His article is too detailed to be fully abstracted here.

2. **Milk Inspection in New York.**—Betz describes the regular routine of milk inspection in New York City, which appears to be very thorough and complete.

3. **Surgery of Epiphyses.**—Scudder reports four cases of epiphyseal suppuration, with diagrams, illustrating the conditions.

4. **Unique Case in Obstetrics.**—Parker reports the case of a woman in whom apparent pregnancy came to an end, but two years later another went the full course, and preceding it there was a casting off of an undeveloped and partially absorbed fetus, which was probably a relic of the former condition. As the author remarks, it is out of the usual course for a woman to carry a fetus for two years and then go through a normal, healthy gestation to term.

6. **Spirillum on Tonsillar False Membrane.**—Craig describes a spirillum found on a false membrane on the tonsil of a young man. It was thought that the organism might be that described by Miller and Arnt as occurring on the teeth, but examination found none in that situation. The chief points of interest are: "Its large size, its extreme activity, its decolorization by Gram's method of staining, and its occurrence in almost pure cultures in a false membrane of which it formed a considerable part, and in the crypts of the diseased tonsil. The case is of further interest because of the resemblance of the false membrane to that of diphtheria, and as showing the value of a microscopic examination of the exudate in all tonsillar affections."

7. **Technique on Closure of Abdominal Wall.**—Noble describes the successive methods which he has been led to use in suturing up the abdominal wall in laparotomy operations. He has given up silkworm gut for abdominal suturing, and uses catgut exclusively, closing the walls in the following manner: 1. The peritoneum is closed with fine cumol catgut. 2. The aponeurotic sheath of one rectus muscle (the right) is then separated from the muscle by blunt dissection, thus baring the under surface of the aponeurosis. The upper surface of the aponeurotic sheath of the left rectus muscle is then dissected clear of fat, with the object of suturing the under surface of the right aponeurosis upon the upper surface of the opposite aponeurosis. The suturing is then begun by passing the needle, armed with medium chromicized catgut—sterilized by the cumol method—through the aponeurosis of the rectus muscle of the left side of the wound, and thereafter by continuous suturing, closing the rectus muscle until the opposite end of the wound is reached. The needle is then brought from below upward, through the aponeurosis on the left side of the wound. The aponeurotic layer is then closed by passing the needle from below upward through the aponeurosis on the right side; then passing it through the aponeurosis of the left side, as in the Lembert intestinal suture; and again from below upward through the aponeurosis of the right side, and so on till the end of the wound is reached, when a single knot completes the closure of the muscles and fascia. The subcutaneous fat is then closed with a continuous catgut suture in one or more layers, using fine catgut. The skin is next closed by the intracuticular stitch with fine catgut. Scrupulous care is given to these methods, to control all the bleeding vessels. The wound is washed repeatedly with salt solution to prevent blood clots and remove the germs. The method of cleansing the patient and the operator's hands is given in detail and the different steps of operation illustrated. From his results he concludes that celiotomy wounds which can not be closed without drainage and suppuration can be reduced to 2 per cent. or less, and that postoperative ventral hernia can be reduced to a fraction of 1 per cent.

8. **Anteflexion.**—An analysis of his experience in operative treatment of anteflexion leads Burrage to lay down the following rules for guidance in these cases: 1. In anteflexion without ovarian or tubal disease, and free from shortened uterosacral ligaments or posterior adhesions, dilatation, curetting and Dudley's operation or amputation of the cervix, with a preference for the former. 2. In anteflexion with retroposition and shortened uterosacral ligaments or posterior adhesions, and without ovarian or tubal disease, dilatation, curetting and division of the uterosacral ligaments or adhesions by colpotomy and Dudley's operation or amputation of the cervix, with a preference for the former. Amputation of the cervix is a useful operation where the cervix is very long and also where there is extensive erosion of the crown of the cervix. In married women in both of the foregoing classes dilatation and curetting without other operation are sufficient, because pregnancy will usually straighten the uterus and stretch the ligaments and adhesions. Should pregnancy not supervene within a number of months, and should the symptoms persist, another curetting and Dudley's operation, with or without division of the ligaments, may be done. 3. In anteflexion, with or without retroposition, having ovarian or tubal disease, dilatation, curetting, Dudley's operation, and suspensio uteri, the uterosacral ligaments being divided through the abdominal wound if they are shortened and whatever may be necessary done to the ovaries and tubes

9. **Gastro-intestinal Tracts in Nervous Diseases.**—Four

cases are reported as a basis for this study, which seem to demonstrate to Pearce that we have three classes of the diseases in which the nervous system is more or less influenced by gastro-intestinal disorders usually of a toxic nature: 1. Neurasthenic states, general or in localized areas, where organic changes are present in the nerve-cells. These also disturb the innervation of the gastro-intestinal tracts, leading to dilatation and preservation of the secretions, fermentation of the stomach contents, etc., causing by the products here reabsorbed, still further distress, disturbing the metabolism and aggravating neural disorders. 2. Cases where long-continued gastro-enteritis causes organic change in the mucosa, including the liver and pancreas, thus producing irritation and fermentation, with elaboration of toxins. These are absorbed in part with the hyperacid secretions of the stomach where a constant autointoxication is produced, intoxicating, through the blood, the central nervous system. 3. There must be a mixed class of cases in which neurasthenia so-called or organic nervous diseases are associated, *pari passu*, with disorders of digestion of the functional or organic nature. Admitting the difficulty of determining when 1 and 2 exist, it seems logical that a large number of cases placed in the third category belong by right to the preceding two subdivisions. "The more close histories of our cases we secure, the more exact clinical studies made of symptoms and signs in the individual case, together with careful analyses of the secretions and excretions of the body, thus utilizing the associated import of such phenomena as *indicanuria* for indices, will the better results be obtained in *treatment*. So, also, will such closer observation in the direction noted more surely place the association of neural and somatic diseases out of the less intricate classification we have termed *mixed*. The individual case study as to heredity, diathesis, or temperament, must needs be broadly taken into account. There does seem to be the greatest reason to assume the *acid*, *neutral*, and *alkaline* temperaments, with their predispositions and peculiar immunities, in drawing any conclusions of the case."

12. **Schott Method in Heart Disease.**—Neesen describes the Nauheim treatment in heart disease and reports six cases in detail. The exercises are illustrated by cuts.

13. **Direct Examination of Larynx in Children.**—The difficulties of examining the larynx in children are due partly to age of the patients and their fear of manipulation and lack of personal co-operation; also to the different anatomic conditions of the child and the adult. The height of the mouth is small, and the tongue is often so short it can not be projected. The axis of the larynx is tilted backward, etc. The principles of autoscopy are recapitulated by Thorner, and the methods and its use in children described, with the instruments that are required. He himself experimented with the Kirstein and Escat spatulæ, and found it possible to get a more or less perfect view of the vestibule of the larynx the moment the patient took a deep breath. Sometimes he saw more, but very rarely got a view of the glottis. He considered these methods of direct examination of the larynx as a step forward, though not supplanting the use of the laryngoscope if this is feasible.

14. **Some Home-made Appliances.**—The appliances described by Leverett are a simple paper receptacle for holding soiled dressings in the office, and a substitute for the Kelly pad in obstetric practice. This consists of a circular canvas tube made somewhat like a bicycle tire, with an opening nine inches long on one side, through which one can pass the interior tube of a bicycle tire and inflate it. Then a piece of rubber sheeting a yard square is fastened to the canvas ring by means of ordinary hooks and eyes. This arrangement can be deflated when not in use and the rubber inside tire removed and disinfected and the canvas boiled when necessary.

16. **Hot-Air Treatment in Rheumatism and Gout.**—Coffin reports having experimented with and derived benefit from hot-air treatment in undoubted chronic arthritis. He reports [illegible]

17. **Value of Inorganic Iron in Anemia.**—Linthicum's article discusses the value of inorganic iron in anemia as an essential agent, and he has no longer a doubt as to its absorbability. The choice of preparation is important. It should not be disturbing to digestion and should be insoluble when administered. The preparation which he has used, and which he finds to meet the conditions, is made from a German formula and has recently been introduced under the trade name of "aromatin" (Deller). It is a phosphated iron, insoluble in water as well as in the hydrochloric acid of the stomach, suspended in a finely powdered condition with glycerin and rendered aromatized to make it agreeable to taste, forming a milk-white liquid. The liquid is taken folowed by an effervescing tablet solution, containing sufficient sodium phosphate to dissolve the iron in a one-half ounce mixture, with tartaric acid and sodium bicarbonate, so that in the stomach the iron phosphate is gradually acted on by the sodium phosphate, forming the soluble bibasic sodium and iron phosphate which, in its nascent state, is rapidly absorbed. This preparation can not act on the teeth, is non-astringent, and neutral, but its laxative action is decided, therefore it must be used with caution in tubercular cases with a tendency to diarrhea. Six cases are reported, with blood examinations.

18. **Double Uvula.**—Somers reports a case of double uvula, and discusses the condition. He thinks that generally when anomalies are indicated there are family peculiarities which are often ignored or denied by the patient. The condition causes no symptoms nor inconvenience worth mentioning.

19. **Perineal Lacerations in Country Practice.**—Wilson advises against attempts of immediate repair by a country physician, and thinks it better to keep the patient quiet, with perfect cleanliness and asepsis, for three or four weeks, and then have her removed to some hospital where operation can be done by a good surgeon.

20. **Progress and Drift in Pathology.**—This article reviews at length the modern conceptions in pathology. Prudden shows how our ideas of the cells have been enlarged by the later discoveries. We are reaching the point where we are beginning to realize that it is not the bacillus that produces the disease; it is simply the exciting cause. The real factors are to be found in the cells themselves. In regard to immunity he shows we are apt to forget that natural or acquired cell tolerance of poisons may be and certainly is sometimes a matter of cell education. There is no doubt that the conditions exist which we may call, with a reservation, "a specific immunity." But the balance of cell metabolism is so subtle, and the introduction of new substances into the body can so modify the response of the cells that the phrase should not be too readily accepted. We are now learning new facts constantly in regard to bacteria, and in tuberculosis we are beginning to realize the fact that predisposition is of great importance, while we are advised to lay the greatest stress on improving the health and thus increasing bodily resistance, but we do not definitely know the factors which make one predisposed, and the practical value of the care of the sputum and sequestration of the sick is positive and proved and should not be neglected. It is the same in surgery. The surgeons now value the variation in the virulence of germs, but recognize the fact that it does not warrant any lack of attention or care. Taking up the subject of inflammation, Prudden shows how, with modern ideas, we can not do better at present than characterize inflammation, with Adami, "as the series of changes constituting the local manifestations of the attempt at repair of injury." It is really a defensive process. Another subject discussed is the origin of tumors, and the theories that have been advanced by various authors are noticed. In spite of all these changes in ideas and tendencies, the practical phase of pathology still moves on its beaten path. We will continue to look for pathologic micro-organisms and will go on making autopsies for the practitioner. He suggests the enlargement of pathologic work in hospitals, and says that pathologists should be able to follow lines of original research instead of confining themselves to the above task. Finally he remarks that pathology is now passing out of the stage which is marked by simple accumulation of facts. We are beginning to group phenomena as diverse manifesta-

tions of identical forces due to diverse conditions of environment. If one were asked to summarize the most important change in the outlook in this line during the last half century, one might wisely say of disease as has been recently said of animals and plants, that "fifty years ago they were objects to be classified; to the student of to-day they are objects to be explained," and we have called in our sister sciences and enlarged our conception of the forces which sustain and sway the human organism. (See also editorial pages.)

21. **Cystitis Due to Typhoid Bacillus.**—The case described by Brown is that of a woman, who thirty-five years previously had typhoid fever. In an operation for myoma there was necessarily considerable handling of the bladder, and this was followed by cystitis. Examination of the urine revealed the existence of the typhoid bacillus, reacting to all the tests. The author discusses the condition and concludes that the source of infection must have been the catheter during the pelvic operation.

22. **Accounting for Gauze Laparotomy Pads.**—Pedersen describes an arrangement for keeping track of gauze laparotomy pads when used in operations, consisting in having them attached to bars or rings by tally snaps or safety-pins, so that they can not be detached during use.

28. **Celluloid Thread.**—Keen and Rosenberger report experiments with Pagenstecher's celluloid thread, its tensile strength, absorbability, and infectivity, and its behavior with the antiseptic and chemical agents. As compared with catgut and silk it is much cheaper; if on steady use it proves to be as valuable, it will go far to solve the question as to the best material for suture and ligature. Its tensile strength is increased by almost every method of treatment for its sterilization, and its slight elongation on stretching seems to be its only disadvantage.

29. **Foreign Bodies in the Stomach.**—Hopkins reports a case of a young man,19 years old, who got in the habit of swallowing metallic substances as a part of a theatrical performance. His regular program was 200 pins, 8 three-inch wire nails, 10 horseshoe nails, a teaspoonful of carpet tacks, 6 hair pins, and a chain 40¼ inches long, which he held by one end and withdrew after swallowing. On one occasion he lost hold of the chain, which caused him some inconvenience, and he vomited it up. Then his troubles began to brew. Previously he had undoubtedly passed off a large proportion of the articles swallowed. He was operated on and 129 pins, 6 hair pins, 2 horseshoe nails, 11 wire nails, 2 door keys, 2 steel watch chains, 1 brass watch chain and 1 finger ring with a stone in it were removed from the stomach. His recovery was uneventful.

34. **Perirectal Fistula.**—Sharpe reports his experience with a method suggested by Morris, which consists in taking plaster of Paris, well impregnated with salt, and forcing it into the tract after having cleansed and dried the canal. After hardening, the plaster pipe and fistula are dissected out together. One case was tried by this method but did not succeed, the plaster not hardening. He introduced a director into the fistula and dissected out the tube. The steps of the operation are illustrated by diagrams. At present he is inclined in these cases to recommend scrupulous cleanliness, deep tier sutures, either silkworm or catgut chromicized for three weeks, superficial tier sutues, catgut or fine silk preferably. Finally, he cleanses with hot saline or bichlorid solution, then with peroxid, and rubs aristol freely into the operative fluid, and applies a dry dressing.

36. **Prolapsus of Rectum.**—The operation advised for prolapsus of the rectum in infants is simply reduction, with the pad and T bandage. The local treatment which Monroe has found of the most benefit is injection, under the mucous membrane—in adults—of from five to ten drops of carbolic acid about every ten days. Inflammation and sloughing follow. When cicatrization takes place, we have considerable contraction. When one application heals, another one must be used a little distance from the first, but where protrusion is large seven or eight injections may be required. He thinks the prospects of cure not good in the adult; children can always be cured. General treatment, the use of tonics, etc., are usually also required.

37. **Syringomyelia.**—Langdon reports and illustrates a case of this disorder in a young woman. He sums up its treatment as follows: rest, nutritional measures, and prevention of complications, such as bed-sores, cystitis and sepsis. The medicinal treatment consists in the administration of arsenic, which has some repute in limiting the growth of tissues of the class to which glioma belongs: and in drugs to relieve pain and promote the comfort of the patient generally.

38.—See abstract in The Journal of January 20, p. 167.

42. **Tuberculin Test.**—Boulden believes the tuberculin test is most efficient and certain in the diagnosis of tuberculosis in cattle. He holds that bovine tuberculosis may infect man, hence the importance of this agent.

43. **Tuberculosis from Milk.**—Parker deprecates the idea that tuberculosis is not likely to be conveyed through milk. He believes that the frequency of the disease in children is to be interpreted this way.

44.—This paper is noticed editorially in this issue of The Journal.

45.—Ibid.

46. **Adenomyomata of Uterus.**—This carefully reported case, observed in Landau's clinic at Berlin, has by its study led Hirst to deduce the following: 1. In the uterus of an adult were found embryonal epithelial inclusions from the mucous membrane of the uterine body (Mueller's duct), situated in the peripheral subserous layer of the myometrium. 2. Isolated glands and cysts, included in the uterine wall and originating from the mucous membrane, are provided with a cytogenic tissue sheath, but not invariably. 3. This cytogenic tissue is found accompanying remains of the Wolffian body only when adenomatous proliferation is present in them, and this applies both when it occurs at the normal site of the paroöphoron and in transposed portions of it. 4. Adenomata with glands and cysts in scattered arrangement are to be considered as from the mucous membrane as soon as they are provided with cytogenic tissue sheaths around the glands. 5. The epithelial ducts in the uterine and tubal wall, which have heretofore been characterized as aberrant canals from the Wolffian body, have not been proven as such, and are of uncharacteristic anatomic structure. For this diagnosis we must have specific figures of the paroöphoron or connection with Gærtner's duct. 6. Formation of subserous adenomyomata from these incorporated glands of the uterine mucous membrane is possible.

48. **Ehrlich Diazo Reaction.**—First noticing the possible errors of this test, Arneill gives the formula recommended by Ehrlich, and points out the features considered as important. The formation of a red zone is an indispensable part of the true Ehrlich diazo reaction, and it is essential that on shaking the foam takes on a pink color. Ehrlich also considered the separation of a greenish-black or violet black precipitate, forming a layer on the surface of the light-colored sediment when the tube has been allowed to stand for twenty-four hours as also of importance. The cause of the reaction is not known, but all authors agree that it is not dependent on fever. That it is dependent on substances excreted rather than temperature is well illustrated by the fact that in croupous pneumonia with high temperature it is rarely present. In nearly all cases there is evidence of marked intoxication of some sort, bordering on the typhoid state. Arneill gives results of critical analysis of the diazo test made in the clinic of Dr. George Dock, during the past six years, as a sequel to the report of Dr. Warthin, published in 1893. The number of cases approaches 800, while the number of tests runs up into the thousands. In twenty-two cases of typhoid fever, the diazo reaction was present in nineteen, and in about one-half the cases of tuberculosis. He believes that duration of reaction corresponds to the severity and length of the fever, and in cases of the acute form of tuberculosis, where the reaction is continuous, a grave prognosis should be made. The other forms of disease in which he has diagnosed by this test are given, such as measles, typhus fever, erysipelas, and he claims that statistics of other investigators who have used

the test correctly are overwhelmingly convincing as to its value in diagnosticating and prognosticating typhoid fever, and in the prognosis of disease such as pneumonia, diphtheria, septicemia, and especially tuberculosis

56.—See abstract in The Journal of Oct. 14, 1899, p. 977.

57.—Ibid., Feb. 3, p. 298.

58.—Ibid.

59.—Ibid.

60. **Indications for Obstetric Operations.**—Von Ramdohr criticises the text books as uselessly burdening the minds of the students with unimportant details while the important matters are not sufficiently emphasized. He thinks that we should not attempt to make general rules for every type in a specialist's meeting, but should differentiate to whom we are talking, and insist on that fact. Incautious remarks dropped in a debate are often taken up in good faith by the profession in general, and theoretic precepts carried out in good faith by unqualified followers. He thinks also that undergraduates should only have strict general indications given them to arrive at a result instead of giving them vague and devious roads which they can not properly appreciate. He points out that in many cases the experienced can safely perform such operations as forceps delivery, symphyseotomy, Cesarian section, etc., which are not always so clearly indicated for the less expert. He puts all indications under one rule: "Whenever mother and child are threatened with danger, interference is necessary and indicated." "That means, whenever the fetal heart-sounds are either increased by twenty or reduced by twenty a minute, whenever meconium appears in head presentations, whenever a head swelling loses its tenseness, this shows that it is time for it to be extracted. On the other hand, the mother shows up by an increasing temperature, by a heightening pulse, by increasing respiration, or by hemorrhage or convulsions that she needs to be delivered. Included are also non-normal proportions between the maternal passages and the fœtus, and mal-presentations and positions." The real point of his article is that the teaching of strict indications lies at the bottom of the whole teaching of obstetric operations.

61. **Conservative Gynecology.**—The use of electricity for the benefit of ovarian and uterine diseases, prolapse or the relaxation of the uterine supports is the chief point in Massey's paper. He condemns the use of the sharp curette, steel dilator, pessaries, etc.

62. **Cancer.**—The summary of MacEvitt's article is given in the following: It is doubtful if cancer of the uterus is more prevalent at the present time than in past periods, though its recognition is more general. Too little attention is paid to its genesis. Its early recognition is difficult and can only be discovered through the use of the microscope. It is generally in an advanced stage when referred to the surgeon for treatment. A clinical division for such process should be adopted. The following division will meet all practical requirements: Primary or stage of incipiency. Secondary or stage of infiltration. Tertiary or stage of lymphatic infection. Quartenary or stage of adnexal and systemic infection. The selection of surgical measures depends on the stage of the disease. The high amputation by galvanocautery is the best method when the infection is confined to the cervix. When the disease is confined to the uterus or with but slight encroachment beyond, hysterectomy is called for; when all the pelvic organs are involved it is better to adopt palliative measures only.

68. **Gastric Ulcer.**—The symptomatology and treatment of gastric ulcer are described by Webster. He advises rest, confinement to bed in serious attacks, and care as to diet. In a majority of cases milk diet is preferable, but where this does not agree others may be substituted. Indigestible foods of all kinds should be forbidden. For relief of pain he first speaks of bismuth, which may be combined with morphin if necessary, and he gives it in 10-grain doses every four to six hours, according to the case. Other drugs are nitrate of silver and tincture of iodin, which have also been reported as of value, also papain and cannabis indica. The use of bicarbonates of soda and magnesia and lime water should be limited to where there is flatulency and fermentation. Lavage is useful in old cases. Relief of vomiting may be had by the use of ice frequently repeated in small quantities, and also morphin and rest of the stomach. Hemorrhage is best treated by cold and astringents. For constipation mercurials are considered injurious. Castor oil is as good as anything where it can be tolerated. Saline laxatives, especially sulphate of magnesia, are useful. An occasional enema is always advisable, and where magnesia is not retained it is better to depend on enemata for a while. In cases of perforation with spreading peritonitis, the need of operation is manifest. In other cases where the symptoms are less marked the diagnosis may be difficult. The majority of authors insist on absolute rest and nutrient enemata, but Blume depends on opium, morphin, and iced milk every fifteen to thirty minutes. The disease often has intermissions followed by aggravations. In the midst of apparent improvement hemorrhages may occur and relapses are always imminent.

71. **Obstetric Manipulation.**—Lewis demonstrates Hegar's sign in early pregnancy, and discusses the diagnosis. In medicolegal practice the fetal heart-beat is the only certain sign. At other times the diagnosis is presumptive only. The treatment of delayed labor is considered, and at least one vaginal examination is advised to determine abnormalities, prolapse of cord, etc., unless a preliminary examination has been made. The treatment of shoulder presentations necessitates version, unless a constriction ring predisposes to rupture. Extraction of the after-coming head is made by Smellie's method, and forcible expression is condemned. The necessity of delivering a living child who can continue to live is emphasized. Under other conditions symphseotomy and Cesarian section must be considered if the child is alive, and some mutilating operation must be done if it is dead.

77. **Intestinal Surgery.**—Mann reports 29 cases of operations on the intestine, with 9 deaths; 23 were primary operations with 6 deaths, and 6 secondary with 3 fatal, the fatality being increased by the shock of the previous serious procedure and great length of double operation. Several of the cases are of interest, one of double resection by Dr. R. Park and the author. Several methods were used for end-to-end anastomosis, but the author especially favors enterorrhaphy with the silk suture, Lembert's stitch, a continuous suture interrupted after each four or five stitches, the loop used for tying being cut off and the suture continued with the same thread as long as it lasted. In each instance a double row in fifteen minutes. Maunsell's method was used but once, of sutures, and resection has been accomplished by this method but was very satisfactory. The Murphy button was used three times in joining the sigmoid to the rectum, and once in joining the small intestine to the large. He thinks its value would be chiefly in operations deep in the pelvis where suturing is exceedingly difficult.

78. **Intussusception.**—Five cases of intussusception with operation are reported by Ill, with photographs of some of the patients. The author thinks that surgery is the only satisfactory method of dealing with these cases, and should immediately follow the diagnosis. The prognosis will depend on the length of time that has elapsed, length of operation, the observance of asepsis, freedom from injuries to the bowel and extent of invagination, and to some extent on location of the lesion. It is very difficult, for example, to draw the ilium from its imprisonment by the ileocecal valve.

79. **Post-Operative Ventral Hernia.**—The common cause of post-operative ventral hernia is improper suturing of the structures of the abdominal wall. It is better to leave the parts as near as possible in the condition in which they were found, and Morris gives details of suturing. The adipose layer of the abdominal wall requires no suturing whatever. Another common cause of hernia is leaving a large drainage opening after operation in septic cases, and he condemns the use of gauze drainage and considers drainage usually unnecessary. Still another cause is too early removal of sutures. He thinks it is best to always use no other material for buried sutures than catgut, as others are liable to give trouble later. Post-operative ventral hernia is rapidly curable according to his experience, if one follows the simple plan of dissecting the structures separately in such a way that they can be separately sutured.

80. **Antenatal Factor in Gynecology.**—Ballantyne calls

attention to this factor in addition to traumatism and infection. In morbid anatomy it is very evident. In symptomatology it should be considered, as there may be abnormal congenital structures. Its relation to etiology is a necessary inference, and one can usually see how congenital deformities may lead to errors in diagnosis and prognosis as well as in therapy. In jurisprudence it is also of importance, for some conditions which might be attributed to parturition, such as split cervix, etc., may be congenital. This possible factor must be remembered in this connection, and one must not be too positive in making statements in the witness-box.

82. **The Clinical Laboratory in Surgery.**—After noticing the value of the clinical laboratory to surgery in many ways, both in bacteriologic and chemical investigations, MacDonald calls attention to the importance of laboratory training for the surgeon. He thinks the successful surgeon should have had five years of bedside experience in general diseases, three years of laboratory training in physiology, chemistry, anatomy, comparative pathology, bacteriology, operative surgery on the cadaver, blood analysis, and finally a year of actual work at the operating-table. The modern surgeon must be able to direct if not conduct each department of investigation.

83. **Classification of Infectious Diseases.**—Thomson points out the modes of communication of infectious diseases, and says the public needs a number of authoritive statements defining the different classes. He sums up in the following: All the diseases caused by the presence of micro-organisms in the body are infectious, and therefore communicable directly as by simple proximity, and therefore contagious—chief preventative, isolation; not directly, but by carriers, and not contagious—chief prevention through dealing with the medium by which they are carried; communicable by inoculation—chief prevention by dealing with the thing which inoculates. He believes that publication of a list of disorders of each class would serve a useful purpose in relieving panicky fears and giving correct ideas.

90. **Paraldehyde with Chloroform.**—After noticing the various adjuvants of chloroform which have been suggested or tried, and reporting experiments of his own, Cosimo Noto calls attention to the use of paraldehyde for this purpose, reporting a number of experiments showing its value. He thinks the association of this drug with chloroform appears to be superior to all other methods of mixed anesthesia up to this time. By administering paraldehyde before inhalation of chloroform, we first of all remove the element of expectation which is sometimes of great advantage, and the period of chloroform excitement is suppressed, as is also the vomiting. Paraldehyde does not at all affect the heart, which is an important point. The dose of chloroform to be used is also much lessened.

95.—See abstract in The Journal of Sept. 2, 1899, p. 621.

105. **Fracture of Cervical Vertebrae.**—Rees reports a case, with post-mortem, of cervical dislocation with fracture of the sixth vertebra, and discusses the subject generally. He emphasizes the necessity of immediate action where operation is advisable, and the importance of handling the patient so that the manipulations are limited to act directly on the region of injury.

112. **Pre-Jennerian Vaccinator.**—McCrae gives an account of Benjamin Jesty, an English farmer, who seems to have anticipated Jenner in observation of the immunity produced by cow-pox to the infection of variola. He practiced vaccination in his own family, but did not publish nor introduce the process to the world. Jenner's work was independent.

113. **Hemophilia in the Negro.**—In the literature of this subject there has been heretofore but one case reported in the negro. But Steiner reports an interesting history of a case with full family tree showing four generations of hemophilia with its usual characteristics.

114. **Fracture of the Patella.**—Cumston's article is illustrated with cuts showing the different methods of treating patellar fracture. Results obtained by suturing are, in most instances, more than satisfactory, but he gives special cautions as to asepsis in this operation, involving as it does a serous cavity.

115.—See abstract in The Journal of February 10, p. 363.

116. **Intestinal Neuroses.**—The disorders noticed by Rothwell are peristaltic restlessness, rumbling, gurgling, croaking, or squeaking in the bowels which is very annoying, nervous diarrhea, concurrent spasms of round and long muscular fibers, colic, and anesthesia of the rectum. He thinks that hyperesthesia of the intestinal nerves may account for many disagreeable sensations complained of by neurotics. Enteralgia is a distressing disorder, and its unilateral character differentiates it from inflammatory affections and also from renal colic and the dermalgias described. Still another disorder is mucous colic, which is a very obstinate and troublesome one. These conditions are to be met by aiming to modify the underlying neuropathic states. In peristaltic restlessness, in addition to the general treatment, arsenic and methylene blue are especially valuable; in enterospasm, sedatives and antispasmodics must take the place of purgatives; in enteralgia, codein and morphin, and the best results will be obtained by suppositories of the aqueous extract of opium in doses of gr. ss. For mucous colic the indications are: 1, to evacuate the bowels by general laxatives; 2, to relieve pain without narcotics; 3, to prevent fermentation; 4, to counteract a possible autointoxication. To meet the first indication, olive-oil or castor-oil is recommended; to relieve pain, extract of cannabis indica, gr. ¼ in pill, three times daily; as disinfectants, salol, resorcin, and salicylate of bismuth.

119. **Prevention of Tuberculosis.**—Whalen does not believe in the dangers of milk, at least to the extent which is now agitated, but that public education by furnishing families with such educational matter on the subject is advisable. He thinks the establishment of a hospital for the incipient cases among the poor would be a great advantage.

120.—See abstract in The Journal of Oct. 14, 1899, p. 983.

124. **Nasal Respiration.**—The points which Blake would emphasize are that nasal respiration is the normal kind and that proper physical and mental development largely depends on it; that nasal reflexes should receive due attention and that obstruction of the nasal respiration is almost always adventitious and not due to congenital defect, hence an obvious pathologic cause should be sought. Relief may often be afforded by simple means, but radical measures are justifiable if they seem required.

126. **Koplik Sign.**—Rose considers Koplik's sign the most valuable and the possibility of early diagnosis by it especially so in differentiating measles from other resembling diseases.

132. **Neuroses of the Skin.**—The principle theme of Brayton's article is the sensory skin neuroses, of which pruritus is the type, due to various conditions which give rise to neurotic disorder. He does not give much encouragement as to their cure, but insists on thoroughness of study and diagnosis in every case.

138. **Electricity in Dysmenorrhea.**—Goelet believes that electricity intelligently applied will relieve dysmenorrhea due to stenosis, obstruction or flexion. He thinks that for this purpose, in the galvanic applications producing moderate negative electrolysis, the strength of the current should not exceed 10 milliamperes, and the duration of the applications should be three or four minutes. The frequency may be every second day for the first or second week, every third during the third week, cessation during menstruation and once or twice a week during the intermenstrual period. If complete relief is obtained at this stage, one application may be made immediately preceding the next two succeeding periods. The electrode may be inserted with a speculum or along the index finger, and strict asepsis must be observed. Following each of these galvanic applications the pelvis is submitted to faradization with the current from the long, fine, wire coil, by means of the bipolar electrode in the vagina, for the purpose of overcoming pelvic hyperemia which constantly accompanies this form of dysmenorrhea. These applications should be continued for ten or fifteen minutes. Dysmenorrhea due to chronic hyperemia of the endometrium and defective drainage—so-called catarrhal endometritis—is curable by the same plan of treatment; this may, however, need to be more prolonged. In conjunction with the treatment, conditions tending to produce pelvic hyperemia, such as inactive liver, should receive attention. He also uses this method in dysmenorrhea due to

[illegible] and salpingitis. That due to anemia and impaired nutrition does not as a rule require local applications, but yields to vigorous application of static electricity, consisting of sparks to the spine, especially the sacrum, and to the hypogastrium, repeated daily or every two days, and the application of stimulating static breeze applied generally. From two to three months will be required to effect a cure, discontinuing application during the period and using tonics, etc. Dysmenorrhea due to imperfect development must be taken early, and he thinks stimulation of the uterus, and through it the ovaries in these cases, with static electricity, the correct treatment.

142. **Abdominal Incision.**—Bouvier describes Kuestner's incision, which he thinks is an ideal one where the abdominal walls are thin and the size of the cut limited to one inch or so. He prepares the patient in the usual manner, then makes a vertical incision through the skin and aponeurosis of the external oblique muscle, 1¼ inches to the left of the median line. At each extremity of this incision he makes another, at right angles, to a point one-half inch to the right of the median line; dissecting up the intervening skin and aponeurosis to the limit of the transverse incisions. A cut is then made in the median line through the remaining muscles and peritoneum, which gives an abdominal wall practically the thickness of the internal oblique, and transversalis muscles, fascia and peritoneum. In closing the deep wound, if the peritoneum is to be included with the deep muscles, absorbable suture material should be used; if not, silk will give the best results, which, with this incision, are to be obtained in the operation in the inguinal or iliac regions. The deep incision should be the opposite to that known as McBurney's, i. e., instead of crossing the imaginary line from the anterior superior spine of the ilium to the umbilicus, it should be parallel to it, and in the direction of the fibers of the internal oblique muscle. With such an incision hernia and secondary wound infection is almost an impossibility. The operation requires a little longer time to perform, but to the careful surgeon the difference in results will more than repay for the extra time.

FOREIGN.

British Medical Journal, March 3.

Clinical Lecture on Cases of Myasthenia Gravis Pseudoparalytica. THOMAS BUZZARD.—Two cases of the disease first noticed by Wilks, and characterized by increasing muscular weakness with later spinal and bulbar symptoms, are described by Buzzard. One of the most notable characteristics is the so-called "myasthenic reaction," which consists in a rapid loss of electromuscular contractility, to be recovered again in a very short time by rest. In these cases the behavior of the knee-jerks was remarkable, as the reflex was produced continually on tapping the tendon, without any diminution in vigor of the response. The occurrence of myasthenic reaction in both cases is considered by Buzzard to prove their identity, though many cases reported are probably of different pathogenic origins. He thinks that cases of multiple neuritis affecting especially the motor nerves have been confused with this disease, and it is possible that there are various diseases that merge into each other. The myasthenic cases usually show the following features: Symptoms of bulbar paralysis not usually very strongly marked, with ptosis and sometimes ophthalmoplegia, weakness, and rapid fatigability of the muscles of the trunk and extremities as well as of those innervated from the bulb; absence of muscular atrophy and fibrillary tremors; normal excitability by induced currents at the moment of application, provided that the muscle is not already fatigued by voluntary exertion, rapid decrease and disappearance of contractility under application of the electric currents, with restored excitability after a very short rest; the occurrence of remissions and exacerbations; almost complete absence of sensory troubles; immunity of the functions of bladder and rectum; sensorium unaffected; negative results of necropsy. Oppenheim points out that in polioencephalomyelitis the symptoms of "myasthenic reaction," remissions and fatigue phenomena are all absent. Neither sex nor age appear to have any influence, apparently also the symptoms may originate in different parts, and by no means necessarily in the bulbar district. It is impossible to say anything definite on the essential nature of the disease, and the toxin is not to be discovered, but probably motor cells of the cortex are the seat of the morbid processes. With our ignorance of the pathogeny there is little to be said about treatment. Thyroid seemed to do good in one of these two cases; apparently the best results are obtained by rest, removal from disturbing surroundings and good food. The application of induced currents to the muscles of deglutition and respiration is to be deprecated, but there appears to be no objection to galvanization of the nerve-centers. Experience has also shown that feeding by tube is not advisable, as fatalities have occurred in this way.

Experiments to Determine Efficacy of Different Constituents of Haffkine's Plague Prophylactic. C. BALFOUR STEWART.—From experiments on rabbits, Stewart is not inclined to favor the claim of Lustig and Galeotti that their nucleo-proteid in solution is the active element in Haffkine's serum. His experiments were made in slightly acid broth, which would not dissolve the nucleo-proteid. The cultures also were young, and the microbes probably living, so that they were not in condition to give up their nucleo-proteid. His experiments rather appear to confirm Haffkine's theory that the supernatant fluid, by virtue of the contained toxins, conferred power to withstand the plague toxins, for which reason he preferred to keep the supernatant fluid in his prophylactic, not depending entirely on the deposit thrown down.

A Contribution to Study of Pituary Body. W. A. OSBORNE AND SWALE VINCENT.—The authors' investigations on the pituitary body mainly confirm the previous one of Schaefer and Vincent. They find that saline decoction of pituitary body of bony fishes produces effects identical with those obtained from the mammalian glands, which renders it probabie that these organs are functionally identical throughout the vertebrate kingdom. The infundibular portion of the pituitary body being presumably nervous, the question arises whether the effects can not be produced by similar extracts of nervous tissues generally. The authors have given considerable attention to this, and their conclusions are that all parts of the nervous system, but especially the gray matter of the brain, cause depressor effects which are not abolished by section of both vagi. They do not think that this is due to cholin. This, however, does not decide that the depressor effect of the pituitary is due to the presence of nervous matter. There is a distinct difference in the nature of the curve obtained by the two substances. Their extracts were prepared from the infundibular portion of the pituitary of the ox, since the hypophysis proper is inactive. Even by the naked eye it is seen that the infundibulum of the ox is divided into two distinct parts, an inner and outer; they experimented with the two portions separately and found the extract from the central part more active than that from the peripheral. They believe that the effects are entirely due to the inner reddish core, the outer part being glandular. They have been able to find few undoubted nerve-cells in the infundibular part of the pituitary.

The Lancet, March 3.

Two Lectures on Rabies. JOHN ROSE BRADFORD.—In this first lecture Bradford reviews the history of rabies, more especially down to Pasteur's investigation. Since 1885 our knowledge of its nature has not greatly progressed. The identity of its toxin has not been established, though there are arguments in favor of the disease being of microbic origin. It is limited to mammals and birds, and it is known in the latter through experimentation; the carnivora are especially affected. It is common in dogs and cats, less so in wolves and foxes, and in other animals it is rare, but most so in the pig, which fact he attributes to the latter's layer of fat preventing inoculation. Another interesting point is that it is endemic in certain localities and hard to eradicate. There are certain countries in which it is unknown, among these Australia and Norway. The disease is usually communicated through a bite, and the proportion of those bitten that suffer from it is not large, probably about 16 per cent., according to the most apparently correct estimates, those of Leblanc. There is some evidence that it may be contracted through licking, and laboratory experiments have shown that it may be through the mucous membrane. Near the nerve-centers the inoculation is of greater danger. The well-known experiments of Roux show that when the spinal cord was divided and the inoculation made below the point of division, the greater quantity of virus accumulated in the divided segment. The virus has a peculiar distribution in the tissues. It is present in the nervous system but not in the blood, and apparently not in the bulk of the tissues. It is not found in the liver or spleen, but is found in other secretory and closed glands, such as the salivary, the pancreas, the lachrymal, suprarenal and mammary glands. On exposure to air or sunlight it loses its virulence in fourteen hours, but in water or underground it may last for many days. The question of incubation is important, and Bradford does not believe that it extends beyond six months. The minimum period is twenty days, and sixty is usually the maximum. In diagnosis it is of great importance to isolate the dog if possible, and to keep it alive to be sure that it is suffering from rabies. In the next lecture he will consider the details of diagnosis.

Anatomy and Pathology of Rarer Forms of Hernia. B. G. A. Moynihan.—Hernia of the bladder is still regarded as a sort of curiosity, but Moynihan seems to think that it is less rare than is supposed, as in many cases it is not discovered even by operation. The more accurate the stripping of the sac quite up to the epigastric artery, the more likely will cystocele, especially in its earlier stages, be discovered. It is more general in the aged and enfeebled, but in young persons or children it is rare. Three varieties are known: 1. Intraperitoneal cystocele, where there is a complete hernial sac into which the portion of the bladder completely covered by peritoneum descends. Only about 6 per cent. of all the cases are of this form. 2. Paraperitoneal cystocele, in which form the bladder lies on the inner side of the sac in such a way that the peritoneum of the sac's inner walls is a serous covering of the outer wall of the bladder. The rest of the bladder outside of the abdomen has no peritoneal covering. The viscus, therefore, is outside of the sac; it is not a part of the contents of the hernia. 3. Extraperitoneal cystocele is a rare form. All are of the direct variety. Cases of this hernia are commonly spoken of as of a diverticulum, but recent investigations show that really the apparent narrowing neck is deceptive. The etiology has been a puzzle, but Moynihan sums up the causes as follows: 1. There must be a condition of permanent vesical distention. As a result of this enlargement the normal anatomic relations of the bladder undergo considerable modification. The increase is not merely in the vertical direction, but also in the transverse. The bladder is therefore brought into relationship with the inguinal fossæ. 2. There must be a condition of motor insufficiency of the bladder. The wall is thinned in certainly the great majority of cases. Salistchew gives it as his experience that the bladder wall may be not only thinned but actually thickened and the muscular fibers considerably hypertrophied. A glance through the recorded cases, however, is amply sufficient to show that the atrophy of the muscular coat is comparably more frequent. 3. There must be a condition of laxity of the abdominal wall, especially in the lower half, or of undue patency of the inguinal canal and unusual size of the abdominal rings. A bulging of the lower abdominal wall is very common in cases of hernia occurring in middle or old age. It has been described and illustrated by Glenard, Macready, and others. 4. As supplementary to these three there is also necessary the increase of intra-abdominal pressure, the "effort" on which Nélaton in 1857 was the first to lay definite emphasis. The cystocele is both primary and secondary. The primary ones result from two conditions: 1. Where the bladder through persistent overdistension associated with muscular atony, laxity of the abdominal wall, and "effort," is forced into the inguinal canal. 2. Where the traction or the fixation of a lipoma causes the descent of the organ. Secondary cystoceles result from the traction of pre-existing hernia or protrusion of the peritoneum-clad portion of the lax-distended bladder into the hernial sac of old standing. The symptoms and signs are reviewed, the fluid contents of the hernia, its alteration and size corresponding to micturition, interrupted micturition, and pressure on the sac causing a desire to urinate. Sometimes the catheter can be passed into the hernia. It is rarely strangulated, though symptoms resembling strangulation may appear. It may be confused with hydrocele, from which it differs in being opaque and reducible, and the other symptoms of fluid in the hernial sac may cause confusion. It is impossible for a patient to wear a truss. In these cases the operative treatment is the best resource. The danger is chiefly of wounding the bladder, which makes it necessary to use special care to recognize the viscus. After operation it will probably be necessary for the patient to wear a truss.

Relation of Blood to Lymphatic Vessels. Cecil H. Leaf.—The author calls attention to the communications between the blood-vessels and lymphatics, and especially to the following points: 1. The azygos veins normally receive a great many lymphatic vessels. 2. Some of the smaller arteries in the thoracic region open directly into the large lymphatic vessels; some of the smaller veins open directly into the large lymphatic trunks; and these two facts help to quicken the movements of the lymph. 3. Direct communications are found to exist between arteries, lymphatic vessels, and veins. 4. The communications between veins and lymphatic vessels have been observed to take place in a great many regions in the body. 5. Owing to the presence of these communications the cells of a malignant growth can pass either from the lymphatics into the veins, or vice versa, and hence not only in the sarcomata but also in the carcinomata the veins, as well as the lymphatics, should always be regarded as channels along which the cells may at any moment be conveyed to distant parts of the body.

Revista Med Del Uruguay (Montevideo), January.

Tuberculosis in Uruguay. J. De Salterain.—The mortality from pulmonary tuberculosis in Uruguay, from 1890 to 1897, was 1.27 per 1000 inhabitants. The proportion of deaths from pulmonary tuberculosis to the deaths from all causes was 7.58 per cent. The highest mortality from tuberculosis is along the river, and that in the province of Montevideo—11.76 per cent.—was higher than in the province of Buenos Ayres from 1888 to 1898—8.70. The mortality from this cause in Montevideo was 12.24 per cent. Compulsory disinfection is advocated. Tuberculosis was only noted in 0.19 per 1000 of the cattle examined at the slaughter-houses.

Annales de la Societe Medico-Chirurgicale de Liege, xxxviii, 12.

Electromassage of Prostate. Albert Hogge.—A thin disc of platinum is mounted on a rubber cap fitting over the forefinger like the finger of a glove. The platinum disc is covered with a disc of chamois leather and has a wire conveying to it a current of 15 milliamperes. The positive electrode is applied in the urethra or on the perineum, and held by the subject, while with the free hand the physician exerts pressure on the hypogastrium at the same time that he is massaging the prostate through the rectum with the electric device. The rubber cap is lubricated with salve or glycerin. Ninety-two cases are tabulated for comparison, showing the benefits of this electromassage in chronic prostatitis, hypertrophy of the prostate and vesical prostatism in seventeen cases thus treated.

Bulletin de l'Academie de Medecine (Paris), February 20.

Experimental Capsular Hemianesthesia. Francois-Frank.—The importance of experimental research in the study of pathologic cerebral physiology is demonstrated once more in the new facts presented in this communication. The method used was bipolar electrolysis, which is free from the errors of other methods, and permitted the long survival of the animals. With it the fact was established that section of the posterior segment of the internal capsule does not suppress the sensibility on the opposite side of the body. Total hemianesthesia only exists in the first few days after operation, and is a disturbance in inhibition, not of deficit. The real deficit disturbances do not appear until the inhibiting effect has passed away; in the dog, between the fourth and eighth days. The chief manifestations of the sensory-motor disturbances then are an incomplete motor paralysis with loss of the sense of the position of the members; hemianesthesia to the touch, suppression of half of the visual field on the opposite side, and chief of all, complete retention of sensibility to pain by the skin, with loss of the power of localizing this sensation.

Disinfection with Measles. E. Vallin.—The necessity of careful compulsory disinfection in case of measles is urged by Vallin, who states that the number of deaths from this dis-case has nearly doubled in Paris during the past five years, and that it causes nearly twice as many as typhoid fever and diphtheria. It is not the measles itself that leads to this high mortality, but the opportunity afforded streptococci and other bacteria to invade the tissues of the air-passages, by the lesions in the mucous lining caused by the affection. Vallin considers disinfection necessary to destroy these secondary germs in the environment, not only for the patient himself, but for those who have taken the measles from him, to prevent complications later. He would add it to the list of diseases requiring notification, and observes that when people once realize the necessity of disinfection, they are glad to have it done. During 1899 there were 12,000 spontaneously demanded or accepted disinfections on account of tuberculosis, which shows that the antituberculosis propaganda is beginning to bear fruit.

Psoriasis Cured with Thyroid Extract. Petrini.—Commencing with two capsules a day, the patient with generalized psoriasis was taking ten a day in three months, when he was discharged cured. No unfavorable effects from the treatment were noted.

Bulletin de la Soc. Med. des Hop. de Paris, February 15 and 22.

Clinical Characteristics of Pains with Aneurysms. H. Huchard.—In a number of cases Huchard was able to discover a hitherto unsuspected thoracic aneurysm by peculiar pains at a distance, suggesting rebellious intercostal neuralgia. They are usually situated at the back of the thorax, four or five finger-widths from the spine, at the ninth or tenth intercostal space. They increase with every change of attitude, when the subject stands up or when he reclines, but are relieved when seated, the body bent slightly forward. Radiography is always indicated in rebellious thoraco-brachial neuralgias, as an aneurysm or incipient Pott's disease may be revealed by this means. A patient sent to Huchard for paracentesis on account of ascites and supposed cirrhosis of the liver, proved to have a very violent crural neuralgia, rebellious to all treatment, which impressed him with the possibility of an aneurysm, and searching, he discovered it in the abdominal aorta, behind the ascitic effusion. In three other cases puncture of a pleuritic effusion was advised, but again the history of pain persisting for several years in the latero-posterior portion of the thorax led to the discovery of an aneurysm. Puncture in any of these patients might have proved disastrous.

Lesions in Liver and Kidney in Case of Intoxication from Food. P. H. Papillon.—A few hours after eating a *paté de foie gras* of bad quality, a workingman, 40 years of age, was taken with violent vomiting and diarrhea, and died with choleriform phenomena and erythema in seven days. There was necrosis of almost the entire secreting epithelium in the kidney, and in addition to small foci of parenchymatous hepatitis, a diffuse infiltration of the glandular cells of the liver with ochre pigment, probable evidence of an alteration in the blood. Bacteriologic examination was negative.

Gastric Juice from Dogs, in Treatment of Hypopepsia. Fremont.—By isolating the stomach of dogs Fremont has succeeded in obtaining a continual secretion of gastric juice, which he administered with very favorable results in certain cases of dyspepsia, calling the substance "gastrine." Hayem calls attention to the fact that gastric juice thus obtained differs materially from normal, and as it is hyperacid with free hydrochloric acid, the "gastrine" is in reality merely a strong solution of hydrochloric acid.

Echo Medicale (Lille), January 28 and February 11.

Curette and Boiling Water in Treatment of Tuberculosis of Bones. Moty.—One observation is described at length out of an experience with five or six cases of large tuberculous abscesses treated by curetting; then large wads of cotton held with forceps were dipped in a boiling solution of boric acid and plunged to the depths of the cavity several times, as rapidly as possible. The wound was then dressed with tampons dipped in camphorated naphthol, after some had been injected. In the case described two large abscesses healed very rapidly, and three abrupt rises in temperature coincided with the cessation of suppuration.

Presse Medicale (Paris), February 17, 21 and 24.

Functions of Kidney in Chronic Nephritis. L. Bernard.—A series of comprehensive tests undertaken by Bernard have established that the permeability of the kidney is not uniformly diminished in every case of nephritis. There is nephritis with and without permeability. Also, there is no necessary connection between the existence of uremic phenomena and the renal impermeability, indicating that the latter is not the only factor in the clinical manifestations which constitute uremia, and showing the fallacy of basing the prognosis on the permeability. Renal insufficiency represents the sum total of renal impermeability *plus* insufficiency of the other functions of the renal epithelium. The renal impermeability not only produces the auto-intoxication from retention which constitutes our syndrome of impermeability, but also mechanically induces cardio-arterial hypertension, and from this hypertension another syndrome results which, superposed on the preceding, presents the clinical picture of interstitial nephritis: polyuria, and *bruit de galop.* Consecutive to this cardio-arterial over-exertion, asthenia occurs, with hypotension and resulting edema and oliguria, and exaggeration of the intoxication. Later, the general functional disturbances add to the clinical picture. In parenchymatous nephritis, on the other hand, edema and almuminuria are observed before the impermeability, possibly due to a disturbance in the functions of the kidney. The syndrome of impermeability and hypertension only appear later. It is possible that edema of the viscera plays a part in the syndrome of parenchymatous nephritis during the first stage: dyspnea from edema of the lung, diarrhea from edema and albuminuria are observed before the impermeabil-terstitial and parenchymatous nephritis is quite distinct. The latter does not become transformed into the former, although sclerous lesions may suggest this transformation; and the interstitial does not become transformed into the parenchymatous. The dual nature of chronic nephritis is evidenced by the difference between the lesions, the clinical evolution and the pathologic physiology of what, for want of a better term, we call interstitial and parenchymatous nephritis.

Cryoscopy of Urine. H. Claude.—The conclusions of this comprehensive study of cryoscopy of the urine, in heart and kidney affections, state that there is nothing to compare with it in the general oversight it affords of the functional synergies of the circulatory and urinary apparatus. If the kidneys are sound, it is an index of the heart function, and when both heart and kidneys are affected, the course of the trouble can be watched day by day. The technique is simple.

Hypertrophied Form of Tuberculous Stricture of Small Intestine. T. Tuffier.—The cicatricial and fibrous variety are much more frequent than the hypertrophied, in which an inflammatory reaction becomes superposed on the primary tuberculous lesion, producing an actual fungous enteritis, the proliferations obstructing the lumen. Of the 45 operations on record for tuberculous stricture of the small intestine, 37 resulted in recovery, and also the 8 cases of the hypertrophied variety. The stenosed region was resected in all but one of the latter, and in six of these the resected portion included part of the small intestine, cecum and colon. In the case reported in detail the patient has returned to her old occupation and gained in weight during the ten months. In another the health was good a year later. The rest were not followed.

Leucocytes of Lymphatic Origin in Milky Ascites. F. Widal and Prosper Merklen.—In an alcoholic, 50 years of age, with subicterus, edema and ascites, the ascitic fluid was milky, but the small proportion of fatty particles—less than 1½ grams per liter—indicated a non-chylous origin. On the other hand, the milky fluid contained numbers of mononuclear leucocytes, to the exclusion of red corpuscles and any other kind of leucocyte. These mononuclear leucocytes accumulated in the fluid, indicated that this fluid must have been derived from the lymphatic vessels, although no lesion of these vessels could be discovered at the autopsy.

Progres Medical (Paris), February 3, 10 and 17.

Ocular Manifestations of Typhoid Fever. E. Koenig.—Optic neuritis as a manifestation of typhoid infection has seldom been recorded, but an observation is here described which demonstrates that typhoid, like other major infectious processes, is able to cause ocular accidents and, among them, optic neuritis that may lead to atrophy and blindness. The observation confirms the existence of an optic neuritis of microbian origin without, necessarily, the intervention of any other physiologic or pathologic mechanism.

Treatment of Exophthalmic Goiter with Electricity. L. R. REGNIER.—In the five observations described, the favorable results of persevering with electric treatment—*voltaisation stabile*—were so pronounced that Regnier considers this treatment urgently indicated in this disease. It has a moderating action on the heart, an electrolytic one on the tumor, a stimulating one on the secretion of the gland, a regulating action on the sympathetic in its various functions, and is free from all danger. One of his patients has been cured for four years. He places the negative electrode—200 sq. cm.—on the back, and the positive—80 sq. cm.—on the tumor, for ten to twenty minutes, three times a week.

Hygiene of Infancy. H. ROTHSCHILD.—The remarkable decrease in the infant mortality of Paris is traced to the use of sterilized milk and the advice given to mothers at the various crêches and maternities. The deaths from gastro-enteritis —which represent 89.7 per cent. of the total mortality under 1 year—were 373 less in 1899 than in 1898, although the heat was more protracted and the average higher.

Diluting Milk for Infants. J. BONIFAS.—The writer of this protest against the custom of diluting milk, which he claims should be given pure even to the youngest infants, bears the title of "medical inspector of nurslings." He has taken advantage of his special opportunities to make a study of this subject, and asserts that when the milk is diluted this dilutes the gastric juice, and the digestive power is proportionately weakened. The water added to the milk increases the task of absorption, which leads to fatigue and exhaustion of the organs. The intestinal mucosa may even refuse to absorb this excess of water, which thus remains as a foreign body to produce disturbance. The addition of water increases the amount ingested, with consequent dilatation of the stomach and bowels. He records a number of convincing observations to support his views, and the benefit of a pure or almost pure milk diet after the first ten days.

Revue de Chirurgie (Paris), February 10.

Potassium Hydrate Treatment of Cancroids. C. J. ROSSANDER.—It has been some time since anything has been heard from the treatment which Rossander only claims is applicable to cancroids of the face, and with which he has cured two cases, with no recurrence for several years. In two other cases the treatment was ineffectual, but a large number have been improved beyond all expectations. Half a Pravaz syringe of 1 or 1.5 per cent. solution of potassium hydrate is injected around the cancroid, the needle inserted to reach beneath it, the injection repeated every third day. Rossander now reports two new observations in which a malignant, rapidly spreading melanosarcoma and epithelioma were arrested. The fomer was absolutely cured; the patient, now 94 years of age, has had no recurrence in the five years since. In the second case the epithelioma had been extirpated, the recurrence treated with "cancroin," by Adamkiewicz, and supposed to be completely cured, but it recurred again in three months with increased malignancy, rebellious to the cancroin, and soon extended from the upper eyelid to the nostril and out on the cheek. As a last resort the patient, a young lawyer, went to Stockholm, and Rossander injected potassium hydrate with the result that the cancroids retrogressed until in four months, all had healed but a small spot in the center. He neglected to continue the injections as directed, but his health continued good for four years, when he succumbed to renewed development of the neoplasm. The injections produce no necrosis but rather seem to promote absorption from the periphery inward.

Iliac Colostomy by Double Ligature. M. GANGOLPHE.—Three years' experience with the simple, rapid method of colostomy described has demonstrated that the functional results are perfect, and Gangolphe waits no longer for further observations to confirm its advantages, considering his record of sixteen patients sufficient under the circumstances. The alvine discharges occur early in the morning, usually, between 5 and 7 o'clock. Consequently the subject can attend to the necessary precautions and then go to his business as usual, his condition unsuspected. A simple pad on a belt prevents any oozing between times. One of his patients is a commercial traveler, who has resumed his trips. All are unanimous in praising the services rendered by the intervention. Through a small incision a loop of the iliac colon is drawn out and a double thread passed through the center of the mesentery and cut, and each end used to tie one branch of the loop, the ligature forming two linked loops, drawn as tight as possible. The serous membrane of each half of the loop is sutured to the parietal serous membrane all around with fine silk stitches, half to an inch above the ligature, which is left undisturbed for forty-eight hours. Fluids are restricted during this interval and a few hypodermics of morphin are made. By the end of two days the loop is gangrened sufficiently to isolate the stumps effectually. It is opened and gangrenous portions removed with the thermocautery, Nature assisting in the process. None of the subjects vomited. There was slight fever, but no local complications. The new anus is level with the skin, and has a double opening, but the distal end contracts in time.

Treatment of Fractures of Clavicle. L. GRATSCHOFF.—This question, Gratschoff observes, has no history, as there has been no development to record, and we are still at Hippocrates' standpoint. He establishes, by a detailed algebraic study of the co-ordination, that an apparatus constructed for the treatment of a fractured clavicle should hold the shoulder at an angle of 12 degrees with the median plane; of 71 degrees with the frontal, of 15 degrees with the horizontal plane. The apparatus should prevent increased tension of the serratus magnus and suspensory fascia, while it should not interfere with the movements of the thorax, nor press too hard against the skin nor cause the wearer discomfort. The great difficulty is to suppress the effect of gravity; the weight of the arm alone is apt to interfere seriously with the healing. Gratschoff has devised an apparatus which answers all these conditions, with mathematical accuracy. It is easily applied; comfortable to wear; can be made of the most inexpensive materials, and two or three weeks complete the cure. It consists of three parts: 1, a shoulder splint fastened to the wounded arm with a bandage from elbow to root of the arm; 2, a solid, iron bar, one end fastened loose on a peg in the splint at the point of the shoulder, over the acromion. The other end is held immovable at a point about 4 cm. below the nipple on the sound side, where four straps are fastened together and to the iron rod. One passes vertically over the sound shoulder and buckles in the middle of the back to No. 2, which has been brought around the trunk horizontally under the bandaged arm. No. 3 extends downward, encircles the thigh on the sound side and buckles on itself in front. No. 4 passes under the sound arm, slanting diagonally downward across the back, and encircles the thigh on the side of the fracture, buckling on itself at the rear. There is a supplementary strap from the shoulder around the elbow, and a sling around the neck to hold the forearm. In Gratschoff's experience in Finland fractures of the clavicle form 15 per cent. of all fractures.

Total Splenectomy. F. LLOBET.—The spleen removed from a young woman in the case described weighed 2500 grams, was 51 cm. in circumference, and was attached to the rear wall of the abdomen with a pedicle 30 cm. long and 6 in diameter. It was also adherent to the anterior wall and contained cancerous nodules. Two months afterward, analysis of the blood showed 2,800,888 reds to 14,000 whites, and eleven days later, 4,600,000 reds. The patient is now in perfect health, seven months since operation.

Umbilical Hernia. M. K. SAPIEJKO.—Large, inveterate umbilical hernia is treated by Sapiejko with a median incision and the separation of the aponeurosis from the skin is 15 cm. each side of the incision. One rectus major is then brought across and sutured at this distance from the median line, and then the other rectus is brought across from the other side above it and sutured as far to the other side, thus forming a strong double wall over the region of the hernia. An elliptic flap has to be cut out of the skin to correspond. Among other observations he relates the success of this method in a woman four months pregnant, the rapidly enlarging abdomen affording the severest test of the method and proclaiming its remarkable advantages. In previous pregnancies the hernia and general enteroptosis had been so pronounced that the uterus had turned over and reached to the knees.

Semaine Médicale (Paris), February 20.

Observation of Pericardial Adhesion in a Youth: Autopsy. P. MERKLEN.—Besides evidences of aortic insufficiency, and a history of repeated attacks of chorea and articular rheumatism, there were symptoms denoting commencing pericardial adhesion: abnormal movements of the precordial region, systolic retraction of the apex, hypertrophy and dilatation of the heart, extensive area of dulness over the heart, and fixity of this dulness and of the location of the apex. Dulness over Traube's space from an effusion in the pleural cul-de-sac is suggestive, and in this case also the age of the patient—16—and the signs of pleuro-pericarditis, that is, the pericardial friction, the precordial pains and the tendency to progressive dilatation. The prognosis is unfavorable, but much can be done to mitigate the evil and not allow the heart to become fixed in an unnecessarily dilated condition, by combating the slow and insidious phlegmasia which is trying to turn the pericardium into a cicatricial sac. Prolonged rest in bed, immobilization of the inflamed surfaces, will favor the retrogression of the lesions, and often arrest their development. Revulsion of the precordial region with blisters, cauterization, iodized, diuretic and laxative medication are indicated. Digitalis proved injurious in the case reported, but the dulness was reduced from 20×15 to 14×11, and the liver dulness from 13 to 11, with wet cupping, theobromin or potassium nitrate and mild purgatives. But la grippe supervening aroused the latent articular rheumatism and death soon followed, the heart having increased to 20 cm. across, and weighing, empty, 1450 grams. The adhesion was complete with a few small gaps. The pericardium adherent to the heart was also fastened to the sternocostal surfaces with firm adhesions, and to the inner surface of both lungs by dry mediastinal pleurisy.

Centralblatt f. Chirurgie (Leipsic), March 3.

Metal Lathing, a New Material for Splints. C. HUEBSCHER.—The sheet metal stamped out to form a kind of lattice work, used in place of wooden laths under plaster or cement, is proving to be admirably adapted for making splints. Light, inexpensive, strong and yet flexible and permeable, it is recommended by Huebscher especially for military surgery. No padding is required under it, and an improvised splint tied with handkerchiefs over the underclothing, has the advantages of the best made splints. As a foundation for a plaster cast it imparts a solidity never previously attained. It has been extensively used in the construction of the Paris exposition buildings, where it is known as *métal déploye*, expanded metal in English, *Streckmetall* in German. If extreme lightness is desired aluminium is used.

Deutsche Medicinische Wochenschrift (Leipsic), March 1.

Early Diagnosis of Pulmonary Tuberculosis. E. LEVY AND H. BRUNS.—It is possible to obtain accurate information in regard to the existence of tuberculosis by inoculating animals with a minute quantity of the suspected bacilli, and this measure is recommended in this communication from the Strassburg Institute of Hygiene, as affording important information impossible to be obtained otherwise. The sputa are collected for twenty-four hours, and a suspicious portion is rinsed and guinea-pigs inoculated in the peritoneum, with .5 to 1.5 c.c. To destroy other micro-organisms in the sputa another portion is heated to 60 C. for ten minutes and inoculated into other animals. These simultaneous tests throw light on the question of mixed infection. The animals are killed in from four to ten weeks, and examined for tuberculous lesions, and it is astonishing how reliable this method is with even the fewest of bacilli. The tuberculin test is harmless, but it requires the patients to keep their room, and is apt to be misleading in the respect that an old, healed, encapsulated tuberculosis may react like a fresh infection.

New Method of Physical Diagnosis. E. WEISZ.—In pronouncing such words as kit, day, ketter, Weisz noticed that certain portions of certain intercostal spaces protruded, evidently from the lung expanding during speaking. These protuberances cease where the dulness over other organs commences, and consequently the lung itself marks its own limits and defines the line of demarcation between itself and neighboring organs, especially the upper margin of the liver. Children and persons under 30, with lean thorax and broad intercostal spaces, show these phonation protuberances most distinctly, the stomach empty. The phenomenon is not observed in ordinary breathing. It is only when the air is forced upward by the abdominal pressure, to set the vocal cords vibrating in expiration, the diaphragm pressed upward and the vocal cords still partially closed, that the lung expands laterally in these protuberances. Pleuritic effusions may also produce phonation phenomena in the intercostal spaces, and thus mark their limitations, and abdominal phonation phenomena are also worthy of study.

Pathology and Therapeutics of Lamellar Cataract. BAEHR.—In the 10,600 patients treated at Hirschberg's clinic in the last thirty years, 153 had lamellar cataract, bilateral in all but 7, and rhachitis was evident in 88.75 per cent.—degenerate teeth, 58.4 per cent.; convulsions, 40.4 per cent., and general rhachitis in 36 per cent. This extensive experience has proved that discission is the sovereign method of treating lamellar cataract in children. Older persons are treated with the flap incision and round pupil. Baehr describes a number of observations which demonstrate the injury to the eyesight from iridectomy, in these cases, and the pronounced improvement when the lens was removed, consecutive to the original iridectomy. The myopia usually accompanying lamellar cataract increases after iridectomy, and with it come central changes in the retina and further disturbances of sight. Removal of the lens obviates these dangers and also prevents the indistinctness of the image from diffusion of light, etc., which disturb the sight to such an extent that subjects who have had iridectomy done in youth return for relief later.

Pentosuria. BIAL.—Cases of pentosuria are easily confounded with light diabetes mellitus, and, in fact, only two cases of attested pentosuria are on record. Bial has had occasion to observe two others recently, both men in good health, although one had been supposed to have mild diabetes mellitus as the Trommer and phenyl-hydrazin tests gave a positive reaction. The diet had been the usual mixed one, and pentosuria persists even with deprivation of carbohydrates, as Blumenthal has established. It is more probably derived from the substance of the organs of the body; possibly it is a metabolic anomaly or result of the metabolic processes of grape sugar.

Vratch (St. Petersburg), January 28.

Curable Spinal Paralysis. L. KREWER.—Two observations of myelitis transversa dorsalis are described in detail, each terminating in complete recovery. The diagnosis was positive and Krewer attributes these curable cases to thrombosis or embolism of the arteries in the spinal cord, the obstruction in the vessel being finally absorbed.

St. Petersburg Medicinische Wochenschrift, February 10 and 17.

Thrombosis of Transverse Sinus. R. WANACH.—In one observation described, the streptococcus infection, thrombosis of transverse sinus and infarct in the lungs retrogressed after operation on the sinus, while another case of staphylococcus infection terminated fatally, in spite of operation and ligating the jugular vein. Wanach advocates ligating this vein when the thrombosis has extended to this point, but if it has not this progressive character, ligating might do harm, as the process might then invade the veins between the sinus and the ligature, and thus propagate the evil. If the thrombosed sinus is only operated on early enough—and this is the main point—ligating will be unnecessary.

Total Exclusion of Intestines. A. v. BERGMANN.—The ideal aim—leaving the totally excluded portion of the intestine in the abdomen—has not proved practicable to date, as the mucous membrane continues its secreting functions and leads to disturbances later. In an observation described by Bergmann, a large abscess and three perforations into the intestine were found; one in the appendix, which was removed. A fistula persisted at each perforation, and, two months later, this portion of the intestine was excluded: the small intestine near the ileocecal valve was cut and sutured end-to-end with the transverse colon. The fistulæ still persisted, and two months later the patient returned to have the excluded portion with its fistulæ extirpated. A third laparotomy proved the impossibility of total extirpation on account of solid adhesions in all directions, but the mucous membrane lining of the intestine was found detachable, and the mucous tube was pulled out of the excluded portion and only the seromuscular coats left, imbedded in their adhesions. The part consisting of the cecum and stump of the small intestine could be extirpated entire, as the adhesions were easily detached. The bleeding was profuse, but arrested without trouble. The case is instructive, as in spite of the extensive abscess there was no fluctuation, and the clinical symptoms were less severe than might have been expected from the three perforations. The occurrence of the latter at such an early stage was also remarkable. Bergmann concludes that every fecal fistula indicates that intervention is too late, and warns to operate promptly in cases of appendicitis, to obviate the production of a rupture into the intestine, by providing an outlet for the pus elsewhere. In another observation reported, fatal occlusion of a partially excluded portion of the intestine—after entero-anastomosis—was not diagnosed until too late, as the free passage of feces and gases led to a misinterpretation of the symptoms of occlusion. This is a danger of entero-anastomosis that must be borne in mind.

Norkiskt Mediciniskt Arkiv (Stockholm), January 30.

Histologic Study of Liver and Kidney Cysts. V. ELLERMANN.—Many writers now consider cystomata of the kidney, liver and ovaries, due to an active process in the epithelium. Ellermann has been studying the differences between retention cysts with passive epithelium and adenomatous cysts with primary proliferation of the epithelium, and has also been trying to determine to which class the cysts belong which occur in the kidney with liver cysts. He concludes, from study of seven cases, that the similarity between large cystic degenerated kidneys and ovarian cystomata is greater than hitherto supposed, as the adenomatous early stages of the cysts can also proceed from finished cysts. This is less easily established in regard to the liver, as the cysts here are preceded by a partial dilatation of the anastomosing capillary plexus, and in consequence a number of epithelial outrunners of the cyst are found, older than the cyst itself. It is possible that these adenomatous outrunners may be secondary even here, but this can only be determined by further study of the mytosis. Ellermann also found the difference between large kidney cystoma and other kidney cysts less than anticipated. Generalized sclerosis, which is usually accepted as the most frequent cause for scattered kidney cysts, was not present in his cases, while it was observed with one large cystoma of the kidney. Cysts in small, cystic-degenerated kidneys are not mere, passive receptacula. The epithelium, on the contrary, is frequently vigorous and not compressed, even showing an excess of energy at certain points, so that epithelial prominences or adenomatous outrunners develop. Phenomena which have been described as typical of cystoma of the kidney were also observed in other cysts of the organ, such as proliferation of the epithelium in the straight tubes. These are possibly, after all, cases of incipient or less pronounced cases of cystoma of the kidney. One case alone corresponded to the usual conception of retention cysts in a contracted kidney. The tact was also evident that there may be a wide difference between macroscopically similar cases. One observation demonstrated that a congenital "cyst-kidney" may also be found in an adult.

Societies.

COMING MEETINGS.

AMERICAN MEDICAL ASSOCIATION, Atlantic City, N. J., June 5-8.

Medical Association of the District of Columbia, Washington, April 5.

Western Ophthalmologic and Otolaryngologic Association, April 5-7.

Tennessee State Medical Society, Knoxville, April 10.

Florida State Medical Society, Orlando, April 11.

Mississippi State Medical Association, Meridian, April 11-13.

Medical Society of California, San Francisco, April 14-16.

Medical Association of Alabama, Montgomery, April 17.

South Carolina Medical Association, Charleston, April 18.

Louisiana State Medical Association, New Orleans, April 19-21.

Medical Association of Georgia, Atlanta, April 18.

Medical and Chirurgical Faculty of Maryland, Baltimore, April 24.

Texas State Medical Association, Waco, April 24.

American Proctologic Society, Washington, D. C., May 2 and 3.

Illinois State Medical Society, Springfield, Ill., May 15-17.

Adams County Medical Society.—This Society will celebrate its semi-centennial in Quincy, Ill., by a banquet of the medical fraternity, March 28. Prominent members of the profession will be the guests of honor on this occasion.

X-Ray Society.—On the morning of March 26, a meeting will be held in St. Louis, Mo., in the Insurance Exchange Building, to take preliminary steps toward the organization of an American X-ray society, with the object of promoting this branch of medicine and surgery.

The Denver Ophthalmological Society.—This Society will celebrate its first anniversary in April. The object of the organization is "the study and discussion of the branches of medical science in which the members are especially interested." Only those are accepted as members who are entitled to representation in the AMERICAN MEDICAL ASSOCIATION. The officers are: Chairman, Edward Jackson; Secretary, E. W. Stevens; Treasurer, W. C. Bane.

Cuban Medical Congress.—This congress will inaugurate its sessions Feb. 24, 1901, as already announced. The subjects appointed for discussion are: "Local Anthropology," and the various tropical diseases, "Therapeutic Application of Certain Indigenous Plants," and "Treatment of Tuberculosis with Local Climato-Therapy," "Unclassified Febrile Conditions in Infancy," and "Medical Topography, Statistics and Hydrology." Secretary, Dr. Enrique Nuñez, Havana.

Medical Society of the State of North Carolina.—This Society will meet in Tarboro, N. C., May 22, under the presidency of Dr. George W. Long, of Statesville. The Board of Medical Examiners will meet May 16, and make their report before the adjournment of the Society. The annual discussion will be held on the afternoon of May 23, the subject being "The Continued Fevers of North Carolina," led by Dr. James M. Parrot, of Kinston. That evening the annual essay will be read by Dr. R. H. Whitehead, of Chapel Hill, and the annual oration will be delivered by Dr. T. S. McMullan, of Hertford.

International Congresses at Paris.—More than a hundred congresses have been organized to meet at Paris this summer, besides those already announced in these columns. Others in which medical men might possibly be interested are the Congress of Automobilism, July 9; of Bibliography, August 16; of Chemistry, August 6; of Applied Chemistry, July 23; of Dentistry, August 8; of Hygiene, August 10; of Hypnotism, August 12; of Pharmacy, August 8; of Psychology; Woman's Congress (legal and educational rights, etc.), September 5, and congresses for the improvement of the blind and dumb, August 5 and 6.

Cleveland Medical Society.

Feb. 23, 1900.

SYPHILITIC GROWTH OF TONSIL.

DR. H. S. STRAIGHT presented a case of new growth of one tonsil that had been thought to be malignant, but which he preferred to regard, at least for a time, as syphilitic. With this idea in view he put the man on mixed treatment, although there was no specific history. which he finds is the rule in these cases. The patient was somewhat better at the end of a week's treatment. He considers it was wise in these cases to let the diagnosis be partly made by treatment without depending too much on the microscope.

LEG AMPUTATION UNDER COCAIN ANESTHESIA.

DR. W. E. LOWER reported a case of amputation at the middle third of the left leg, under anesthesia produced by injecting the spinal cord with cocain. On account of advanced arteriosclerosis general anesthesia could not be used. This amputation has been previously made by injecting the sciatic and anterior crural nerves with cocain, but as recently some foreign surgeons have been injecting cocain into the cord, he thought this a good case on which to test the merits of this plan. Between the last dorsal and the first lumbar vertebræ he injected a syringeful of 1/5 of 1 per cent solution of cocain. In about three minutes the man had complete anesthesia of both foot and leg. Motion was not entirely abolished, but the amputation was performed without the least evidence of pain. Further than that there was no shock, and the pulse did not vary beyond from 64 to 72 throughout the entire operation.

Dr. R. J. Wenner asked whether he did not inject the cocain into the subarachnoid space rather than into the spinal cord. He said that the credit for first producing general anesthesia from the thorax down by this method belongs to an American, Dr. Leonard Corning, who reported some cases twenty-four years ago. He thinks grave disturbance would be produced by injecting the substance of the cord, and that in adults, as the syringe is put in between the last dorsal and first lumbar vertebræ, it would be just about at the end of the cord.

Dr. W. E. Lower does not think the cocain went into the cord, as the injection was done too low down. However, he has injected it into the cord of dogs, all recovering, and while there was afterward found to be some change in the cord microscopically, it was not so pronounced as to affect the animal.

TREATMENT OF OTITIS MEDIA.

Dr. H. S. Straight read a paper on this subject. The disease is fairly common in this climate, most cases occurring in the spring and autumn. It is impossible in the beginning to tell whether a given case will take the catarrhal or suppurative form. He is not sure that the former ever passes into the suppurative form, but is inclined to believe that, in the absence of meddlesome treatment, one class of cases is almost certain to end in resolution, while another class, in spite of any treatment, is just as certain to result in suppuration. The individual case must be carefully studied. The one thing absolutely essential in the treatment is rest in bed, and next in importance is the application of heat. The latter will not abort a threatened abscess, but is used simply to relieve the pain, which is the chief aim of all treatment. One full dose of opium is useful in the severe pain of the early stage. If after the above measures have been carried out relief does not promptly occur, a paracentesis should at once be done. Drainage being established, the cure results promptly, as a rule. He insisted that the inflamed ear should be kept quiet, and especially that no attempt at inflation should be made.

Dr. William R. Lincoln spoke particularly of the causative relation of posterior adenoids with middle ear disease. He too thinks that cold applications are of assistance in treating the latter, especially where there is a threatening mastoiditis. He called attention to the fact that paracentesis does not always afford immediate relief from pain, and urged that in doing this operation complete anesthesia should be employed.

Dr. D. S. Hanson said that, following out the suggestions he had heard, he for several years treated middle ear disease by dropping into the canal, at short intervals, a 4 per cent. solution of cocain. Not always does this procedure relieve the pain, but it tends to avoid suppuration.

Dr. J. Arthur Jones said that he had seen cases of spontaneous rupture of the drum in middle ear disease in which the canal was so infiltrated that there was scarcely space enough for the exit of the purulent discharge.

Dr. W. E. Wirt said that in his own case, where he had been promised relief from pain in three or four days after paracentesis, it really lasted more than two weeks.

Dr. H. S. Straight, in closing, said that in children who have middle ear suppuration adenoids are nearly always found. Occasionally the disease occurs following the removal of the adenoids. He saw one case of middle ear disease which he thought had subsided, and he then removed the adenoids, but the result was a necrosis of the mastoid bone. He has had the best results from using hot applications rather than cold, and does not hesitate to use poultices in spite of the fact that all the authorities condemn that practice. He used cocain in the way suggested, but it was not effective. He does not see how it could be absorbed in the canal unless there was advanced inflammation with exfoliation of the epithelium.

FOOT SPRAINS.

Dr. C. A. Hamann read a paper on this subject. Among the features discussed were gonorrheal rheumatism, involving the various articulations and bursas of the feet, achillodynia, which was described as an affection of the *bursa retrocalcanca* due to gonorrhea, tuberculosis, gout or to traumatism, plantar fascitis and Morton's disease of the toes. The pains caused by flat-foot were particularly described, as were also those following certain injuries of the bones and joints. Various forms of plantar neuritis were stated to be responsible for the pain in some cases, as are also certain diseases of the arteries. Raynaud's disease and erythromelalgia were briefly alluded to. Urethral, vesical and uterine affections were mentioned as causing reflex pains in the feet at times.

Dr. C. G. Foote said that as a result of some X-ray studies in regard to the pathology of metatarsalgia, it was found that there was really a condensing osteitis of the metatarsal bone. This resulted in the production of the deformity described by Morton.

Dr. W. E. Wirt said that exostoses have been found in a number of cases, causing very marked foot pains. They project posteriorly or downward from the calcaneum, and the pain is continuous. He reported a case of extreme *genu valgum* corrected by supracondyloid osteotomy. In this case the femurs were bent inward at an angle of about 45 degrees, thus making the knees cross at an angle of 90 degrees. He operated by cutting the knee three-fourths through, then fracturing the rest by manual force and putting it up in plaster of Paris. Each limb, operated on at an interval of four weeks, was kept in the plaster cast for a little over a month. The child is now able to run about, which it could not do before.

Dr. R. J. Wenner reported a case, with a specimen, of anastomosing appendix. In this case an operation was done during the attack of appendicitis, and a heavy exudate was found around the coil of appendix, which latter at both ends opened into the large intestine. Also, in this case, the large intestine for a distance of four inches had very markedly thickened walls, seemingly nearly an inch in thickness.

San Francisco County Medical Society.

San Francisco, Cal., February Meeting.

TYPHOID BONE LESIONS.

Dr. H. C. Moffitt considered two cases of this condition. He examined a man, an American, aged 40, with nothing in the family or previous history of note save two attacks of pneumonia. He denied venereal infection. In March, 1899, there had been a long illness with continued high temperature, bronchitis and indefinite abdominal symptoms, regarded as an atypical typhoid, and convalescence was slow, but recovery finally perfect. In June, while on a hunting trip, there was a sudden and severe pain over the left shin, with later tenderness, redness and swelling.

This condition developed without cause other than the exertion attending a rough hunting trip; it persisted unchanged for a time, and then gradually and completely subsided. Some weeks later pain and tenderness occurred over the lower ribs, on the right side near the sternum, with swelling that slowly increased to the size of a hen's egg, was at first tender, hard, and after a few weeks indistinctly fluctuant. At no time were there any general symptoms. In August the swelling decreased a little; during early September it grew again and finally again decreased.

My examination showed practically nothing but the tumor and a marked Widal reaction, 1 to 10 and 1 to 50 dilution; there was no leucocytosis, no temperature, no trace of the former periostitis. The tumor involved the fourth and fifth ribs on the right, at their juncture with the cartilages, and extended along the latter nearly to the sternum. It was flat, not tender, hard at the circumference, and indefinitely elastic in the center, the size perhaps of half a large lemon. The X-ray showed the tumor superficial, the lung movement unimpeded, the shadow of the tumor a deep one in the center, lighter at the periphery, the ends of the ribs involved darker than the other ribs. Two glands the size of a small bean were in the right axilla; there were no pectoral glands.

From the course and seat of the lesion, the Widal reaction, and absence of other etiology, there seems little doubt that the lesion was due to typhoid bacilli. I advised operation, but this was deferred, and, under indifferent treatment with phosphates, the lesion has again subsided and gives no trouble.

On Oct. 31, 1899, I saw a man of 45, just back from Cape Nome, who had never been ill except while there, where he was in the hospital during August and early September, with so-called malaria. He was ill four weeks, then apparently well for a week, then again seized with fever and chills. He sailed for San Francisco while in this condition. While on board he was assiduously dosed with calomel and quinin, and reached here greatly prostrated and with high fever and severe headache.

Examination showed a big spleen, Widal reaction and absence of plasmodia. The temperature traced a typical steep-curve chart, was normal in ten days, without any quinin, and convalescence was uninterrupted but slow, for there had been much emaciation. After a week more in bed and four days about the room, it became impossible to further restrain him, and he spent two days tramping about town on business affairs. Three days later I saw him with a temperature of 102° and complaining of considerable pain over the left shin and inner side of the knee. His general condition was good. There was nothing but swelling and tenderness of the inner head of the left tibia about its middle. This distinct periostitis subsided in five or six days under rest and fomentations, and gradual return to moderate exercise gave no further trouble. The patient reported December 1 for the last time, and presented no symptoms or signs.

SURGICAL TREATMENT OF TYPHOID.

DR. F. B. CARPENTER read a paper on this subject, confining himself to intestinal perforations. He called attention to the fact that the operation is of recent date, no case having been performed previous to 1884, when Mikulicz did the first recorded laparotomy for intestinal perforation due to typhoid fever. In the same year Keen, of Philadelphia, without any knowledge of the work of Mikulicz, performed the same operation.

He said the weight of opinion favors operation at the earliest possible moment at which it can be done properly, "properly" meaning that time should be taken to make all necessary and desirable preparation for a major operation, notwithstanding the opinion of Keen and other eminent authorities that it should not be performed until the patient has recovered from the shock and immediate result of the perforation and the contamination of the peritoneum with the intestinal contents; although in the opinion of the author this question is by no means settled, and each operator must rely on his own judgment and experience as to the advisability of operating or waiting. Marked shock always militates against the best results; on the other hand, an open bowel, pouring its contents into the peritoneal cavity, is not a cerebral sedative for the attendant. He called attention to the difficulty at times of making a positive diagnosis of perforation, as a small percentage of cases show no special symptom as the result of this lesion, though in the vast majority the onset of the appalling train is sudden and unmistakable. He called attention to the confusion of perforation with perforative appendicitis, particularly if perforation had taken place before the diagnosis of typhoid was confirmed. He prefers local anesthesia in these operations. Ordinarily the abdomen should be incised through the right rectus or right semilunar line, the perforations sought, inverted, and stitched, without paring the edges of the wound, thereby adding to the delay resulting from minute hemorrhages from freshly cut surfaces. The repair of the gut should be in such a manner as not to diminish its lumen. If necessary, resect the gut, make an anastomosis and search for other perforations, repair any such found, and any spot which looks as though it might in future perforate. The suture to be preferred in this work is the mattress suture of Halsted. The toilet of the peritoneum must be done according to the best judgment of the operator. Irrigating and flushing are hard on serous surfaces. Cleansing must be thorough or the operation not undertaken; drainage will frequently be necessary. Begin your work with preparations complete, he said, and make proper use of salines, coffee, strychnin, heat, alcohol, and such restoratives as are valuable, and if there is a prospect of the patient surviving, let only the certainty of death interdict it.

TREATMENT OF TYPHOID FEVER.

DR. WM. WATT KERR, speaking on this subject, said that he does not believe there is any specific treatment. It is claimed that certain lines do tend to abort the disease, and that certain statistics prove this. The claim is always made that if such and such a treatment is adopted before the fourth day, then the case may be aborted about the tenth or twelfth. There are two big fallacies in that: the difficulty of making the diagnosis of typhoid fever any time during the first week, and the fact that typhoid fever itself is liable to abort about the tenth or twelfth day without any treatment. We do not get the Widal reaction until about the seventh or eighth day or later. The rash does not appear before the second week. The diazo reaction is not seen before the second week. All this makes the positive diagnosis very difficult indeed. He very rarely sees anything like the typical typhoid charts seen eighteen or twenty years ago—the typical rise during the first week, with the prolonged course, and then gradual lysis. The course of treatment must therefore go along the old lines of conducting the patient through the attack by attention to the symptoms, and then by adopting that which will tend to avoid the more common complications and afterward the treatment of such complications as may arise. We must conduct the patient through the disease rather than do anything that will kill the disease itself. The armamentarium he prefers for typhoid includes calomel, salol, digitalis, strychnin, and water. These are what he would like to be provided with when expecting to see a case, and yet he might not use any one of them, or might use all. Salol or calomel clear the intestine and at the same time prevent fermentative changes which would posibly favor the further growth of the bacilli, and certainly these changes would tend toward a mixed infection, which is accountable for many of the symptoms and unfavorbale signs that occur in typhoid. He usually gives a mercurial to start with, and repeats it once in four or five days, and then gives salol—5 or 10 gr., according to the patient—once in three or four hours, watching the condition of the urine. If the latter becomes tinged, the dose is slightly diminished. He has never seen any depressing effects from salol. Digitalis and strychnin are only generally indicated in the late stages, where we find signs of heart failure. The water comes in as part of the regular treatment. There are many antipyretics suggested, and it is questionable whether we do not pay a little too much attention to the treatment of the fever itself. Without doubt its reduction to a moderate extent does husband the strength of the patient and he generally makes a much better convalescence, and the disease runs a more normal course of about three to four weeks, but still, the temperature is a little of a bugbear in typhoid, he thinks, and should be viewed with relation to the patient himself. If it is not very high it should require no special treatment. Then it is a mooted question whether a certain amount of fever is not beneficial. His experience with apyretic typhoids—all of whom died—shows that there may be something in the statement that a certain degree of fever is better for the patient than otherwise. As to the water treatment, he prefers the cold sponging. He has used guaiacol externally and obtained very good results in a long list of cases with very little depression, but in the last year or so the results have not been so good. He has not discontinued its use entirely, as it is useful in some cases where the cold water does not reduce the temperature. One or two applications reduced it and it was then easily kept down by cold sponging. He does not believe that cold water by Brand's method or by cold sponging, or by means of coils over the abdomen, cuts short the disease, but it makes the remissions and renders the patient more comfortable, and by the remissions husbands the strength of the patient. The use of means for reducing temperature so that the patient's strength will be economized is kept in view in all the various lines of treatment. He put the majority on a milk diet. Usually the mistake is made of giving too much milk. Forty-eight ounces a day is plenty, and more than this usually causes curds in the stools.

Nitrogenous food should not be given in the early stages, but it must not be too early commenced in convalescence.

CARCINOMA OF MAMMA

Dr. J. Rosenstein exhibited specimens from a woman having multiple carcinoma resulting from carcinomata of the mamma. She was 56 years of age, and the wife of a physician who was under the erroneous impression that she suffered from an ademona of the breast, and therefore did not allow it to be operated on until too late. The first specimen was a mass of tumors, which had their origin in the left breast, beginning as small nodules in the lower part and gradually entirely involving it. Three years ago it began to involve also the right breast and soon there were symptoms of involvement of the pleura of that side. At one time the Doctor aspirated 1550 c. c. of a clear, slightly sanguinated liquid. Microscopic examination showed nothing more than is usually seen in ordinary pleuritic effusions. The dulness which prevailed before the aspiration did not disappear on repeated aspiration, showing that there was infiltration of the lung tisue. The second specimen comprised both lungs, the heart, the infiltrated pleura, and the affected glands on the thoracic side of the diaphragm, while the peritoneal side was comparatively free. The bronchial glands were everywhere involved; the lung was full of carcinomatous nodules. Part of the sternum and some of the ribs attacked by the carcinomatous process were also shown. The liver showed some carcinomatous nodules also. The ovary showed two distinct nodules which may be fibromata, microscopic examination not yet having been made.

Philadelphia Academy of Surgery.

March 5, 1900.

ARTHRITIS OF WRIST-JOINT.

Dr. R. G. LeConte presented a case of this condition in a man 22 years of age, which had followed an injury six years previously. Regarding the treatment of tubercular arthritis, Stuttgart has advised splitting the joint, recommending this procedure when the foot is the seat of disease. Mynter has modified this, and Taylor the Mynter method. Taylor's does not involve opening the palmar surface, which is advantageous. In his case Dr. LeConte followed the latter's method of excision of the wrist-joint. Tubercular arthritis of the joint was present, involving the carpus, radius and ulnar and fourth and fifth metacarpal bones, as shown by the radiograph.

Dr. John B. Deaver has always excised the wrist-joint by the side incision, and he wished to know the advantages offered by the method employed.

Dr. William J. Taylor, in reply, stated that the operation employed gives a better opportunity of exposing the diseased tissue to view, and in this way facilitates its easy removal. In other methods all the diseased structures can not be exposed and thus a tubercular focus may be left behind.

HEMORRHAGE INTO FALLOPIAN TUBE.

Dr. George Erety Shoemaker reported a case of interstitial hemorrhage into the Fallopian tube, simulating acute appendicitis, in a woman of 43 years, who had married one year previously. Her periods had always been regular. The onset of the condition was sudden, with acute pain and symptoms of collapse, with knees drawn up and abdominal muscles rigid. The pulse was 63, of good volume and the temperature 99. The bimanual examination was not clear, and the physical signs were not present to such a degree that a positive diagnosis could be made. There was extreme tenderness over McBurney's point, and appendicitis was thought to be present. The abdomen was opened and about four drams of bloody fluid evacuated. The tube, found diseased, was removed. There was an interstitial hemorrhage found, but there had been no hemorrhage into the broad ligament. In some respects the condition resembled an extrauterine pregnancy, but no fetus was found. The appendix was removed.

PAPILLOMA OF INGUINAL GLANDS.

Dr. G. E. Shoemaker also reported a case of primary cystic papilloma of the inguinal glands, interesting from the fact that the disease had developed on both sides of the body, the left side being first affected. The patient, a woman of middle life, stated that the condition had begun three years previously. On examination it resembled a cyst, but after incision the tumor was found attached to the deeper structures on its under surface, which was rather hard. The cyst ruptured, at the operation, but the remainder of the tumor was removed from around the saphenous opening. It resembled a dermoid which had subsequently assumed a papillomatous nature.

NEW STERILIZER.

Dr. G. E. Shoemaker also exhibited a small sterilizer which he has devised. It consists simply of small shallow copper pans, the inside of which are lined with tin. They are of sufficient length and depth to hold the instruments ordinarily necessary. In the top of each pan is a ridge projecting somewhat above the surface and about an inch from the edges so as to allow the drip water to escape while the instruments are being steamed.

Dr. John B. Deaver, commenting on the first case presented by Dr. Shoemaker, spoke of having been called to operate in a supposed case of appendicitis, which was found to be one of extrauterine pregnancy.

INTRAVENOUS INJECTIONS.

Dr. Richard H. Harte read a paper entitled "Observations on the Use of Intravenous Injections." After carefully detailing the history of this procedure the speaker gave the objections which have been urged against the process, viz.: danger of entrance of air into the vessels; rapid coagulation of the blood; complexity of the process, etc. He spoke of a case in which the transfusion of warm, fresh, bovine milk was used, but without much actual benefit. The danger of loss of blood arises from a sudden depression to the circulation and its action on the heart, so that the volume of fluid must be quickly restored in order to save life. In this condition quantity is of more importance than quality. Of the different fluids advised, the normal saline solution has been most employed. Distilled water destroys the red blood-corpuscles. Transfusion has the effect of raising the blood-pressure, stimulates the heart and the renal secretion. He has found, however, that the transfusion of normal saline solution has been unsatisfactory. He has devised an apparatus consisting of a graduated bottle, with a rubber stopper through which are inserted two small glass tubes having the ends bent. To one is attached a rubber tube and canula, and to the other a rubber bulb. Pressure of the latter causes the fluid to flow in a constant stream and without undue pressure. The temperature can always be regulated by placing the fluids in warm water and registered by the thermometer which also runs through the rubber stopper and extends downward into the saline solution. Transfusion was last year employed probably fifty times at the Pennsylvania Hospital. In one case of uremia, in which it was used several times, beneficial effects always followed. In one of severe hemorrhage and one in which the patient was *in extremis*, it did good.

Dr. H. R. Wharton said that the infusion of normal saline solution into the cellular tissue would often act as well as intravenous transfusion.

Dr. W. J. Taylor considers intravenous transfusion of normal saline solution of great advantage. In one case in which he employed it he feels quite sure it saved the patient's life.

Dr. John B. Deaver has seen good results follow its injection into the bowels.

Dr. W. L. Rodman has for many years practiced hypodermoclysis. However, where an immediate effect is desired, he thinks that intravenous injection is the method to be employed.

SURGERY OF THE KIDNEY.

Dr. J. B. Deaver reported several cases of surgery of the kidney. The first was that of a man suffering from a movable kidney, who had for several years been suffering from nausea and vomiting, with hematuria. The second was that of a man who suffered severe pain in the left inguinal region for years. The pain was at times referred to the end of the penis. The kidney was movable. The third was one of stone in the pelvis of the kidney. For two years previously the patient suffered with pain in the left loin, on motion. Micturition was painful and was always worse during constipation.

In another man, 33 years of age, a provisional diagnosis of hydronephrosis was made. He had for several years complained of pain in the right loin and pain on micturition. Four years previously a tumor developed in the loin, the size of an apple, and disappeared quite suddenly. The urine contained a small amount of blood and albumin. A posterior incision was made, the kidney exposed, and to prevent hemorrhage, gauze was packed quite firmly around the organ. The kidney contained a cyst, which was incised, and afterward the kidney was removed. Hemorrhage was slight.

Dr. W. L. Rodman spoke of the small amount of blood lost at the operation as performed by Dr. Deaver, and the facility afforded in controlling hemorrhage when this operation is done by the posterior method.

New York Academy of Medicine.

Section on Pediatrics, March 8, 1900.

HYSTERIC AFFECTION OF LARYNX.

Dr. Chas. Herrmann presented a boy, of 11 years, who was suffering from an interesting hysteric affection of the larynx. The diagnosis had been made after a careful study of the case, though largely based on the presence of certain hysteric stigmata. Every few minutes, without any warning, the boy would suddenly emit a loud, shrill, barking sound. He was susceptible to hypnotism, and his general nutrition was good.

CHEMICAL COMPOSITION OF MILK AND CREAM.

Prof. John Adriance, Ph.D., made a brief address on this subject, showing its important bearing on the proper modification of milk for infant feeding. He cited the results of numerous analyses of cow's milk, made in various foreign countries, at our own Government experimental station, and by himself, all going to prove conclusively that we have been wrong in assuming that cow's milk generally contains 4 per cent. of proteids. As a matter of fact, it rarely contains over 3.5 per cent., hence the error which must necessarily arise from assuming that it contains 4 per cent., and proceeding on this basis to dilute the milk in the process of fortifying it. A most important fact to remember in this connection, and one which the lecturer demonstrated very clearly by a large array of figures and graphic charts, is that as the fat is increased, the percentages of the other ingredients are materially reduced. This holds good, and should be reckoned with when diluting either gravity or centrifuge cream.

The composition of milk is quite accurately expressed as follows: fat, 4.28 per cent.; sugar, 4.71 per cent.; proteids, 3.59 per cent.; other solids, .77 per cent. From the foregoing figures and statements, it follows that while the error from assuming 4 per cent. of proteids would be slight when diluting milk or cream below 1 per cent., this error amounts to almost ¼ of 1 per cent. if the dilution is carried to 2 per cent. The importance of such a difference is apparent, when the physician recalls the effect sometimes produced on an infant by varying the quantity of proteids in the feeding by only .2 per cent.

Dr. J. E. Winters said that, as a result of clinical observation, he has long been of the opinion that the other ingredients of milk must decrease as the fat increases. As a matter of personal observation, he knows that if one takes two ounces from the upper portion of a quart of milk that has been standing for sixteen hours, there will be 7½ times as much fat as proteids, while if he takes four ounces from a quart that had been standing only eight hours, there will be 3 1/3 times as much fat as proteids. Not only do the results vary greatly, but they are also markedly affected by the temperature at which the milk has been kept. In his opinion, many of the poor results that have been obtained by those who essay to use modified milk are attributable to the use of too small a percentage of proteids. By comparing the human infant with the young of the lower animals, and the young of these different animals with one another, the greater the proportion of proteids in the food the more rapid and vigorous is the muscular development. Where rickets occurs in a breast-fed infant, it is almost invariably owing to the mother's milk having too low a percentage of proteids.

Dr. L. Emmett Holt took very much the same position as Dr. Winters. He claims that a large part of infantile malnutrition is dependent on a deficiency of proteids in the food. Sometimes the infant seems to be unable to digest the desired quantity of proteids, but almost invariably it will be found that in such cases the digestive apparatus has been impaired by keeping the infant too long at first on a food weak in proteids. Another common error in feeding is to give as high as 5 or 6 per cent. of fat. The tendency among physicians is to begin with too large a proportion as proteids, and then, finding that the child's poor condition is owing to this improper adjustment of the ingredients of the food, they change to a food very poor in proteids, and keep the infant on this for an indefinite time, fearing to again increase the percentage of this part. His own plan is to begin with only .75, or perhaps .5 per cent. proteids, but after a very few days this percentage is increased, until it is no uncommon thing for an infant of six weeks to be thoroughly digesting, and thriving on, 1.5 per cent. of proteids. The physician should make it a point to commence with a very low percentage of proteids, but increase this as rapidly as the child is able to digest it. When managed in this way, a child of 2 or 3 months can often take, with advantage, a food containing 2 or 3 per cent. of proteids. In this connection it is most important for both physician and mother to know that it is very common for an infant to have slight digestive disturbance for a day or two following an increase in the percentage of proteids, but, as a rule, this will be transient, the digestive organs rapidly becoming accustomed to the change. At present infant feeding is very simple and successful, provided the little one's digestion has not been ruined at the outset by a few days of bad nursing or feeding.

Dr. Vanderpoel Adriance called attention to the fact that a child fed on fat and carbohydrates alone will soon starve, these ingredients supplying fuel, but not vitality. Anemia and slow dentition are indications that the milk is poor in proteids.

Dr. Chas. Herrmann said that he recently made some experimental studies and microscopic examination to test the truth of the assertion that poor results from the use of laboratory milk are largely owing to the fact that the milk is first separated by machinery, and afterward recombined. He found nothing in these experiments to justify this statement.

Section on Surgery, Feb. 12, 1900.

ACUTE INTESTINAL OBSTRUCTION; DIAGNOSIS AND TREATMENT

Dr. Parker Syms read a paper on this topic. The more important symptoms are: pain, vomiting, constipation, tympanites, and the small, rapid pulse, the anxious face and the peculiar combination of fear and braggadocio so characteristic of abdominal shock. He took the ground that intestinal obstruction, being a mechanical condition, demands mechanical means for its relief, and that while high enemata might be tried, very little time should be consumed in this way before resorting to abdominal section. His conclusions are: 1. Acute intestinal obstruction is a fatal condition if not promptly relieved. 2. It should be rarely fatal if promptly recognized and treated. 3. The symptoms of acute intestinal obstruction are characteristic and distinct, so that the diagnosis can always be made unless the symptoms have been obscured by the administration of opium. 4. Early laparotomy is the only plan of treatment which should be relied on.

Dr. A. A. Berg believes that resection and intestinal anastomosis are often inadvisable at the time of relieving the acute obstruction, for the reason that this means that the bowel must be kept at rest for two or three days, thus confining the micro-organisms in the proximal loop of bowel. In his opinion, statistics would be better if an artificial anus were established at the first operation, and, by means of a tube inserted into the proximal and distal loops, these portions were washed out with saline solution.

Dr. A. Ernest Gallant spoke of the great value of massage of the abdomen in cases of post-operative intestinal obstruction.

Dr. Willy Meyer advised that, in all cases, before attempting to replace the bowel in the abdomen, the gut above the seat of obstruction should be opened by an incision, and its contents evacuated.

THE JOURNAL OF THE
AMERICAN MEDICAL ASSOCIATION.

61 MARKET STREET, - CHICAGO.

SATURDAY, MARCH 24, 1900

CONCUSSION OF THE NERVOUS SYSTEM

Under the comprehensive designation of "traumatic neuroses," there have been grouped a number of symptoms in varying combination whose exact mechanism is still largely shrouded in doubt. Some of these manifestations are looked upon as purely functional disturbances, but, inasmuch as it is difficult to conceive of such disturbances without structural alteration, the explanation can be accepted only with the understanding that there may be present changes as yet undemonstrable with the aid of our present resources. On the other hand, some of the nervous symptoms following traumatism are unquestionably dependent on recognizable structural or organic lesions. The evidence on which these opinions have been formed is derived from both clinical and pathologic as well as experimental sources. In the past, much uncertainty has existed with regard to the disturbance to which was given the name of "concussion" or "commotion" of the nervous system. At the present time it seems probable that at least some of the symptoms are due to minute and microscopic lesions, as has been demonstrated of late in a number of instances. It is only with the aid of modern refinements in histologic technic that it has been possible to detect alterations that necessarily escaped observation hitherto, and if the accomplishments of the past are to be accepted as an indication of the progress of the future, the hope may be entertained that we shall yet become acquainted with the nature of many processes whose workings appear at present little short of mysterious. A well-studied and rather unusual case in which an injury to the head was followed by symptoms of profound nervous disturbance, although on post-mortem examination no adequate macroscopic lesion was found, while careful histologic study disclosed the presence of degenerative changes in the brain, is reported by Hauser.[2] A laborer, 56 years old, was found, after a debauch, at the foot of a flight of stairs, unconscious and bleeding from the nose. When examined, six or seven hours later, he replied to questions, but was not clear mentally. The eyelids on the right were discolored and slightly swollen, and an extravasation of blood was present beneath the conjunctiva. A tense and tender swelling was visible in the right temporal region. The presence of a fracture could not be made out. The pupils were small and reactive. The tongue when protruded deviated slightly to the right. The patient could not raise the arms, and could not extend them at the elbow-joint, nor extend the fingers. On the left side the hand also hung relaxed. The legs could not be raised, and if lifted up fell back, although there was some resistance to attempts at flexion of the leg. The flexed knee retained its position when the sole of the foot was supported. There was indolent response to pin-prick. The bladder was distended and was with difficulty evacuated by means of a catheter. In the course of a few days increase in the paralytic phenomena on the left side took place, and it was consequently thought that the condition was dependent on injury to the right cerebral hemisphere from pressure or contusion. Accordingly, the skull in the right temporal region was exposed and a fine fracture found in the parietal and temporal bones, running obliquely forward and downward and obviously crossing the path of the middle meningeal artery. A trephine-opening was made over the middle of this line, and was followed by the escape of a considerable amount of blood, in part from the bone and in part from below. The dura was tough, yellowish, tense and pulsatile. The membrane was incised, but there was no indication of hemorrhage. The soft membranes were smooth and glistening. The wound was tamponed and a dressing applied. On account of difficulty in passing the catheter, it became necessary to perform perineal section. The cerebral manifestations were uninfluenced by the operation, and with slight variations in the symptoms the condition of the patient grew gradually worse and death took place in the course of five days, the temperature rising to 105.6 degrees before the fatal termination. On post-mortem examination a fissure involving the entire thickness of the base of the skull was found extending from close to the margin of the trephine-opening backward, in a curved direction, across the groove for the middle meningeal artery for a distance of two inches beyond. Anteriorly the fissure passed obliquely downward, following for a short distance the anterior border of the right temporal fossa, then pursuing a wavy course over the posterior portion of the roof of the right orbit to the sella turcica, and for a distance of two-fifths of an inch in the left temporal fossa. The middle meningeal artery was uninjured. A few small recent clots were present on the inner aspect of the dura mater on the right and more posteriorly on the left. The soft membranes, especially on the right, were injected and in the sulci turbid. Over the left occipital and the posterior portion of the parietal lobe there was considerable hemorrhagic suffusion. A small amount of hemorrhage was present along the line of fracture. The cerebral tissue of the right hemisphere was hyperemic, and also that of the left hemisphere, though less so. The cortex in the vicinity of the hemorrhagic suffusion in the soft membranes was softened, but scarcely swollen. The soft membranes were readily detached, dense and edematous. On section there was found in the frontal lobe of the right hemisphere, two minute points of hemorrhage. The right striate body was large and prominent. On section it was found swollen, soft, moist, wanting in definition, and the gray matter the seat of indistinct, pale, yellowish-gray spots. A similar condition was present in the posterior portion of the left striate body, whose tissues were moist and wanting in firmness and presented about in the middle an indistinct yellowish area. On microscopic examination with various stains degenerative changes in axis-cylinders and medullary sheaths were found at a point diametrically opposite the site of the injury and particularly in the right striate body. In the former situation, at the junction between the cortex and the medulla, there were numerous granule-cells; and fewer in the latter. At the site of the injury, at a point diametrically opposite and in the central ganglia there were numerous partly swollen, partly degenerated axis-cylinders. Swelling was particulary marked in the right striate body. Some of the axis-cylinders were constricted and some tortuous. A small number of ganglion-cells at a point diametrically opposite the site of injury and in the right striate body were degenerated. In the same situation the lymph-spaces of the vessels were dilated. Only in the right striate body was an extravasation of blood—70 microns in extent—found; this was thought possibly to be an artefact. The fracture in this case is attributable to the injury of the right temporal region resulting from the fall, and it is reasonably believed that the injury must have been of considerable severity, on account of the extent of the fracture. The escape of the middle meningeal artery is rather remarkable. The macroscopic alterations in the skull indicate the direction in which the violence was applied, and the situations in which the force of the resultant contusion must have been expended. The changes in the central ganglia are remarkable because of their independence of any more superficial lesion, and also because of the absence of hemorrhage. The absence of all anatomic evidence of contusion of the cerebral tissues, especially the absence of hemorrhage, at the point of the brain most severely injured, seems to justify the opinion that the alterations in the central ganglia are dependent directly on greater transmission of the force of the injury in the direction of the traumatism.

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[2] Deutsches Arch. f. Klin. Med., Bd. lxv, 5 u. 6 H., p. 433.

SYPHILIS OF THE STOMACH.

It is well known that the stomach presents a degree of immunity against tuberculosis. Tubercle bacilli are undoubtedly frequently present in the gastric contents, but implantation and tuberculous ulceration rarely occur. In the small intestine it is different; here tuberculous ulcers are frequent. It is thought that the gastric juice, especially by virtue of its acidity, protects the mucous membrane against the tubercle germ. Syphilis of the stomach is also regarded as a decidedly infrequent gastric disease. At the present time no good reason can be given for the predilection of syphilis for some organs and its indifference toward others. As regards the stomach, however, it is rather doubtful just now whether syphilis of this organ is as "excessively rare" as stated in some of our text-books. There is reason to believe that gastric syphilis may be easily confounded with some of the more common affections, as well clinically as anatomically. This will be made more clear shortly.

By syphilis of the stomach is meant, of course, the presence in its walls of anatomic changes of a specific nature, and not merely concomitant or secondary digestive disturbances such as may develop at any period of the disease, more especially the secondary. In acquired syphilis it is in the latter stages that lesions of the walls of the stomach may appear. The actual anatomic and microscopic demonstrations of syphilitic lesions of the stomach are as yet few. In 1898 Flexner,[1] in reporting a case of gummatous infiltration, ulceration and rupture of the stomach and death from peritonitis, collected 14 cases from the literature, 5 in hereditary, 9 in acquired syphilis. Flexner's case appears to be the first reported in the English literature. Since then Fraenkel has described an instance of acquired syphilis of the stomach and of the intestines. Aristoff[2] states that microscopic lesions of the stomach are frequent in hereditary syphilis, small foci being found by means of the microscope in 7 of 9 cases, and lately Cesaris-Demel[3] adds an example of acquired syphilis of the ulcerative type.

Mracek[4] gives a good summary of the anatomic changes: "As the direct products of syphilis, ulcers originating from gummatous infiltrations occur in the stomach. These have been many times demonstrated by autopsies. They usually appear in the region of the pylorus and of the lesser curvature, and also at the cardia. Infiltrations develop in the submucosa and extend both in the direction of the mucosa as well as of the serosa of the stomach-wall. Besides these ulcerations, gummatous infiltrations, as well as cicatricial formations, were found, so that the possibility of cicatrization of gummatous ulcers in the stomach can not be excluded. Furthermore, ulcers due to a syphilitic endarteritis of the vessels of the stomach are met with. These have the characteristics of round ulcers, both in a clinical and anatomical sense."

The last statement is well illustrated by the case described by Cesaris-Demel: The clinical diagnosis was round ulcer of the stomach, macroscopically the lesion appeared as a round ulcer, and this is well shown in the accompanying illustration; microscopically the gummatous infiltrations and the characteristic vascular changes were present in other organs. An interesting feature in this case is the cause of death: hemorrhage from the margins of the ulcer into the walls of the stomach, and fatal hemorrhage into the peritonal cavity.

More frequently the ulcers are multiple, caused by disintegration of the gummatous, submucous infiltrations, in part owing to the circulatory disturbances induced by the syphilitic vascular occlusion.

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[1] American Journal of Medical Sciences, 1898.

[2] Ztft. f. Heilkunde, 1898, xix, 75.

[3] Archivio per le Scienze Mediche, 1899, xxiii, 259.

[4] Lehmann's Atlas. Syphilis u. venerische Krankheiten, 1898; Quoted by Einhorn. Phila. Med. Jour., Feb. 3, 1900.

Dieulafoy, Fournier, Mackay, and Einhorn all describe refractory cases of gastric ulcers in syphilitics, with all the characteristic symptoms, including hemorrhages, prompt cure following vigorous antisyphilitic treatment. This clinical experience, coupled with the anatomic demonstration of cicatrization of gastric ulcers of syphilitic origin, is strong reason for believing that syphilis of the stomach is not as infrequent as generally might be supposed.

Einhorn,[5] in a valuable article, also describes two clinical cases of what he terms syphilitic tumor of the stomach; the characteristics of malignant tumors were present, the symptoms resembling those of cancer, but prompt cure was brought about by specific treatment. Presumably the lesion in these cases was an extensive gummatous infiltration of the walls of the stomach. In two other instances stenosis of the pylorus caused by palpable oval swellings in the pyloric region disappeared, as did the swellings under antisyphilitic medication.

Syphilis of the stomach is therefore no longer merely an anatomic rarity, but has become the subject of careful consideration in many cases, with clinical manifestations of some of the commoner gastric diseases such as round ulcer. Tertiary syphilis may produce severe gastric affections that are susceptible to antiluetic treatment (Einhorn). The possibility of syphilis being at the bottom of intractable diseases of the stomach should be borne in mind. The clinical diagnosis of syphilis of the stomach can not be made from the symptoms only; the history, evidences of syphilis elsewhere, and the effects of specific treatment must be relied on.

INFLUENCE OF ASTRINGENTS ON INTESTINAL ABSORPTION.

There has been much difference of opinion as to the mode of action of the group of medicaments designated astringents, and as to whether this is merely local or general as well. Thus, the constringent effect of tannic acid has been attributed to its affinity for water, to effect its solution; it has almost been thought to act directly on the blood-vessels. Silver nitrate and lead acetate have been experimentally shown to cause contraction of blood-vessels when applied locally; and iron chlorid also in slight degree; while tannic acid was thought to cause dilatation. Tannic acid was found, further, not to interfere with the artificial digestion of proteids. Further, the ability of tannic acid to coagulate albumin was lost on the addition of sufficient alkali to yield a slightly alkaline reaction. These conditions are present in the blood and, in this way, it has been thought, tannic acid may exert a remote physiologic effect. The astringent activity of the metallic salts has been attributed to combinations of tissue-albumin with metallic oxids, while the acid of the salt employed acted as a measure as free acid. The coating that forms prevents further action on the part of the astringent, while the thin layer formed superficially on the mucous membrane causes condensation of the tissues, with involution of hyperemia, transudation, migration of blood-corpuscles and other inflammatory phenomena. Later, it was found that the application of concentrated solutions of astringents caused dilatation of the blood-vessels, following brief contraction, while application of weak solutions induced contraction. The antiphlogistic action of astringents has been ascribed to chemical combination with proteid substances and changes in the walls of the vessels.

Astringents have been divided into two classes: 1. Those that act as caustics, combining, like tannic acid, alum and metallic salts, with or coagulating albumin. 2. Those that are merely astringent. In addition, there are soluble substances that, like lime-water, are rendered insoluble by combinations formed at the point of contact, and others that, like bismuth subnitrate and zinc oxid, are wholly insoluble. Tannic acid, silver nitrate, alum and lead acetate, even in feeble solution, have been found to inhibit secretory activity, but the mechanism remained obscure, although it was thought dependent on direct changes in the secretory cells. In an endeavor to harmonize existing discrepancies Gebhart[1] undertook a series of experimental observations on dogs, wholly separating a portion of the small intestine, with its mesenteric attachment, from its connections in continuity, and introducing through an abdominal fistula into this isolated portion of bowel the substances to be tested, including tannic acid, alum, lead acetate, silver nitrate and bismuth subnitrate. As a result of this investigation it was found that absorption from the small intestine is diminished by astringents, and in greatest degree by tannic acid. The action of bismuth is not dependent on its mechanical effect as a powder, but is chemical, for absorption remains uninfluenced by talc. The action of tannic acid is local and not remote. Even after removal of the astringent solution from the intestine, the inhibition of absorptive activity persists for some time. Alkaline solutions of tannic acid capable of precipitating albumin likewise exert an inhibitory influence on the absorptive process. A solution of tannin albuminate exhibited an inhibiting effect on absorption, but this was less marked than that of a solution of pure tannic acid. This circumstance and the fact of an after-effect indicate a local chemical action.

CLUMPING OF THE RED BLOOD CORPUSCLES IN ACUTE PNEUMONIA AND CERTAIN OTHER DISEASES, AND THE SIGNIFICANCE OF THE BUFFY COAT IN THE SHED BLOOD.

The study of the phenomena of agglutination has given us many new and interesting facts, and among others this one, that agglutination is not limited in its field of action to bacteria only, but that under certain circumstances the action is exercised on such elements as the red corpuscles of the blood. Indeed, the rouleaux-formation of the red discs is a kind of agglutination. The extent of rouleaux-formation varies under different conditions; at the present time it is almost wholly ignored as a factor in the production of the buffy coat in coagulation of the blood. But recent investigations by Shattock[1] show that the agglutination of red blood-corpuscles stands in a more or less direct relation to certain substances in the serum, and that it probably merits more attention in human pathology than it is now accorded.

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[1] Deutsches Archiv f. Klin. Med., B. lxvi, p. 585.

Shattock shows that in horse's blood rouleaux-formation is highly pronounced and it is not affected by mixing the blood with salt solution, but when a hanging-drop of human or cat's blood mixed with salt solution is examined, the formation of rouleaux is almost wholly suspended; and a drop of horse's serum added to a drop of human blood exaggerates rouleaux-formation. This shows that rouleaux-formation is influenced by some property of serum; it is a phenomenon of agglutination and the amount of agglutinating substances normally present varies in different animals. Cold hinders agglutination of the red corpuscles in shed horse's blood, and it has the same effect on the agglutinating power which horse's serum has on typhoid bacilli.

Lister, as long ago as 1858, pointed out that rouleaux-formation is independent of the precipitation of fibrin, because it occurs in blood from which all of the fibrin has been removed. Wharton Jones observed that in inflammatory states the rouleaux formed more rapidly than in normal ones; this observer attributed the well-marked buffy coat in the shed blood of inflammatory diseases to this closer aggregation and the more rapid sedimentation thus produced. Others had advocated the same view before Wharton Jones. Shattock followed up the hints herein given; on adding a loopful of serum from a patient with lobular pneumonia to a loop of normal blood immediate and marked agglutination of the chromocytes occurred, the corpuscles running together into a complete, coarse network with empty spaces between. Normal human serum added to normal blood has no such effect. Salt solution promptly suspends the agglutinating effect of pneumonia serum. Shattock found that pneumonic serum exercises a distinct and specific but slow agglutinating action upon the pneumococcus. He concluded, therefore, that the same change in the serum that leads to clumping of the pneumococcus also leads to the increased clumping of the red corpuscles, that the formation of the buffy coat in pneumonia and other bacterial diseases is comparable to Widal's reaction. Similar results as in pneumonia were obtained in erysipelas and acute articular rheumatism, and to a less extent in typhoid fever. Leucocytes do not seem to agglutinate under these circumstances; this could be seen strikingly in treating leucemic blood with rheumatic serum.

We have here, then, an additional and seemingly important factor in the explanation of the buffy coat in the shed blood—and the familiar yellow, fibrinous clots observed in the heart and large vessels—in such diseases as acute pneumonia, namely increased agglutination of the red blood-corpuscles, leading to more rapid sedimentation and to the cleaning of the upper part of the layer. Heretofore the rapid sedimentation has not been clearly explained. Whether agglutination of chromocytes occurs in these diseases during life and the part that such clumps, if they do form, play in relation to thrombosis, are problems that have not yet been reached.

FATAL GASTROINTESTINAL HEMORRHAGE DUE TO CIRRHOSIS OF THE LIVER.

Preble[1] reports 4 new cases of fatal gastrointestinal hemorrhage, and adds to this a study based on 56 from the literature, or 60 in all. The conclusions are to the effect that, though infrequent, fatal gastrointestinal hemorrhage is not a rare complication of hepatic cirrhosis, which may be atrophic or much more rarely hypertrophic. It is of interest to learn that in one-third of the cases the first hemorrhage is fatal, and undoubtedly many deaths from hemorrhages of this kind are attributed to other causes; in the other two-thirds the hemorrhages continue at varying intervals over a period of months and years, the maximum being eleven years.

In one-third of the cases the diagnosis can be made before or at the time of the first hemorrhage. In others it can not be made at all, or only after months or years during which other and more definite symptoms of cirrhosis develop. In 80 per cent., esophageal varices are present, and in over one-half of the cases the varices show ruptures visible to the naked eye; injection of air or fluid would undoubtedly demonstrate ruptures in many others. Hemorrhage without varicose veins in the esophagus are attributed to capillary hemorrhages from the mucous membrane of the stomach and the intestines; even in this class of cases the first symptom may be a fatal hemorrhage. In only 6 per cent. of those with varicose esophageal veins were the cirrhotic symptoms typical, i. e., accompanied with ascites, enlargement of the spleen, and subcutaneous abdominal varices.

As regards the veins especially concerned, it is so that the veins of the cardiac end of the stomach are part of the portal system while those of the esophagus are part of the systemic; anastomoses exist between the two sets of veins, but usually of so small a size or number as to play no part of consequence in the formation of a collateral circulation when the portal system is obstructed. But the anastomosis may be so free as to eventually completely compensate for the obstruction in the liver, the clinical course of the cirrhosis being thereby changed and masked. The submucous and periesophageal veins of the gullet are connected by penetrating branches; the esophageal veins empty into the inferior thyroid, internal mammary azygos minor, bronchial and other veins, all of which are more or less dilated when there is free communication between the cardiac veins and the esophageal. The resulting esophageal varices in cirrhosis of the liver are found mostly in the lower part of the esophagus, sometimes extending over into the stomach; rarely the varices are found higher up in the esophagus. The progressive dilatation that occurs when the veins are distended with the blood seeking collateral channels leads to atrophy of the overlying tissue; the hemorrhage may be spontaneous, follow sudden physical exertion, or other increase in the obstruction to the flow of blood, as for instance thrombosis of some of the main portal veins. Rough bits of blood may cause mechanically the rupture of a varix. The intrathoracic situation of the esophageal veins subjects them to the negative pressure of inspiration so that blood is aspirated into them from the cardiac veins of the stomach, the pressure in the portal system being abnormally high in cirrhosis of the liver.

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[1] Jour. of Path. and Bact., 1900, vi, 303.

[1] Am. Jour. of Med. Sci., March 1900.

AN OPPOSER OF MEDICAL PRACTICE ACTS.

The "American Medical Union" is apparently a body devoted to the abolition of medical practice acts, and to free license of all sorts of *soi-disant* medical practitioners. It has an organ, edited by T. A. Bland, one of the faculty of the late fraudulent "Independent Medical College," which, with other probably equally truthful statements, claims that the president of the "American Medical Union," Dr. S. J. Avery, is a member of the AMERICAN MEDICAL ASSOCIATION. Since this may possibly be accepted as truth, we take occasion to say that he is not a member of that body, and that if there are any members of the AMERICAN MEDICAL ASSOCIATION who have affiliated themselves in any way with this "American Medical Union" we are not aware of it.

THE HOSPITAL PATHOLOGIST.

In an address on the "Progress and Drift in Pathology," J. Mitchell Prudden,[1] of New York, points out that the "general practical result of this busy quarter of a century in pathology is the getting together into useful form of a series of tests and methods by which the practitioner can secure greater accuracy in diagnosis and greater precision in treatment than was possible in the earlier days. These new methods in diagnosis, requiring considerable facility and some experience, now form a compact discipline which has been called clinical microscopy. . . . although strictly a practical adjunct to the work of the practitioner, clinical pathology still largely remains in the hands of the pathologist. This condition of affairs may be wise, and certainly must be convenient—for the practitioner." Prudden shows that the time-consuming tasks of clinical pathology divert the pathologist from lines of work in which lie his most cherished outlooks. Although this is a decidedly useful work, it often debars the pathologist from pursuing the lines of research that it is the privilege and duty of hospitals to encourage and maintain. Prudden urges, and properly too, that the medical boards of hospitals should create interneships in clinical pathology, the incumbents of which could be made responsible for much of the routine work in laboratory diagnosis. But how many of our hospitals have made adequate provisions for the work and the pay of that now so essential officer, the pathologist? Only a very few have shown the proper spirit in this respect. The pathologic work in the majority of our hospitals, of whatever kind, is generally in a shameful condition of neglect. There is a general absence, in the first place, of proper organization of the medical and surgical staffs; vacancies are commonly filled by those whose principal qualifications are money or various forms of influence; the records are incomplete and often absolutely worthless for the purpose of study and investigation; there is but little opportunity for investigation of any kind; there are no paid assistants in the laboratories and clinics, and in the majority of cases the pathologist in chief gives part or much of his time and skill without any other compensation than an occasional fee from some benevolent surgeon or physician. There is no chance for young men to work under the benign influences that foster the studious and scientific spirit by which medical science is advanced; hence the small amount of thorough work of a high qualitative value turned out from our numerous hospitals, most of which are known chiefly as the scene of action of able surgeons who often fail to utilize the splendid opportunities at hand to train young men who are able and willing to earn promotion by thorough work. There is large room for improvement in everything relating to scientific work and scientific spirit in our hospitals. This is especially true of those situated in the large inland cities. And this improvement might well begin with placing the pathologist upon proper footing as regards both salary and facilities for laboratory and post-mortem work. It is a hopeful sign that so many hospitals for the insane are taking steps in this direction, and it may be expected that general hospitals will give this aspect of their work the needful attention. In many instances the reform must begin in the attending staffs.

SAN FRANCISCO AND THE PLAGUE.

There has been much criticism in the local papers on the course of the San Francisco health authorities in quarantining the Chinese quarter of that city on account of the recent suspected case of the bubonic plague, referred to by our San Francisco correspondent, in another column of THE JOURNAL. Undoubtedly inconvenience was caused, but when one considers the responsibility of such officers, not only to the city but to the country at large, the complaints seem to us less reasonable than they probably do to those whose special interests were affected. If the plague once gets a foothold in the Chinese quarter of San Francisco, radical measures will be required to keep it from spreading and the possibility of its being there is an ample justification for rather extreme measures until it is definitely decided that the danger does not exist. San Francisco's citizens should consider that if they once permit the pestilence to get a footing among them, they will find themselves under much more inconvenient quarantine restrictions than those of the mere isolation of a single not too healthy and reputable section of their town. Whether we are fully justified or not in our dread of the disease, the existence of it has to be recognized. In any case, even should it confine its ravages to the Chinese, we do not want the plague among us, and it is a satisfactory thought that the Health Board of San Francisco is wide awake to the very possible dangers of its introduction.

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[1] Medical Record, March 10.

A TEST FOR "CHRISTIAN SCIENTISTS."

A Detroit physician has been applying the *argumentum ad hominem* to the "Christian Scientists," by proposing to give them hypodermic injections of substances the effects of which on the system are known, and letting them try to nullify them by faith. This is a perfectly fair proposition, and if their faith really amounted to anything they ought to be willing to submit to such experimentation, but, so far, none have responded to the challenge. Such a test as this even when only proposed ought to demonstrate the fraud to the very simplest minded, and yet the Eddyites and Dowieites will continue to flourish. If language was given, as Talleyrand said, for the purpose of concealing thoughts, reason must have been given some men for the purpose of making fools of themselves; at least that would explain "Christian Science" and its vagaries. If, as has been remarked by the *Detroit Free Press,* in its editorial comments, their theory that there is no reality to disease were true, the founder of the Christian religion, whom they claim to follow, would not have played the charlatan in pretending to cure it. The fact is, "Christian Science" is not Christian but heathen from top to bottom. The masses of its followers are deceived and self-deceived, but it is hard to believe that its shrewd leaders are altogether autointoxicated with their own verbiage, and that they are not conscious impostors throughout. The fact that they can even lead law-makers off after false gods is a serious one, and the suggestion of the Detroit physician referred to, that candidates for the legislature should be called on before election to state their positions as to the legal toleration or recognition of these practices, is a good one and should be carried out in the other states as well as in Michigan.

SUICIDES.

In an address before the Royal Society of Edinburgh, published in a recent issue of *The Lancet,* Sir John Sibbald, late commissioner in lunacy for Scotland, analyzes the statistics of suicide in that country, and questions some often expressed beliefs on the subject. He does not find suicide more frequent in urban than rural districts, though there are local peculiarities pointing to a race element in the case, showing the Saxon is much more suicidal than the Celt. One striking fact noticed is that the ratio of suicide by hanging, the one method that leaves the least doubt as to its motive, has been unchanged for thirty years, while the increase from other methods in the later statistics is compensated for by a decrease in the reported deaths by accident from the same causes. From this it would appear the more probable that the apparent increase of self-murder is due rather to greater accuracy in registration than to any actual change for the worse in the facts behind the figures. Another fact that seems to point this way is that in counties where suicides have apparently increased, the reports of "sudden deaths from causes not ascertained," etc., have greatly decreased of late years. From all these facts he concludes that increase of suicide must be regarded as not proven, and protests against the habit of accepting "crude statistics" without due critical examination. If we could accept Dr. Sibbald's criticisms as applicable everywhere, it would be encouraging, but it is questionable whether they can be thus universally applied. Suicide is more common in Paris than in the rural districts of France, and it is apparently more frequent in some cities in this country than in the villages and farming districts. Race is undoubtedly a factor, and so is religious belief, and the latter has perhaps had some effect in Scotland, though its influence is not apparently included in Sir John Sibbald's address. The Scotch are not generally infidels. Ingersoll's and others' influence in favor of suicide may probably be counted out there, while it may possibly be more effective in some of our own communities. A lack of faith in the future, good or bad, is we believe, a decided stimulus to suicide, or rather perhaps a preventive of its normal inhibition. It is doubtful to us whether Dr. Sibbald's conclusion of not proven may not itself be liable to a similar Scotch verdict if applied to this country. At any rate it would be of interest could we have a similar analysis of statistics for those parts in the United States where such are available and reliable.

Medical News.

A BEQUEST of $15,000, to Hatfield, Texas, has been made for a hospital.

BY THE will of Edward H. Stokes, Trenton, N. J., $2000 has been left the St. Francis Hospital of that city.

THE PARIS Academie de Médecine has unanimously voted in favor of adding measles to the list of contagious diseases that have to be reported.

THE SOUTHERN Kansas Methodist Conference recently expelled a member of their body, it is said, for practicing faith healing. He had taken a diploma and took up faith healing as a business in connection with preaching.

A COMMITTEE to promote the study of cancer has been organized at Berlin, with von Leyden chairman. A question blank is being drawn up to be sent to every physician and medical institution in Germany, to obtain data for the work.

ACCORDING to the *British Medical Journal,* a movement is on foot in Edinburgh toward procuring for Dr. Osler, professor of medicine in Johns Hopkins, a call to the chair of practice of physic in the University of Edinburgh, rendered vacant by the death of Sir Grainger Stewart.

LÉON GOUJON, "externe des hôpitaux," has been suing Dr. Lagelouze, editor and proprietor of the Paris *Opinion Médicale,* for slander, referring to some articles commenting on the outrage at the Hôpital Beaujon when the papers for the interne examination were destroyed. Dr. Lagelouze appealed for postponement of the case until the official investigation had been concluded, but the court refused to continue the case, and condemned the editor of the *Opinion Médicale* to three months in prison, $1000 damages and "ten insertions of the sentence in the papers."

DR. HUNTER HOLMES McGUIRE, Richmond, Va., is lying very low at his home and not expected to live. He was paralyzed on Monday, the 12th, completely as to [illegible] and speech. There was also motor paralysis of the right hand and forearm. A telegram just received—as we go to press, Thursday noon—states that the "symptoms are slightly improved today; he can swallow, utter some words, and his mind is clear." Dr. McGuire is only 65 years of age, and as his constitution has heretofore been robust, it is hoped that the favorable symptoms indicate complete recovery.

Changes at Rush Medical College.—In addition to the appointment of Dr. L. F. Barker, of Johns Hopkins, recently noted in The Journal, other contemplated changes in the faculty are as follows: Dr. H. B. Favill, will be professor of therapeutics and preventive medicine. Dr. Daniel R. Brower, former incumbent of the chair of materia medica, pharmacy and therapeutics, and Dr. John M. Dodson, of the chair of physiology, will hereafter have special departments connected with the chair of medicine, now in charge of Prof. Frank Billings, jointly shared with Profs. James B. Herrick and Henry M. Lyman. Dr. Dodson's successor as professor of physiology will be Dr. Jacques Loeb of the University of Chicago. A large amount of the work, especially in the junior class, will hereafter be done at the University of Chicago. Prof. Frank Billings has been chosen dean. Other contemplated changes will be announced as consummated.

Medical Service in Transvaal War.—A writer in *The Lancet*, March 10, says that 8424 persons passed through the hospital during the protracted siege of Ladysmith, recently brought to a close. The daily average under treatment ranged from 1500 to 2000. There were 1710 cases of enteric fever alone, and 800 of these under treatment at the time the town was relieved. The health record of Ladysmith has never been particularly good, typhoid fever and dysentery being usually prevalent there during this season of the year. Removal of the sick as well as the troops was promptly carried out, notwithstanding the fatigue and exhaustion necessary for the former even under the best arrangements, change of site being deemed essential for their interests after the long siege. Of the troops in South Africa as a whole, the sanitary conditions are very satisfactory, there being considerable enteric fever, dysentery and diarrhea, as might be expected under the existing condition and time of year. Pneumonia and respiratory affections are being noted occasionally from the soldiers on board ship.

NEW YORK.

Henry's bill for the shortening of drug clerks' hours was unexpectedly defeated in the Senate on the 15th.

The finance committee of the state senate has reported favorably on the Davis bill, appropriating $150,000 for the establishment of a state hospital in the Adirondacks, for the care of those suffering from incipient tuberculosis.

PHYSICIANS AND PHARMACY

Attention has been called by Dr. J. Austin Kelly, of the Borough of Brooklyn, to the pernicious aspects of a proposed new pharmacy bill, now before the legislature. The present pharmacy law, as it stands, would appear to be amply sufficient to properly protect public interests, and if it is not, the proposed law could only work still greater public injury. At the present time registered physicians may, on payment of $2 and registering their names as pharmacists, practice pharmacy either as proprietors or clerks, and, even without so registering, they may dispense such medicines as are necessary or as they see fit, either at their offices or at the bedsides of their patients, without infringing the law. By the proposed new law a physician, in order to dispense medicine in any way, must in addition to his years of study to obtain his medical degree, spend four years more as a drug store employee before he can even present himself for examination as a drug clerk. "By the enforcement of this proposed law," Dr. Kelly points out, "a physician could be thrown into durance vile for a hypodermatic injection administered by him to a dying man, even though the latter was possibly the registered pharmacist of his neighborhood. And as for giving tablets or other medicine, even in the small hours of the morning, surely that would be a gross violation; although his action save some weary and over-worked drug clerk from crawling out of bed to possible pneumonia and death. Again, we have the veterinary doctor, who has had actual laboratory experience in compounding drugs, but who notwithstanding his five years of work to obtain his degree, must, to satisfy the framers of the proposed new law, be punished for compounding medicines for his sick animals, even though the majority of druggists would lack some of the ingredients of his prescription, and others, if possessing them, lack the knowledge to properly dispense them." Another objectionable feature is the provision that names of proprietors of drug stores must appear on the exterior of their stores, even though by so doing they incur suffering through religious or racial prejudices. It is believed that many worthy druggists who now reap much benefit by conducting their business under names other than their own would thus suffer seriously. Furthermore, the provision of revocation of license, carrying with it deprivation of livelihood, as it does, as a penalty for the small offense of not properly displaying credentials is altogether excessive. Beyond creating good positions for a favored few, such a law would be not only a useless but a most unjust measure, and one whose enforcement would be attended by incalculable evils. The profession has not therefore been at all generally aware of the real character of this bill, and Dr. Kelly is deserving of thanks for his explanation of it—a bill which, as he says, should receive condemnation at the hands of all anxious for the best interests of the public, of pharmacy, and of medicine in all its various ramifications.

New York City.

A new building estimated to cost $400,000, with the site, is to be erected for the French Hospital, $200,000 being already subscribed.

The governor has signed a bill giving New York City authority to construct a sewage disposal plant, the bill based on recommendations of Health Officer Doty, following a series of investigations conducted by him in various European and American cities.

PENNSYLVANIA.

Two Reading physicians have been fined $10 each for failure to report the number of births, required by the act of assembly.

The report of the Washington Hospital shows that 17 patients were treated in that institution during the month.

Philadelphia.

The salaries of the two coroner's physicians have been raised from $1800 to $2500 per year.

Dr. C. E. de Sajous sailed for Bremen on the *Kaiser Wilhelm der Grosse*, March 20.

The city council has at last decided to furnish filters for all the schools, and $35,000 has been appropriated therefor.

Members of the John B. Deaver Surgical Society gave a smoker at the University Club, in honor of their patron, Dr. Deaver, the evening of March 15.

Dr. Henry L. Williams, pathologist to the Howard Hospital and instructor of gynecology in the University of Pennsylvania, has accepted a position in the University of Minnesota.

The German Hospital will celebrate the 83d birthday of Mr. John D. Lankenau, who has devoted so much of his time and money for the welfare of this institution.

Councils has appropriated $2000 for the establishment of a post-mortem room at the Municipal Hospital, and $405,000 for the construction of additional sewers in different parts of the city.

During the past week typhoid fever has made a gain. The following are the vital statistics: nephritis, 34; cancer, 16; tuberculosis, 64; diabetes, 2; heart disease, 40; influenza, 7; septicemia, 3; suicide, 5, and tetanus, 2 deaths.

DR. J. M. BARTON has resigned from the board of surgeons and Dr. Samuel Wolfe from the medical staff of the Philadelphia Hospital. At a meeting of the Board of Charities and Corrections it was moved to make the board of surgeons eight members and the board of ophthalmic surgeons three instead of two. Dr. Howard Forde Hansell was elected to the latter board.

A MOVEMENT has been set on foot looking to the establishment of a dispensary system of relief for the charitable of this city, to be known as the "Blue Cross Medical Aid." Different branches will be established throughout the city, from which physicians will be sent to visit patients at their homes, and will dispense medicines. It is stated that the movement will be self-suporting through its own endowments.

HYGIENE OF SCHOOLS.

The Board of Education, in the matter of hygiene of the schools, has adopted the following requirements: The temperature of the room must not be permitted to be under 65 nor over 67 degrees; occasional hygrometric tests are to be made to assure the moisture being kept at 55 to 65 degrees; there is to be an air-supply to hot-air furnaces; air-ducts are to be at least four feet above the ground; windows of classrooms are to be raised for ten minutes during recess; teachers are to prohibit expectoration on the floors, and eating candy at recess; janitors will scatter sawdust on the floors before sweeping, wipe desks and seats with a wet cloth once a week, and wash floors, doors, and banisters with hot soda solution; during epidemics they will disinfect the rooms with formaldehyde; drinking water should be boiled; ordinary slates are to be abolished; and overcrowding of pupils in the different classrooms is to be prevented. Beginning with October next tests of the hearing and eyesight will be made, and individual drinking cups employed.

Pittsburg.

THE LEPER who has been for several years a dependent on public charity here, died March 13, in an abandoned portion of the Municipal Hospital. He was 42 years of age and contracted the disease while living in Brazil fifteen years ago. The building in which he lived has been burned.

THROUGH the recent action of the city council, $3,000,000 will be spent in the establishment of a filtration system. The material will be of sand and a slow system of filtration will be employed.

MARYLAND.

DR. E. M. SCHINDEL has been renominated by the Democrats as mayor of Hagerstown, and Dr. Jeptha E. Pitsnogle has been nominated by the Republicans for the same position. Both are graduates of the University of Maryland.

Baltimore.

DR. THOMAS OPIE, dean of the college of Physicians and Surgeons has been appointed a member of the jail board.

DR. EBERLE G. WELCH has been appointed captain and surgeon of the Fifth Regt. Veteran Corps, Maryland National Guard.

DR. WILLIAM ROYAL STOKES has been appointed city bacteriologist, at a salary of $1500, and Dr. N. G. Kierle, medical examiner, at $1000 a year.

DR. WILLIAM MACCALLUM, associate in pathology and curator of the museum of the Johns Hopkins Hospital, has been granted leave of absence and will spend six months in special study in Germany.

DR. JOHN VAN DENBURGH, a second year student in the Johns Hopkins Medical School, and a Ph.D. of Leland Stanford, Junior, University, has published a paper on the "Birds of California."

DR. CHARLES WARDELL STILES, PH.D., zoölogist of the Bureau of Animal Industry, U. S. Department of Agriculture, is giving a course of lectures at the Johns Hopkins Medical School on "Animal Parasites and their Relation to Disease."

DR. THOMAS B. FUTCHER, associate in medicine in the Johns Hopkins Medical School, will resign that position to commence practice in Toronto. Dr. Thomas McCrae, instructor, will become associate in medicine, and Dr. Wm. G. MacCallum will become instructor in medicine.

SUIT AGAINST CHRISTIAN SCIENTISTS.

Suit has been instituted in the court of common pleas for $20,000 damages for alleged ill treatment by two "Christian Scientists" of this city. Otto C. Wordhoff, C. S. and Edward H. Hammond, C. S. D., both readers in the Church. It is alleged that the plaintiff was treated by the former for three and one-half months, no one being allowed to enter the room or speak to him during that time, so as to avoid making him subject to "mortal mind." In the meanwhile he suffered excruciating pain, his limbs and body swelling and gangrene affecting both limbs. Nordhoff then called in Hammond, who continued the treatment several days. Dec. 30, 1899, the treatment having failed to afford any help, the plaintiff, whose death was hourly expected, summoned Dr. White, under whose care he has greatly improved. The plaintiff states that he paid Nordhoff $5 for a book on "Christian Science" as part of his treatment, and has received bill for services rendered from both Nordhoff and Hammond.

A "CAST IRON STOMACH."

On the 16th, Dr. William S. Halsted, at the Johns Hopkins Hospital, performed gastrotomy, removing from the stomach of a man who had been in the habit of swallowing them, nails, tacks, glass and similar articles. Six days before the operation, while in company with a number of students, he, in a spirit of bravado, swallowed the broken pieces of an entire beer glass, a quarter of a pound of ten-penny nails and a box of No. 14 tacks. During the night he had sharp, griping pains and vomited blood, but none of the foreign bodies. These symptoms continued up to the time of the operation. An inventory of the contents of the stomach showed: 72 nails, iron and wire, 1 to 1½ inches long; 19 wire nails, 4 inches long, with large heads; 1 pocket knife; 7 knife blades—one about three-fourths of an inch wide; 9 horseshoe nails, 4 inches long; 8 screws, 2½ inches long; 11 pins of ordinary size; 2 screw-eyes; 49 tacks, some with very large heads; 1 small staple; 25 grains of ground glass; 4 brass watch chains, with catches and stays, and 12½ feet of ⅜-inch iron chain.

ILLINOIS.

A TRAINED nurse in De Kalb County has been sued for slander by a physician, who charges that she declared a patient of his died from an overdose of morphin.

Chicago.

THE MEDICAL inspectors of schools examined 6131 pupils during the past week, of which number 342 were excluded on account of danger of infection.

DR. BAYARD HOLMES left the city March 21. He will attend the congress for the prevention of tuberculosis, at Naples, Italy, in April.

AT A meeting of the board of directors of the Chicago Eye, Ear, Nose and Throat College, Dr. A. G. Wipper was elected vice-president and treasurer, and Dr. Wm. L. Ballenger was re-elected to the chair of otology, rhinology and laryngology.

A CASE of smallpox was discovered in a boarding-house by the Health Department, March 19. The disease was traced to a family who came to Chicago ten weeks ago, from Butte City, Mont. Five cases have occurred in the boarding-house since their arrival.

MARY THOMPSON HOSPITAL.

The annual meeting of the directors of Mary Thompson Hospital for Women and Children was held March 20. The annual report showed that 517 patients were admitted during the year, and the total receipts were $20,744, leaving a balance of $300. The sum of $10,000, bequeathed by the late George M. Pullman, was formally accepted. The officers of the institution were re-elected.

MORTALITY.

The total mortality for the past week was 547, an increase of 21 over that of the preceding week. The excess in the total deaths is found among chronic invalids of advanced age on whom the extreme climatic conditions had disastrous effect. The number of deaths among those over 60 was more than one-fourth of the total mortality. Influenza has been prevalent in a mild form since last October.

ILLINOIS RIVER WATER.

The engineering committee of the Chicago Drainage Canal Board has received a report on the contamination of Illinois River water carried on at the laboratories of the Board. It is said that the results have been adverse to the St. Louis suit now pending in the supreme court. The report states: "The condition of the water at the mouth of the Illinois was almost normal with that of the general water-supplies of the main tributaries of the Illinois River. The investigation so far shows clearly that there has been scarcely any pollution of water supplied to St. Louis at the intake."

INDIANA.

The new Marion County Hospital for the Insane, at Julietta, will be ready for occupancy May 1.

Dr. Walter H. Peters, of Lafayette, has been appointed special pension examiner in eye and ear cases for that district.

Since the first of the year the Terre Haute Board of Health has vaccinated 4776 pupils in the public schools.

The mortality of the state for February was 13.4, 2732 deaths being reported. Among these were 4 deaths from smallpox.

Dr. Frederic Pettijohn, assistant physician at the Central Hospital for the Insane, has been elected president of the National Association of Assistant Physicians of Insane Hospitals.

Dr. John F. Glover, assistant superintendent of the Southern Hospital for the Insane, Evansville, has been appointed superintendent of that institution to fill the vacancy caused by the resignation of Dr. C. G. Mason.

BLOOD-POISONING WITHIN POLICY.

In an action brought to recover the insurance, from the Fidelity and Casualty Company, for the death of a physician, who accidentally pierced his finger with a needle, while performing a surgical operation, from which a fatal blood-poisoning developed, a press report, emanating from Richmond, Ind., states that Judge Fox has entered a judgment against the company, holding that the accident was covered by the policy which it issued.

OHIO.

The trustees of the Lakeside Hospital, Cleveland, have received a gift of $50,000 from Mr. Samuel Mather, for the benefit of that institution.

The lower house of the Ohio legislature has passed an act prohibiting the cutting of ice within the limits of any municipality without the consent of the local board of health. This board is also given authority to forbid the sale of any ice it may judge unfit for use.

MEDICAL PRACTICE IN OHIO.

The Love medical bill has passed the house, though vigorously opposed, as was expected, by the friends of osteopathy. The bill abolishes the present Board of Medical Examiners and Registration, and authorizes the governor to appoint a new one. It requires state examinations before the issuance of certificates to practice medicine, examinations to be held quarterly at Columbus, Cleveland, Toledo and Cincinnati, and that the applicants for medical certificates must have at least a high-school education. The Board may not deny certificates on grounds of grossly unprofessional conduct, those words being stricken out, but it is left possible that advertising may be construed as "immorality." Druggists may not recommend to customers proprietary medicines. The bill excepts students matriculating before Jan. 1, 1900, who present diplomas to the State Board before July 1, 1904. A great objection has been made by retail drugists of the state to the following important clause: "Any person shall be regarded as practicing medicine or surgery, within the meaning of this act, who shall prescribe, direct or recommend for the use of any person any drug or medicine, appliance, application, operation or treatment of whatever nature for the cure or relief of any wound, fracture or bodily injury, infirmity or disease."

Cincinnati.

Dr. Paul Gillespie, formerly interne to the Cincinnati Hospital, has just returned from a year's course of study abroad, [illegible] practice in this city.

INTERNES CHOSEN.

Drs. Young and Tiltz of the Ohio Medical College, and Dr. Little of the Miami Medical College, have been elected internes to Christ Hospital, to serve eighteen months. Dr. Button of the Ohio College, and Dr Williams of the Miami, have been elected to fill vacancies on the interne staff of the German Protestant Hospital. Their term of service of one year includes several months at the Ohio Maternity Hospital.

LAY PAPER DROPS MEDICAL ADVERTISEMENTS.

The *Cincinnati Post*, an evening journal of this city, has determined to exclude all medical advertisements from its advertising columns. Already there has been noted a great falling off in this regard, and the editor asserts that no new contracts of this nature will be made. This is all the more extraordinary and commendable when consideration is taken of the many columns of foul, prurient advertisements this paper has been printing for many years. The Journal joins the *Lancet-Clinic* in congratulations, and the hope that an increased circulation will more than compensate for the loss of revenue this new departure necessarily entails. (See our editorial columns also.)

COLORADO.

Denver.

INSANE ASYLUM.

The insane of Arapahoe County have been a source of annoyance to the County Hospital staff, as there are no accommodations in that institution for mentally afflicted persons. The County Commissioners have therefore decided to build an annex to the hospital, to accommodate 100 insane patients.

NEW STAFF FOR THE COUNTY HOSPITAL.

For the first time in the history of the County Hospital, the homeopaths of Denver have succeeded in receiving some sort of recognition. The county commissioners have appointed one physician of that school to serve respectively on the medical, surgical, obstetric, gynecologic, and eye and ear staffs. They, however, are not on the regular visiting staff, but are expected to visit the hospital officially only when their presence is requested by the patients. The new staff will take office April 1.

THE NATIONAL JEWISH HOME FOR CONSUMPTIVES.

The opening of this institution, previously noticed in The Journal, deserves further mention. In the years known in Colorado as "boom-years," the Jewish citizens of Denver raised enough money to erect a hospital for consumptives. They have recognized the fact that the number of afflicted among the Russian Jews is greater than the average in other nationalities, owing to their confining occupations and crowding in the large cities. It was then an easy matter to collect moneys, and in a short time a building was erected at the cost of $40,000. Just at the time when everything was ready for the dedication, the year of "panic" came. The doors of the hospital were not opened for seven years. The funds sufficient to run the institution could not be raised, notwithstanding the many attempts made. At last the Order of the Bnai Brith took up the matter at its meeting in Columbus, Ohio, in May, 1899, and a National board of control was appointed. It certainly reflects great honor on the oldest Jewish order of the world and on the local committee, composed of Dr. S. Simon, Alfred Muller and M. Friedman, who have been instrumental in inducing the order to take up the control of the hospital.

CALIFORNIA.

San Francisco.

THE PLAGUE SCARE.

[The following is a somewhat fuller account of the recent plague investigation in this city than was possible to give in our telegraphic report last week. Ed.]

The animals inoculated with the serum from the gland from the Chinaman who died in the Chinese quarter under suspicious circumstances all died, as telegraphed last week. From a thorough post-mortem examination there remains but little doubt that the Chinaman died of bubonic plague. The spleens were found mottled, there was serum in the subcutaneous tissue, fluid in the pericardium, and great numbers of bacilli were found in the internal organs and in blood taken from the heart. These bacilli were identical with those found in the gland of the dead Chinaman. In their shape, size, and method of staining they were absolutely identical with the bacillus pestis. Of course the bacillus could be mistaken for the bacillus of rabbit septicemia, and also that of hog cholera, were it not for the fact that neither of these are fatal to rats. These experiments took place at the Federal Quarantine Station in this harbor, where Dr. Kinyoun, the officer in charge of the station, extended every courtesy to the local board of health, and in every way added his valuable assistance in facilitating the work. Dr. Kinyoun is an able bacteriologist himself, and believes there can be no question that this is the genuine bacillus pestis. Dr. Douglas W. Montgomery, professor of dermatology in the medical department of the University of California, and one of our best known pathologists, has examined tissues both from the glands of the Chinaman and the animals. He is very positive in his statement that these bacilli are the bacilli of plague. Valuable services were rendered by Dr. Frank P. Wilson, the assistant city physician, who discovered and reported the suspicious case, and Dr. W. H. Kellog, city bacteriologist, who did valuable work in his laboratory. Both of these gentlemen, as well as all the officers of the local health board, are serving the city at present without remuneration, and all through these investigations the only reward the local board has received from the grateful public, whose interests and welfare they have been zealously guarding, has been abuse from almost all quarters, for what has been called their arbitrary quarantine of the Chinese quarter. This abuse has been most flagrant in the columns of two of our leading morning papers. The excellent work done by Dr. Kinyoun and Dr. Montgomery in this matter should also not go unmentioned. No further suspicious cases have been found, though a careful house-to-house search is being made, consequently the quarantine remains raised. The monkey, inoculated on March 7, with an emulsion made from a piece of glandular tissue removed from the groin of the dead Chinaman, died on the morning of the 13th, after showing signs of sickness for two days. Postmortem examination made about six or eight hours after its death showed, at the point of inoculation, which was in the left breast, considerable coagulation necrosis. Subcutaneous edema was well marked, especially on the left side over the abdomen. The axillary lymphatic glands on the left side were enormously enlarged, forming a mass as large as a walnut, but no enlargement on the opposite side. On section the gland was congested and showed hemorrhages into the gland substance. Cover-slip preparations were made from the interior of the gland and stained with thionin, and showed the presence, in large numbers, of a short cocco-bacillus, with rounded ends, staining more deeply at the poles. The spleen was greatly enlarged, dark and friable and contained the same organism in enormous numbers. The pericardium contained a considerable amount of turbid fluid. The heart's blood was fluid and contained great numbers of the organism described above. The lungs showed the presence of a well-marked pneumonia.

[Three more cases of what is believed to be bubonic plague have been discovered in Chinatown, according to telegraphic advices as we go to press.—Ed.]

WISCONSIN.

A PHYSICIAN of Hudson, Wis., a surgeon of the Fourth Wisconsin Volunteers, recently sued the *Milwaukee Herold* for libel, that paper having published correspondence from Anniston, Ala., while the Fourth was in camp there, stating that the doctor did not attend to his duties and that the soldiers in the hospital did not receive proper care. The action was settled by the paper paying damages as well as making a complete retraction of the charges.

MICHIGAN.

The Michigan Supreme Court has affirmed the constitutionality of the amendment to the local option law made by the legislature, requiring druggists in local option counties to make weekly reports of all sales of liquor, including the name and residence of the purchaser, the date and object of the purchase, and the kind of liquor sold.

MORTALITY OF MICHIGAN.

During February 2673 deaths occurred in Michigan, 37 deaths more than during the preceding month, but over 1100 less than during February, 1899. The death-rate for the month was 14.5 per 1000 of population, showing a considerable increase over January, whose rate was 13. There were 445 deaths of infants under 1 year of age, 210 of children from 1 to 4 inclusive, and 772 of persons aged 65 years and over. Important causes were: pulmonary consumption, 168; other forms of tuberculosis, 37; typhoid fever, 33; diphtheria and croup, 47; scarlet fever, 25; measles, 47; whooping-cough, 17; pneumonia, 363; diarrheal diseases of children, 51; cerebrospinal meningitis, 36; influenza, 61; puerperal septicemia, 19; cancer, 104; accidents and violence, 111. There was no marked increase in the deaths from any of these causes, but slight decrease from typhoid fever, diphtheria and croup.

MISSOURI.

THE ANNUAL commencement of Ensworth Medical College, St. Joseph, was held March 14. There were nineteen graduates.

THE THIRTY-FIRST annual commencement exercises of the Kansas City Medical College were held March 16. Forty-nine diplomas were awarded.

CANADA.

DR. R. S. MINNES, Ottawa, has been elected a member of Queen's University Council, Kingston.

A CITIZEN of West Toronto Junction has entered suit for damages against the town council for locating the smallpox hospital too near his residence.

DR. COTE of St. Pascal, whose death was announced in the last issue of THE JOURNAL, as being the first victim of smallpox in Quebec, writes to state that he is still alive, and that it was his brother who died.

FROM PORTAGE LA PRAIRIE, Manitoba, comes the report of the death of a woman under "Christian Science" treatment. She had been ailing for two months, but the husband refused to call proper medical attendance.

THE BILL before the Quebec legislature, asking that a certain young man be legally qualified to practice medicine in that province and compelling the College of Physicians and Surgeons to enroll his name on their register has been abandoned, as according to the statement of Dr. Cotton in the house, there was to be no further meddling with the medical act of the province if the College of Physicians and Surgeons would agree to exempt those who began the study of medicine before 1896 from the prescribed matriculation examination.

THE PROPOSED inquiry into the management of the British Columbia Asylum for the Insane, at New Westminster, announced in THE JOURNAL some few weeks ago, has taken place. The commissioners' report reflects great credit on the management of the institution. The committee found the hospital in very good order.

FRICTION IN A HOSPITAL

Reports from Winnipeg, Man., bring the news that there is serious trouble brewing in the General Hospital of that city. As a consequence of differences of opinion in regard to nursing matters, held by the superintendent, Dr. Chestnut, and the lady superintendent, Miss Patterson, the latter has resigned. For some time past the citizens have been constantly making complaints that the directors of the institution should continue to put young college graduates at the head of the hospital instead of appointing an experienced and older physician as permanent medical superintendent. Miss Patterson is a graduate of Johns Hopkins, is said to be very capable and has had an extended experience in the position she held, although it is but a short time since her appointment to the head of the nursing staff of the Winnipeg Hospital. No doubt the friction and her resignation will lead to a radical reorganization.

ONTARIO MEDICAL LIBRARY ASSOCIATION

Dr. H. J. Hamilton, the secretary of this Association, has issued a circular letter to the members of the profession throughout Ontario calling for approval of a scheme to petition the local legislature of the province seeking a government grant to enable the Association to purchase, circulate, and preserve the latest medical works. No doubt many of the members of the medical profession in the province have felt that the government should contribute to this work, especially as it is well known that the legal profession have free library ac-

accommodation at Osgoode Hall, estimated to represent at least $1,000 a year, while the medical profession has to pay for its own library accommodation in the medical council chambers. There seems no valid reason why the government should not treat the medical profession as well as the legal. As the application will be made to the provincial government at once, these circulars are sent out seeking to obtain the unanimous support of the profession. The good work which this Association is now doing in sending books from the Ontario Medical Library to any member of the medical profession in Ontario, subject to the library rules and regulations, should be sufficient to induce all to co-operate in this laudable undertaking. Medical students are given the privilege of using the library as a reference library.

COMPULSORY VACCINATION IN BRITISH COLUMBIA.

The local board of health of Victoria is experiencing to the full the difficulty which was anticipated when the Provincial Board of Health, by order-in-council, insisted on compulsory vaccination among the school children throughout the province. The parents of many of the children attending the schools in Victoria have absolutely refused to have their children vaccinated, although the clause (Sec. 94 of the health act) provides that any person who violates any regulation of the Provincial Board of Health, shall, unless otherwise specially provided for, be liable to a fine not exceeding $100, with or without costs for every such offense, or to imprisonment, with or without labor, for a term not exceeding six months, or to both fine and imprisonment in the discretion of the convicting court. The act is not made compulsory for adults, hence there is much complaint from the people interested, as they consider that adults congregating in places of resort are just as apt to carry infection as the children.

CANADIAN PHYSICIANS FOR SOUTH AFRICA.

It is altogether probable that a movement will be inaugurated calling the attention of the Dominion Government to the fact that the Canadian wounded in South Africa ought to be cared for and attended by Canadian physicians. The surgeons who went with the several contingents are restricted to field duty, and after this first attention the Canadian does not see a doctor of his own country, but is surrounded on all sides by strangers. The reason why Canada has not already sent more Canadian surgeons to the front is put down to selfish medical legislation. Canadians do not ask to practice in London, England, without a British license, but in the colonies it is different. Students who fail here go to British colleges, Edinburgh for example, and there get their degree; and if a colonial degree is good enough for Canada, why is it not good enough for South Africa. If Canadians are permitted to fight, should not Canadian doctors be permitted to attend to them should they perchance be wounded. Surely the government will take this matter into immediate and serious consideration.

THE HOSPITAL "MACHINE."

The "machine" in politics in Canada, more particularly in the Province of Ontario, has within recent years been a familiar feature at our elections: its applicability to intriguing in the management of the affairs of a hospital is, however, a new departure. As recorded in the columns of THE JOURNAL a few months back, London, Ont., erected during the past summer a new hospital, and it was thought that from that time on everything would be lovely in the management and governance of the institution. London is also the home of the Western University, and it is at the General Hospital of the city that the students of the medical department receive their practical training. In connection with the erection of this new hospital a children's pavilion was, at great expense and no little trouble on the part of the ladies of London, especially provided for, but the directors have not seen fit to put it into use, say it was never needed, and continue to place the children side by side with cancer and consumptive patients. This untoward procedure has raised the wrath of the citizens, and they are demanding the resignation of the hospital board and the resignation of the medical superintendent as well.

MUSKOKA COTTAGE SANITARIUM FOR CONSUMPTIVES.

The annual report—1898-1899—of the National Sanitarium Association has just been issued. It shows that the sanitarium is now able to accommodate fifty patients, fifteen more than last year. Tents were used last summer up to the beginning of November, with satisfactory results. During the year a cottage was completed for the visiting physicians or members of the board on their visits to the institution; it is also used for the accommodation of friends of the patients when visiting them; the medical superintendent also occupies it as a residence. Besides this there have been many other improvements, such as a breakwater along the shore, an extension of the water-works system, etc. Miss Breckon, late superintendent of the Emergency Hospital, Toronto, is now at the head of the nursing department. Comparing results of the second year with that of the first, the average length of treatment has increased from 98 to 128 days. There has also been a corresponding increase in apparent cures, viz.: from 15 to 21 per cent. The relative cures, i. e., cases in which the disease has been arrested, have increased from 27 to 32 per cent. It has been amply proved that a longer stay than three months is necessary even in the earlier cases; from the 11 incipient ones remaining under three months only 2 were apparently cured; while of the 14 remaining more than three months, 12, or 85 per cent., were apparently cured. Of the 13 advanced cases remaining under three months, 5, or 39 per cent., had their disease arrested; while of 26 cases remaining over three months, 20, or 79 per cent., were either cured or had their disease arrested. It is stated in the report that most of those discharged with the disease arrested have returned to their work, while others have taken up life out of doors, at farming, etc., and if care is exercised they will ultimately be cured. An encouraging feature of the report is the statement that all of those reported in the first year's report as apparently cured remain as well as on discharge. Out of the 23 in whom the disease was arrested, 20 are still as well as on discharge. The number in the sanitarium at the end of the hospital year, Sept. 30, 1898, was 33; admitted during the year, 114. Of the total number treated during the year, 147, 48 remained on Sept. 30, 1899. Of the 99 reported on, 21 were discharged apparently cured, 32 with the disease arrested, 17 with marked improvement, 19 unimproved, 6 failed, and 4 died. Of the 99, 76 gained an average of 8¼ pounds in weight. The average stay of each patient was 126 days. The revenue for the year was $15,435.35; the expenditure $16,404.12.

Correspondence.

Varicella Ulcer of Cornea.

AMHERSTBURG, ONT., March 17, 1900.

To the Editor:—It may be of interest to Drs. Magee and Head, who reported cases of this condition recently (THE JOURNAL, March 17, p. 701), to learn that owing to the presence of smallpox in this place, I was called in consultation, a short time ago, to see a case of what was feared by some to be smallpox, but which the history and general appearance of the patient showed conclusively to be varicella. In this patient there was a well-marked ulcer of the upper and outer margin of the right cornea, which the attending physician informs me is readily yielding to treatment, and which I have no doubt is a genuine varicella ulcer.

THOS. HOBLEY, M.D., Medical Health Officer.

Book Notices.

A PRACTICAL TREATISE ON MATERIA MEDICA AND THERAPEUTICS. By Robert Bartholow, M.A., M.D., LL.D., Professor Emeritus of Materia Medica, General Therapeutics, and Hygiene, in the Jefferson Medical College of Philadelphia. Tenth Edition. Revised and Enlarged. Price: Cloth, $6; Leather, $7; Half Morocco, $7.50. New York: D. Appleton & Co.

This edition of Dr. Bartholow's well-known and popular text-book will undoubtedly continue to receive the approval it has so well deserved in the past. The changes here made are stated by the author to consist in accounts of the newer remedies, and supplying certain omissions, etc., of former editions, with the addition of a chapter on prescription writing. A little more fulness in regard to serum and organotherapy would not have been amiss in a work of this kind, at the present time, and the profession generally may not altogether agree with the author in his conclusions that the success of this treatment has not warranted the claims of its promoters. In view of its extension in so many directions just now, and the results claimed, such opinion seems premature.

NOTES ON TREATMENT OF FRACTURES. By John B. Roberts, A.M., M.D., Professor of Surgery in the Philadelphia Polyclinic. With thirty-nine Illustrations. Price: Cloth, $1.50. New York: D. Appleton & Co.

This work is a very clear and concise statement of the author's views, which he does not hesitate to express, even when in opposition to the teachings of authorities in standard text-books. It recommends itself to the reader in other ways, however, chiefly by its advocacy of simplicity in the management of those troublesome injuries, the fractures of the bones. Most general practitioners have to deal with these and generally dread them. Dr. Roberts gives his reasons for his views when they are different from the usually accepted ones, and in some instances, at least, he appears to make his case a strong one. The book is unusually good reading for a surgical work, and deserves a careful perusal.

NERVOUS AND MENTAL DISEASES. A manual for students and practitioners. By Charles S. Potts, M.D., Instructor in Nervous Diseases, University of Pennsylvania. Edited by Bern B. Gallaudet, M.D., Demonstrator of Anatomy and Instructor in Surgery, College of Physicians and Surgeons, Columbia University, New York. Illustrated with Eighty-eight Engravings. Price: Cloth, $1.75. Philadelphia and New York: Lea Brothers & Co.

This is a convenient epitome of the principal facts in regard to nervous diseases, and, allowing for the brevity of the descriptions, a good one. The author has the art of clear description and the schematic diagrams given are well chosen and useful. The section on mental disorders is necessarily less satisfactory than that on nervous diseases. The author mostly follows the text-books of past years, and the result is that his exposition of the facts concerning insanity is not quite the most modern. The conception of confusional insanity, for example, obtained by reading this book, will scarcely be an adequate one. In most respects, however, and more especially in the part relating to nervous diseases proper, the volume will be a convenient and reliable work to freshen the memory of the student or practitioner.

DISEASES OF THE NOSE AND THROAT. By D. Braden Kyle, M.D., Clinical Professor of Laryngology and Rhinology, Jefferson Medical College, Philadelphia. Octavo, 630 pages, over 150 illustrations and 6 lithographic plates. Price: Cloth, $4 net; Half Morocco, $5 net. Philadelphia: 1899. W. B. Saunders.

In a handsome volume of 644 pages, well illustrated, the author has given a complete description of all morbid appearances in the nose and throat and their treatment. Although no quotations are made, the work of others is fully recognized and merged with the writer's personal experience. But while the reader may get full though concise information and sound advice, this is not given in an easily digested form. Each subject is presented under so many arbitrary and often superfluous subdivisions that it is difficult to get a general survey. A beginner might find great difficulty in using the book as a guide for diagnostic purposes. Again, by cutting up the description of each and every disease into a schematic form of symptoms, lesions, diagnosis, prognosis, etc., the book acquires a flavor of dogmatism, at least to one most in need of information which mars its utility. The publisher's work is very creditable.

Irresponsibility of Criminal with Latent Epilepsy.—V. Codeluppi relates in the *Riforma Medica*, 10 and 11, the case of a soldier who killed three of his comrades and an elderly stranger, in a fit of frenzy, without motive. The experts decided that the criminal was an epileptic, although he had never had an epileptic seizure. The fits of frenzy were considered the equivalent of the seizures. The Italian court therefore acquitted the prisoner.

Association News.

Section on Surgery and Anatomy.—Dr. H. O. Walker, Chairman of the Section on Surgery and Anatomy, desires us to announce that those who wish to read papers before the Section at the coming meeting of the ASSOCIATION should forward titles either to his address, 27 Adams Avenue E., Detroit, Mich., or to Dr. Ramon Guitéras, secretary, 63 W. Fifty-fourth Street, New York City. It is desired to complete the program as early as possible.

Section on Diseases of Children.—The preliminary program of this Section, for the annual meeting, at Atlantic City, N. J., June 5-8, 1900, is as follows:

SESSION DEVOTED TO THE CONSIDERATION OF SCHOOL CHILDREN.

Symmetrical Development, or Does Our Present School System Develop the Highest Powers of the Child?—E. Stuver, Fort Collins, Colo.

School Break-Downs.—J. Henry Bartlett, Friends' Select School, Philadelphia.

Eye-Strain.—Thomas H. Fenton, Philadelphia.

Care of the Ear in School Children.—Louis J. Lautenbach, Philadelphia.

The Physician's Responsibility in the Physical Education of School Children. Summary: Medical Inspection of School Children. Its Purpose, Its Results. Health Supervision of School Children. Attitude of Family Physician toward the School Authorities, Teachers, Parents and Child.—Grace B. Spiegle, Philadelphia.

Discussed by Drs. F. X. Dercum, C. F. Wahrer and others.

Neglect of Teeth in Children.—A. D. Rosenthal, D.D.S., New York City.

SESSION DEVOTED TO THE CONSIDERATION OF CONTAGIOUS DISEASES.

Shall Children be Kept From Measles, and the Exanthemata Usually Incident to Childhood.—C. F. Wahrer, Fort Madison, Iowa.

Rötheln; A Distinct Affection Apart from Measles and Scarlatina, and its Differentiation from These Exanthemata.—Henry Koplik, New York City.

A Clinical and Pathologic Study of the Rash of Scarlet Fever, with Especial Reference to the Origin and Character of the Desquamation.—Jay F. Schamberg, Philadelphia.

Differential Diagnosis Between Eruptions of Influenza and the Other Infectious Diseases of Childhood.—A. S. Daniel, New York City.

Fetal and Infantile Typhoid.—John Lovett Morse, Boston.

Decubitus Following Intubation.—Joseph Trumpp, Munich, Bavaria.

Resulting Injuries Due to Intubation.—Janos Bokay, of Budapest, Hungary. (Read by Alexander Klein, Philadelphia.)

Discussions by Wm. M. Welch, W. C. Hollopeter and S. Solis Cohen, of Philadelphia; Louis Fischer, New York City; besides others who may also present papers.

SESSION DEVOTED TO CONSIDERATION OF FEEBLE-MINDED AND NERVOUS DISEASES.

Etiology of Idiocy and Imbecility.—Martin W. Barr, Pennsylvania Training School for Feeble-Minded, Elwyn, Pa.

Physiologic Method of Training the Feeble-Minded.—S. J. Fort, Ellicott City, Md.

Care of the Higher Grades of the Feeble-Minded.—A. W. Wilmarth, Wisconsin Home for Feeble-Minded, Chippewa Falls, Wis.

A Study of Circulation in the Feeble-Minded.—J. Madison Taylor, Philadelphia.

Discussion by H. N. Moyer, Chicago; Louis Faugéres Bishop, New York City; F. X. Dercum and J. P. Crozier Griffith, Philadelphia.

Common Forms of Paralysis in Children.—Wm. M. Leszynsky, New York City.

SESSION DEVOTED TO DISEASES OF THE BLOOD AND CIRCULATION.

Purpura Hemorrhagica or Scorbutum: Clinical Sketch.—Henry E. Tuley, Louisville, Ky.

Rheumatism.—Samuel E. Woody, Louisville, Ky.

Chorea.—J. Clements, Kansas City, Mo.

Medicinal and Surgical Treatment of So-called Scrofula.—G. M. Blech, Chicago.

The Essential Points in Treatment of Adolescent and Senile Heart.—John A. Robison, Chicago.

Abortive Treatment of Pneumonia.—Henry Illoway, New York City.

Discussion opened by Alfred Stengel, S. Solis Cohen and

Edwin E. Graham, of Philadelphia, and S. S. Adams, Washington, D. C.

Cardiac Lesions in Children.—John J. Morrisey, New York City.

SESSION DEVOTED TO INFANT FEEDING AND DISEASES OF THE INTESTINAL TRACT.

The Milk Supply, Etc.—Prof. Adolf Baginsky, Berlin, Germany.

Infant Feeding.—Alexander McAlister, Camden, N. J.

Discussion opened by Henry D. Chapin, New York City, and Victor C. Vaughan, Ann Arbor, Mich.

Gastro-Intestinal Hemorrhage in a New Born.—Edward H. Small, Pittsburg, Pa.

Causative, Relative Frequency of Typhlitis, Perityphlitis and Appendicitis in Infancy and Childhood.—Joseph H. Byrne, New York City.

Statistics on Intussusception in Children.—S. Weis, Vienna.

Discussion by Frederick Packard, Philadelphia.

Congenital Malformation of Rectum: A Case of Maternal Impression.—Thomas Charles Martin, Cleveland, Ohio.

Significance of Infantile Stools in Diarrheas of Infants.—Wm. E. Darnall, Atlantic City, N. J.

SESSION DEVOTED TO SURGICAL SUBJECTS.

Movable Kidney (Floating Kidney) in Children.—Isaac Abt, Chicago.

Symptomatology of Appendicular Inflammations in Children.—Thomas H. Manley, New York City.

Normal Salt Transfusion in New-Born, For Hemorrhage From the Cord.—John S. Miller.

Some Joint Diseases in Children, their Diagnosis and Treatment.—Edward A. Tracy, South Boston, Mass.

Athrepsia Infantum: Diagnosis and Treatment.—Louis Fischer, New York City.

Papers and discussions have been promised by I. N. Love, St. Louis, Mo.; A. C. Cotton and W. S. Christopher, Chicago; J. H. Musser, Philadelphia, and others.

Deaths and Obituaries.

Albert B. Strong, M.D., Chicago, died at the Illinois Eastern Hospital for the Insane, Kankakee, March 16, where he had been confined but one week. He was born at Galesburg, Ill., in 1845, and was graduated from Rush Medical College in 1872. He was an interne in St. Luke's Hospital, Chicago, from 1871 till 1872, and served in a similar capacity at the county hospital from July, 1872, till February, 1874. From March, 1874, till October, 1875, he was lecturer on materia medica and therapeutics, in Rush Medical College, and at the latter date was elected demonstrator of anatomy and lecturer on this subject in the spring course of that institution, a position which he held for ten years. He died in a collapse from maniacal excitement, having suffered from three similar attacks on previous occasions. The superinducing cause was a heavy loss in a banking institution in which he was a depositor. He was an active member of the Chicago Medical Society, Illinois State Medical Society and the American Medical Association.

Thomas B. Hood, M.D., Washington, D. C., died March 15, aged 71. He was born in Fairview, Ohio, and was graduated from the medical department of Western Reserve University in 1861, and began the practice of medicine in Gratiot, Ohio. During the Civil War he served as assistant surgeon of the Seventy-sixth regiment, Ohio volunteers. He assisted in the collaboration and editing of the war records of the provost marshal general's office, and in 1874 was appointed medical referee of the pension office. He was dean of Howard University for many years.

Samuel H. Pennington, M.D., Licentiate of Examining Board, 1880, and the oldest living graduate of Princeton College, died at his home in Newark, N. J., March 14, aged 94 years. Several years ago, while in the Adirondacks, he sustained a hip-joint fracture and was almost constantly confined to his house ever afterward. At one time he was an active politician, and for seventeen years a member of a board of education. At the time of his death he was still a trustee of Princeton College and the Princeton Theological Seminary.

G. H. Holland, M.D., of Mt. Perry, Ohio, died March 11, aged 65 years. He served during the Civil War, in the Seventy-eighth Ohio regiment, and was graduated from Starling Medical College in 1869.

J. U. Heckerman, M.D., Tiffin, Ohio, died March 11. He was graduated from the National Medical College (D. C.) in 1846, and had practiced in Tiffin more than fifty years.

Richard J. Mohr, M.D., Pasadena, Cal., died March 9, aged 60. He was a veteran of the Civil War and a graduate from the College of Physicians and Surgeons, Keokuk, Iowa.

John Nolan, M.D., College of Physicians and Surgeons, New York City, 1868, died at his home in New York City March 11. He was a Fellow of the N. Y. County Medical Association.

Lewis Armstrong, M.D., formerly of central Illinois, died of consumption March 19, at El Paso, Texas. He was graduated from the Missouri Medical College in 1883.

Stephen P. Dennis, M.D., died at Salisbury, Md., March 15, of pneumonia, aged 73 years. He was a graduate from Jefferson College.

Loren L. Eddy, M.D., Olean, N. Y., died March 15, of peritonitis. He was graduated from the University of Buffalo in 1897.

J. B. Judkins, M.D., Wetumpka, Ala., died March 8, of Bright's disease. He was graduated from Jefferson Medical College in 1860.

Orlando Feyley, M.D., Allentown, Pa., died March 15. He was graduated from the College of Physicians and Surgeons, Boston, in 1867.

George F. Wetherell, M.D., Chicago, died March 20. He was graduated from the University of the City of New York in 1856.

Robert B. Hudson, M.D., Jefferson Medical College, 1849, died in Roanoke, Va., March 15, aged 72 years.

J. E. Hatcher, M.D., formerly of Bowling Green, Ky., died in Oklahoma, March 10, aged 34 years.

We also note the following deaths:

R. W. Clarkson, M.D., Mayview, Mo., March 12, aged 70 years.

James J. Culler, M.D., Jefferson, Md., March 13.

C. C. Gannaway, M.D., Warren, Ark., March 12.

DEATHS ABROAD.

E. Boeckel, professor of surgery at Strasburg, and editor of the Strasburg *Gazette Médicale.*

Miscellany.

Department of Public Health.—The following resolutions are of interest as expressing the views of the bodies passing them, relative to the public health legislation now being urged in Congress:

Resolved, That the Board of Health of Charleston, S. C., regard it as a matter of supreme importance that there should be a representative national health department organized at Washington for the betterment, protection, safety and good health of the people of the United States.

Resolved, That the Board of Health of Charleston indorse the Senate bill (S. 1440) and the House bill (H. R. 6618) and urge the Senators and Representatives in Congress assembled to adopt and enact the above bills.

March 12, 1900.

(Offered by Silas M. Giddings, and unanimously adopted.)

Resolved, That the New York Board of Trade and Transportation renews its approval and support of the bill creating a national health commission, introduced by Senator Spooner and Congressman Ray, known as S. bill 1440, H. R. bill 6618.

The New York Board of Trade and Transportation, by a special and able committee, thoroughly investigated the subject of the operation and regulation of national and interstate matters and the relation thereto of the United States Marine-Hospital Service, and the said committee indorsed the Spooner bill, which is again before Congress, and submitted an exhaustive report thereon, which report is hereto attached:

Resolved, That the New York Board of Trade and Transportation respectfully invites the attention of the Senators and Representatives of Congress from the State of New York to the report of our special committee on the Spooner bill, and earnestly request them to support and vote for the passage of said bill. Be it further

Resolved, That the Honorable Chairman and the members of the Committee on Interstate and Foreign Commerce of the

House of Representatives be also requested to carefully consider the report of the Special Committee of this Board on the Spooner bill, and to report said bill favorably.

March 14, 1900.

BOOKS AND PAMPHLETS RECEIVED.

INTERNATIONAL TEXT-BOOK OF SURGERY. By American and British Authors. Edited by J. Collins Warren, M.D., LL.D., Professor of Surgery in Harvard Medical School, and A. Pearce Gould, M.S., F.R.C.S., Surgeon to Middlesex Hospital. Vol. II. Regional Surgery. With 471 Illustrations in the Text, and eight full-page in Colors. Price, Cloth, $5; Sheep or Half Morocco, $6. Philadelphia: W. B. Saunders. 1900.

SURGICAL PATHOLOGY AND THERAPEUTICS. By John C. Warren, M.D., LL.D., Professor of Surgery in Harvard University. Illustrated. Second Edition with an Appendix, Containing an Enumeration of the Scientific Aids to Surgical Diagnosis, Together with a Series of Sections on Regional Bacteriology. Cloth, $5; half morocco, $6. Philadelphia: W. B. Saunders. 1900.

THE CRIMINAL. His Personnel and Environment. A Scientific Study. By August Drahms, Resident Chaplain State Prison, San Quentin, Cal. With an Introduction by Cesare Lombroso, Professor of Psychiatry, University De Torino, Italy. Cloth. Pp. 402. Price, $2. New York: The MacMillan Co. 1900.

NORDRACH AT HOME, OR HYGIENIC TREATMENT OF CONSUMPTION. By Joseph J. S. Lucas, B.A., M.R.C.S., L.R.C.P., Late Medical Registrar and Pathologist at North London Consumption Hospital. Cloth. Pp. 60. Price, 1 Shilling. Bristol: J. W. Arrowsmith, 11 Quay Street.

TRANSACTIONS OF MISSISSIPPI VALLEY MEDICAL ASSOCIATION. Twenty-fifth Annual Session, Held at Chicago, Oct. 3, 4, 5, and 6, 1899. Vol. 1. Printed for the Association, 1899.

TRANSACTIONS OF AMERICAN PEDIATRIC SOCIETY. Eleventh Session, Held at Deer Park, Md., June 27, 28, and 29, 1899. With the Constitution. Edited by Floyd M. Crandall, M.D. Vol. XI. New York: Reprinted from *Archives of Pediatrics*. 1899.

HOME NURSING. Modern Scientific Methods for the Care of the Sick. By Eveleen Harrison. Cloth. Pp. 235. Price, $1. New York: The Macmillan Co. 1900.

A PILGRIMAGE: OR THE SUNSHINE AND SHADOWS OF THE PHYSICIAN. By Wm. Lane Lowder, B.S., M.D. Cloth. Pp. 196. Price, $1. Louisville, Ky.: R. H. Crothers. 1900.

NEW PATENTS.

The following patents of instruments and appliances of interest to physicians, surgeons, etc., have recently been recorded:

642748—Inhaler, Arthur Manners, Hull, England.

642993—Optical Projecting Apparatus, Baltzar E. L. de Mare, Philadelphia, Pa

642849—Electrical Massage Instrument, Edmund T. Otto, Jersey City, N. J.

643068—Orthopedic Appliance, Herbert J. Pond, Norwich, England.

642920—Combined Shirt and Suspensory Bandage, Stacy Potts, Washington, D. C.

643014—Atomizer, Charles A. Tatum, New York, N. Y.

643221—Douching Speculum, Lee J. Chapman, Columbus, Ohio.

643144—Preparing Haloid Derivatives of Acetone, Leonhard Lederer, Munich, Germany.

643542—Pneumatic Thermometer, Wm. H. Sanford and H. Brickham, Denver, Colo.

643867—Insufflator, Allen DeVilbiss, Toledo, Ohio.

643949—Disinfecting Apparatus, Royal E. Deane, New York, N.Y.

643822—Device for Applying Hot Air or Vapor to the Human Body, Oliver K. Isham, Hartford, Conn.

643835—Making Fluoroform, Friedrick Valentiner, Leipsic, Germany.

644109—Massage Roller, Margaret Stonebridge, New York, N. Y.

32376—Design, Syringe Nozzle, Frederick H. Jones, Wakefield, Mass.

644872—Apparatus for Making Extracts, Ernst Schliemann and E. von Boyen, Hamburg, Germany.

644803—Artificial Tooth-Crown, Henry D. Justi, Philadelphia, Pa.

645055—Apparatus for Producing Caustic Soda, Henry S. Anderson, Springfield, Mass.

645059—Hernial Truss, Herman Becker, Philadelphia, Pa.

645091—Pocket Prescription Scale, Robert W. Harmon, Lockhart, Miss.

645421—Attachment for Invalid Bedsteads, Edwin A. Libby, Keene, N. H.

645110—Preparing Remedial Substances from Swine Blood, Gustav Lorenz, Darmstadt, assignor to Rothlauf Serum Gesellschaft mit Beschrankter Haftung, Berlin, Germany.

Queries and Minor Notes.

EXPOSITION EXCURSION.

CHICAGO, March 17, 1900.

To the Editor:—Will you kindly inform me who has charge of the excursion of physicians of the Central States to the Paris Exposition or to whom I could write for information? C. T. M.

ANSWER.—Dr. J. W. Pettit, Ottawa, Ill., Dr. J. W. Cokenower, Des Moines, Iowa, or Dr. Charles Wood Fassett, St. Joseph, Mo., will give information in regard to the proposed medical men's excursion to Paris.

TEXT BOOKS FOR GENERAL PRACTITIONER.

MANSFIELD, TEXAS, March 6, 1900.

To the Editor:—I am a general practitioner in a small town and often have to play the rôle of an all around man. Will you give me your opinion as to the best reference handbooks on materia medica, obstetrics, diseases of the ear, eye and skin. I would like for them all to be up-to-date. Respectfully,

W. B. McK.

ANSWER.—A text-book begins to be out of date from the day of its publication. The latest editions of works by first class authors are usually the best to get. From this point of view, therefore, we would suggest such works as: King's "Manual of Obstetrics;" Hirst's Obstetrics; Butler's "Text-Book of Materia Medica, Therapeutics and Pharmacology;" Cushny's "Pharmacology and Therapeutics;" Hyde's "Diseases of the Skin;" Jackson's Skin Diseases; Jackson on Diseases of the Eye, or, if a very complete work is desired, Morris and Oliver's System; Ingal's "Diseases of the Chest, Throat and Nose;" and Buck's Otology (latest edition), and there are others nearly or quite as good.

The Public Service.

ARMY CHANGES.

Movements of Army Medical Officers under orders from the Adjutant-General's Office, Washington, D.C., March 2 to 8, 1900, inclusive:

Samuel K. Carson, acting asst.-surgeon, from New York City to the Department of California.

William Donovan, acting asst.-surgeon, from New York City to the Department of California.

Rufus T. Dorsey, Jr., acting asst.-surgeon, from Atlanta, Ga., to the Department of California.

James H. Hysell, major and surgeon, U. S. V., in addition to his present duties as medical supply officer at Santiago, Cuba, is assigned as disbursing officer of the Medical Department at that place, relieving Major Valery Havard, surgeon, U. S. A.

John F. Leeper, acting asst.-surgeon, from Denver, Colo., to the Department of California

John M. Lowery, acting asst.-surgeon, from Baltimore, Md., to the Department of California.

John L. Phillips, captain and asst.-surgeon, U. S. A., member of an examining board at Governor's Island, N. Y., *vice* Major Ezra Woodruff, surgeon, U. S. A., relieved.

Ardian S. Polhemus, captain and asst.-surgeon, U. S. A., from St. Francis Barracks, Fla., to Fort Leavenworth, Kans.

George L. Porter, acting asst.-surgeon, from Trenton, Tenn., to the Department of California.

Walter Reed, major and surgeon, U. S. A., from Washington, D.C., to Tampa, Fla., on special duty, and from Tampa to Havana, Cuba, to investigate the practical use of electrozone as a disinfectant and germicide as used in that city, returning thereafter to Tampa, Fla.

William H. Walker, acting asst.-surgeon, from Henderson, Ky., to the Department of California.

NAVY CHANGES.

Changes in the Medical Corps of the U. S. Navy for the week ending March 10, 1900:

Medical Director J. C. Wise, commissioned medical director from Feb. 7, 1900.

Medical Inspector E. Z. Derr, commissioned medical inspector from Feb. 7, 1900.

Surgeon R. P. Crandall, commissioned surgeon from Sept. 24, 1899.

Asst.-Surgeon J. T. Kennedy, appointed asst.-surgeon.

Medical Inspector G. E. H. Harmon, detached from the *Baltimore* and ordered to the *Oregon*.

Surgeon F. B. Stephenson, detached from the *Oregon* and ordered to the *Baltimore*.

Asst.-Surgeon W. B. Grove, detached from the *Brooklyn* and ordered to the *Baltimore*.

Asst.-Surgeon H. H. Haas, detached from the *Baltimore* and ordered to such other duty as the commander-in-chief of the Asiatic station may assign.

P. A. Surgeon J. C. Rosenbleuth, detached from the naval recruiting rendezvous, New Orleans, La., and ordered home and to wait orders.

Asst.-Surgeon F. E. McCullogh, detached from the *Nero* when put out of commission, and ordered to temporary duty on the *Independence*.

Pharmacist I. H. Hurd, ordered to additional duty on the *Massasoit*, Key West, Fla.

MARINE-HOSPITAL CHANGES.

Official list of the changes of station and duties of commissioned an non-commissioned officers of the U. S. Marine-Hospital Service for the seven days ended March 8, 1900:

Surgeon F. W. Mead, upon expiration of leave of absence, to proceed to New York City, and assume charge of the purveying depot during absence of Surgeon C. E. Banks.

Surgeon C. E. Banks, granted leave of absence for 7 days from March 6.

Surgeon P. C. Kalloch, to proceed to Mobile, Ala., for special temporary duty.

Surgeon A. H. Glennan, to proceed to San Francisco, Cal., for special temporary duty.

P. A. Surgeon T. B. Perry, to proceed to Atlanta, and report to the Governor of Georgia for temporary duty.

P. A. Surgeon G. M. Guitéras, relieved from duty at Matanzas, and detailed as quarantine officer at the port of Cienfuegos, Cuba.

P. A. Surgeon B. W. Brown, upon being relieved from duty at the Cape Fear quarantine station, to proceed to Cape Charles quarantine and assume command of the service.

P. A. Surgeon H. S. Cumming, to report at Washington, D.C., for special temporary duty.

Asst.-Surgeon R. H. von Ezdorf, relieved from duty at Atlanta, Ga., and directed to rejoin station at New Orleans, La.

Asst.-Surgeon T. B. McClintic, relieved from duty at Cape Charles quarantine station, and directed to proceed to Cape Fear quarantine, Southport, N. C., and assume command of the service.

Asst.-Surgeon F. E. Trotter, relieved from duty at Havana, and detailed as quarantine officer at the port of Matanzas, Cuba.

Asst.-Surgeon J. W. Schereschewski, relieved from duty at the Immigration Depot, New York City, and directed to proceed to Havana, Cuba, and report to Surgeon H. R. Carter for duty.

Asst.-Surgeon C. E. D. Lord, relieved from duty at the port of New York City (Stapleton), and directed to report to Surgeon L. L. Williams, Immigration Depot, New York City, for duty.

Asst.-Surgeon R. L. Wilson, granted leave of absence for 21 days from June 14.

[illegible] Surgeon C. W. [illegible], granted leave of absence for 7 days.

[illegible] Surgeon J. C. Ballard, granted leave of absence for 4 days from April 17.

HEALTH REPORTS.

The following cases of smallpox, yellow fever, cholera and plague, have been reported to the Surgeon-General, U. S. Marine-Hospital Service, during the week ended March 17, 1900.

SMALLPOX—UNITED STATES.

Alabama: Mobile, Feb. 24 to March 10, 11 cases.

Florida: Jacksonville, March 3-10, 2 cases.

Indiana: Evansville, March 3-10, 5 cases.

Kentucky: Covington, March 3-10, 6 cases.

Louisiana: New Orleans, March 3-10, 79 cases, 22 deaths.

Michigan: Detroit, March 5, 12 cases; Grand Rapids, March 3-10, 1 case.

Minnesota, Minneapolis, Feb. 25 to March 3, 10 cases, 2 deaths.

Missouri: St. Louis, Feb. 17 to March 10, 8 cases.

Nebraska: Omaha, March 3-10, 1 case.

Ohio: Cincinnati, Feb. 26 to March 9, 17 cases; Cleveland, March 2-10, 15 cases, 2 deaths.

Tennessee: Nashville, March 3-10, 1 case.

Utah: Salt Lake City, March 3-10, 4 cases.

Virginia: Portsmouth, March 3-10, 3 cases.

Washington: Centralia, Feb. 26, 150 cases; Seattle, Feb 10-17, 1 case; Tacoma, Feb. 24 to March 3, 4 cases, 1 death; Walla Walla, Feb. 21, 2 cases.

SMALLPOX—FOREIGN.

Argentina: Buenos Ayres, Dec. 1-31, 6 cases, 4 deaths.

Austria: Prague, Feb. 10-17, 12 cases.

Belgium: Antwerp, Feb. 10-17, 6 cases, 3 deaths; Ghent, Feb. 17-24, 1 death.

Brazil: Rio de Janeiro, Feb. 19-26, 20 cases, 15 deaths.

Canada—British Columbia, Feb. 8-28, 2 cases; Quebec, Gaspe Basin, March 2-9, 9 cases.

Ceylon: Jan. 13-27, 4 deaths.

Egypt: Cairo, Jan. 21 to Feb. 4, 11 cases.

England: London, Feb. 10-24, 10 cases.

France: Lyons, Feb. 10-17, 2 deaths; Nice, Feb. 14-21, 6 cases, 2 deaths.

India: Bombay, Jan. 31 to Feb. 6, 225 deaths; Calcutta, Jan. 20 to Feb. 3, 28 deaths; Kurrachee, Jan. 21 to Feb. 4, 22 cases, 12 deaths; Madras, Feb. 3-7, 1 death.

Mexico: Chihuahua, Feb. 24 to March 3, 8 deaths; Cuidad Porfirio Diaz, March 1-7, 2 cases; Mexico, Feb. 11-18, 27 cases, 19 deaths; Vera Cruz, Feb. 26 to March 3, 2 deaths.

Russia: Moscow, Feb. 3-10, 2 cases, 2 deaths; Odessa, Feb. 10-17, 15 cases; Riga, Dec. 1-31, 34 deaths.

YELLOW FEVER.

Brazil: Bahia, Feb. 3-10, 3 cases, 1 death; Rio de Janeiro, Jan. 19-26, 9 deaths; Santos, Jan. 19 to Feb. 9, 23 cases, 19 deaths.

Colombia: Panama, Feb. 27 to March 6, 2 cases, 1 death.

Cuba: Havana, Feb. 24 to March 3, 2 cases, 1 death.

Mexico: Vera Cruz, Feb. 24 to March 3, 2 deaths.

CHOLERA.

India: Bombay, Jan. 31 to Feb. 6, 7 deaths; Calcutta, Jan. 20 to Feb. 3, 76 deaths.

PLAGUE—U. S. AND INSULAR POSSESSIONS.

California: San Francisco, March 6, 1 death.

Hawaii: Honolulu, Feb. 17-24, 4 cases, 4 deaths; Kehei, since Feb 21, 1 suspect.

Philippine Islands: Manila, Jan. 20 to Feb. 3, 10 cases, 6 deaths.

PLAGUE.

Argentina: Buenos Ayres, March 10, present.

Australia: Adelaide, Feb. 28, present.

Brazil: Santos, Feb. 4, last case discharged.

India: Bombay, Jan. 31 to Feb. 6, 458 deaths; Calcutta, Jan. 20 to Feb. 3, 152 deaths; Kurrachee, Jan. 21 to Feb 4, 38 cases, 37 deaths.

Paraguay: Asuncion, Jan. 8-15, 14 deaths.

CHANGE OF ADDRESS.

C. F. Andrews, from Cyrustown to Clardyville, Tenn.

[illegible], from Bridgewater, S. D., to 4155 Grand Boul, Chicago, Ill.

C. E. Bowers, from Anthony to Wichita, Kan.

C. P. Brown, from Kansas City, Mo., to Chickasha, I. T.

C. Beck, from Coffeyville, Kan., to Vienna, Mo.

A. A. Clough, from 1349 California St. to Denison Bldg, Denver, Colo.

D. W. Craig, from 985 N. Halsted St. to 350 Webster Ave., Chicago, Ill.

A. J. Connell, from Scranton to Connell Bldg, Scranton, Pa.

P. F. Cleaver, from Oklahoma City, O. T., to Wichita, Kan.

J. S. Cohen, from 1431 Walnut to 1824 Chestnut St., Philadelphia, Pa.

W. T. Dowdall, from 7100 S. Chicago Ave. to 3816 Rhodes Ave., Chicago, Ill.

[illegible], Cal.

[illegible], Minn.

[illegible] Baker, [illegible], Wis.

[illegible] St., Milwaukee, Wis.

E. P. Gould, from Citizens Bank Bldg to 214 E. Montgomery Ave., Chattanooga, Tenn.

J. J. Hardy, from Cavanal to Sutter, I. T.

J. T. Hubel, from 57 Fort St. W. to 495 Gratiot Ave., Detroit, Mich.

Joe A. Hall, from Troy to 793 E. McMillan, Cincinnati, Ohio.

H. Klein, from German Hospt. to 791 S. Halsted St., Chicago, Ill.

[illegible], Tex.

[illegible] New York City.

J. E. Lacy, from Nashville, Tenn., to Alma, Tex.

I. L. McCurry, from Toccoa, to Hartwell, Ga.

A. Montgomery, from 3977 Cottage Grove Ave., to 3808 Ellis Ave., Chicago, Ill.

T. B. Morris, from Chicago to Illinois Steel Co. Hospt., South Chicago, Ill.

[illegible] to McIntire, Iowa.

H. S. Orme, from 175 N. Spring to Douglas Blk., Los Angeles, Cal.

F. R. Packard, from 225 S. 19th St. to The Professional Bldg., Philadelphia, Pa.

A. B. Perkey, from 393 S. Leavitt to Presbyterian Hospt., Chicago, Ill.

W. B. Powers, from 1929 Amsterdam to 38 W. 71st St., New York City.

S. G. Pake, from Neenah, Wis., to West Duluth, Minn.

G. G. Rahauser, from 2519 Carson to 415 Highland Ave., Pittsburg, Pa.

W. M. Reitzel, from Kansas City to Waterville, Kan.

J. T. Smith, from 69 Washington to 184 Dearborn, Chicago, Ill.

O. B. Schmall, from 110 E. 8th St., to General Delivery, Cincinnati, Ohio.

R. L. Shea, from Keokuk, Iowa, to 822 10th Ave., New York City.

M. A. Smith, from St. Joseph to Gallatin, Mo.

S. Sheldon, from Kansas City to Box 882, Trenton, Mo.

M. B. Tinker, from 2228 N. 17th to 1533 Pine, Philadelphia, Pa.

L. H. Tombaugh, from Sheridan to Waukegan, Ill.

W. B. Wallace, from Lima, Ind., to Manton, Mich.

R. S. Warren, from Clayton, Ala., to 1504 P St., Washington, D. C.

D. G. Wilson, from Journal Bldg. to 1001 Locust, Kansas City, Mo.

P. S. Wright, from Kent to Geneva, Ohio.

L. W. Zwisohn, from 331 E. 78th to 1085 Lexington Ave., New York City.

THE JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION

is published weekly, at 61 Market Street, Chicago, Ill. The subscription price is five dollars per annum in advance. Postage in the United States, Canada, Mexico, Guam, Porto Rico, and the Philippines, free; foreign postage, $2.50. Subscriptions may commence at any time. Volumes begin with the first issue of January and of July.

MEMBERSHIP IN THE AMERICAN MEDICAL ASSOCIATION.

The qualifications for membership require that the applicant be a member, in good standing, of a state or local medical society entitled to send delegates to the annual meeting of the AMERICAN MEDICAL ASSOCIATION. A list of these societies will be sent on request. Applications must be accompanied with a certificate showing that the applicant is a member of a recognized society, and should be sent with the annual dues—five dollars—to the treasurer, Dr. Henry P. Newman, 100 Washington Street, Chicago. Members receive the JOURNAL free. Subscribers to the JOURNAL may become members of the ASSOCIATION without expense if they are members of medical societies recognized by the ASSOCIATION, and those desiring to have their names transferred from the subscription to the membership lists should send certificates as above, with a receipt for their subscription to the JOURNAL, covering the current fiscal year.

FISCAL YEAR.

The fiscal year of the AMERICAN MEDICAL ASSOCIATION is from January 1 to December 31; and the annual dues paid by a new member cover only the fiscal year, no matter at what time of year the membership is obtained. Those who pay their dues and join the ASSOCIATION at the annual meeting in June, for instance, pay only for the fiscal year which ends with the December following, and the annual dues for the following fiscal year are payable the succeeding January, at which time the treasurer sends a statement to each member. Such members, however, are entitled to the JOURNAL for the full year, even though the membership be not continued.

PAPERS READ AT THE ANNUAL MEETING.

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NEWS.

Our readers are requested to send us items of news of a medical nature, also marked copies of local newspapers containing matters of interest to members of the medical profession. We shall be glad to know the name of the sender in every instance.

ORIGINAL PAPERS.

Articles are accepted for publication with the understanding that they are contributed solely to this journal, unless a definite understanding be had to the contrary.

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Half-tones, zinc etchings and other illustrations will be furnished by the JOURNAL when photographs or drawings are supplied by the author.

ADVERTISEMENTS.

Advertising forms go to press eight days in advance of the date of issue. Therefore, in sending in copy, time should be allowed for setting up advertisements and for the sending and return of proofs. Advertising rates will be made known on request.

CHANGE OF ADDRESS.

In ordering a change of address it is important that both the old and new address be given.

REMITTANCES.

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The Journal of the

American Medical Association

VOL. XXXIV CHICAGO, ILLINOIS, MARCH 31, 1900. No. 13.

Original Articles.

THE HUMANE SIDE OF WARFARE.

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CHICAGO.

War has always been and always will be a great national calamity. The deliberate, legitimate killing of men on the field of battle has remained as a necessary evil and continues to receive the sanction of the most civilized peoples when it becomes necessary to protect the rights of nations, tribes or individuals, and to diffuse liberty and humanity by a contest of arms.

Under the influence of modern civilization the legitimate causes for war are becoming less and less from one century to another, and warfare itself more and more humane. The battlefield itself is rapidly losing its barbaric aspects and is assuming the scene of a dignified, manly contest between the armed forces representing the *casus belli*. Personal ambition, the spirit of revenge, religious fanaticism, individual and national greed, which so often have provoked war in the past, seldom suffice now in inciting nations to a resort to arms. A declaration of war among civilized nations at the present time means that some great principle concerning the rights of an individual, community, or nation is at stake, and which can not be adjusted by peaceable measures. The people and not potentates take upon themselves the responsibility of deciding between peace and war. Nations no longer blindly follow the dictates of their rulers in exchanging the plowshare for the sword. Those in power consult the public pulse before they declare for war. The public press, that moulds the opinions and governs the judgment of the masses, has become a great power in the administration of public affairs, and more especially in arousing or abating the spirit of warfare. When the *casus belli* is recognized and endorsed by the people, it kindles the flame of patriotism, which for the time overshadows political convictions, religious sentiments, and sectional feelings and interests, and harmonizes action in the defense of the flag which represents their rights and honor. The most pleasing features of modern warfare in the defense of a just cause, recognized as such by the government and endorsed by the people, are the efforts made in all civilized countries to make it more and more humane. The intense hatred toward the enemy, the mutilation of the dead, murder of the wounded, and robbery that have disgraced the battlefields of the past are no longer witnessed when civilized nations take upon themselves the responsibility of settling international disputes by calling into the field their armed forces. The horrors of Sebastopol, Gettysburg, Solferino, Waterloo, Sedan and other great battles during the present century will have no equal in the future. Ignominious death from cold, starvation and preventable diseases will not figure so conspicuously in the mortuary records of future wars as they have done in the past. Governments and nations are beginning to realize more fully the importance of providing the soldier with food and clothing conducive to the preservation of his health and bringing into effective action sanitary rules and regulations calculated to guard against preventable diseases. Each army is accompanied by an adequate force of men qualified to take proper care of the sick and wounded. Ambulances, hospital ships, and trains are furnished and equipped for the early and comfortable transportation of the sick. Surgeons specially trained for their work accompany the combatant to the very firing line, to extend to the wounded the blessings of the first-aid dressing almost the moment the soldier is struck down by the enemy's bullet. Field hospitals, with all the modern facilities for the sick and wounded, and competent, well-trained nurses, male and female, follow the footsteps of the moving army, ready at a moment's notice to take proper care of the disabled soldiers. The prisoners of war are safe in the enemy's camp and receive the most humane treatment, and the soldiers incapacitated as combatants are regarded and treated as neutral, friend and foe, without distinction. The gospel of humanitarian warfare was conceived by Henry Dunant during and after the battle of Solferino and found full expression in his now famous pamphlet, "Souvenir de Solferino." His suggestions to militate the horrors of war laid the foundation for the proceedings of the Geneva Convention, which convened April 22, 1864. The Red Cross Association, the fruit of the Geneva Convention, has its representative organizations in all parts of the civilized globe and is the pioneer agency in disposing of the barbarities and unnecessary cruelties of active warfare. Other noble organizations have sprung into existence everywhere, ready and anxious to be helpful to the soldier in the field. During the Civil War the North alone furnished 2,600,000 men, to restore the shattered Union and to protect the flag of which every American citizen is now so justly proud. Of this immense army 280,000 never returned to enjoy the blessings of a reunited country. The unavoidable deprivations and sufferings during that great conflict live in the memories of many aged veterans who survived, and their individual experiences are detailed around the camp fires from time to time. It was during that war that the patriotic men and women at home placed in the hands of the sanitary commission $22,000,000 in cash, and perhaps nearly an equal sum in other contributions to relieve the immediate needs of the soldiers in the front and rear. A similar effort characterized the action of the various benevolent associations organized during the short but epoch-making campaign of the late Spanish-American War. These actions speak louder than words in announcing to the world the good and joyful news that warfare, cruel as it necessarily and always must be, is nevertheless assuming a more humane aspect

Recent well-meant efforts, inaugurated from a source from where it was least expected, made for the purpose of substituting for war law and arbitration in the settlement of international difficulties, have not yielded the expected results. It is a move in the right direction, but it is a long time ahead of the requisite degree of civilization over the whole inhabited surface of the globe to justify the disarmament of the powerful nations so actively engaged, at the present time, in enlightening and educating the ignorant and superstitious in the most remote parts of the world. In due time the vision of the prophet Micah will become a reality, but the conditions upon which it is based must first be fulfilled, and the implements of warfare have an important mission to perform before that happy dream of perpetual peace will become a reality. The geography of the world is in need of a revision, and much of that work will have to be accomplished by a resort to the sword. Nations, like individuals, have their grievances, which often can only be adjusted by force after peaceable, friendly measures have utterly failed. The Lord of battles still reigns and occasionally finds it feasible and wise to assign to the children of men the bloody task of correcting wrongs by a contest of arms. With the progress of civilization, well-founded causes for war are becoming more and more infrequent, and warfare itself more and more humane. The science and art of war have kept well abreast with the wonderful discoveries which have characterized the closing century. Brute force, so essential in a successful hand-to-hand encounter, has been made to yield to the employment of long-range arms of wonderful design and most perfect mechanism. The new weapons of destruction have recast military strategy. The wars since 1870 have demonstrated to the world that victory is achieved by nations which recognize the importance of modern methods of warfare and which are ready for action at a moment's notice, and by military leaders who are competent to devise well-matured plans ahead, and who have the necessary foresight to execute them at the opportune time. While war, with all its cruelties, suffering and privations, can not be entirely dispensed with at the present time, it is a source of consolation and an indication of advancing civilization to note the growing tendencies manifested everywhere to divest it of all unnecessary horrors and to impart to it a humane aspect by establishing international rules and regulations in consonance with the humanitarian spirit which prevails at the present time, and which is beginning to invade the very limits of civilization. The Geneva Convention and its precious fruit, the Red Cross Association, and the late Peace Conference, are the mouthpieces of all humanitarians who have labored faithfully and incessantly to lift away from the battlefield the dark cloud of barbarism and unnecessary cruelty, and illuminate it with the bright, warm sunshine of humanity. The Red Cross and its practical semblance, the red crescent in Mohammedan countries, follows the battleflags of all armies which adhere to the conditions of the Geneva Convention, and around them are gathered the sick and wounded with the assurance of having reached a place of safety, and with the expectation of receiving kindly treatment. It is in these cases, over which the neutral flag waves in the midst of the tumult of war, that the disabled warriors, friend and foe, meet and receive the same treatment, regardless of the uniform they wear or the flag to which they had sworn allegiance and were engaged to defend. These sacred neutral grounds, so near the line of battle, on each side are the places where the most touching scenes are enacted, which exhibit in a most vivid manner the humane side of modern as compared with ancient warfare. It is my purpose to describe a few instances of this kind which happened during the late Spanish-American War during my service in the field as chief of the operating staff. While on temporary duty at the First Division Hospital, before Santiago de Cuba, I was given an opportunity to visit the enemy's camp on an errand of mercy. A few days after the battles of El Caney and San Juan, I was invited, by Dr. Goodfellow, to accompany him on a trip to El Caney, and from there to the Spanish line, as he had received instructions from headquarters to transfer a number of wounded Spaniards across our line. On that day hostilities were suspended, and with proper precautions we had no fear of being molested on our way. Santiago and the Spanish army were enclosed inland by the besieging army arranged in the form of a crescent, and our battleships, like a row of silent, motionless sentinels, guarded the outlet of the harbor. Escape in either direction was impossible. For once the Spanish army had found an opportunity to show its fighting strength on Cuban soil. The battle of El Caney and the valiant charge on San Juan Hill were well calculated to convince the Spaniards what the American soldiers were capable of doing. The commanding general of the Spanish forces knew well that one more decisive battle would bring about certain defeat, and at the expense of hundreds of lives of his countrymen who were pledged to defend the interests and honor of Spain at any cost. The experiences of the preceding few days wrought a meditative mood in his mind, and he was then seriously considering the terms of surrender which had been made, and for the contemplation of which the white flag was planted on the breastworks on both sides for a space of twenty-four hours. In number, the two armies were nearly equal; the sea was open to us for reinforcements, provisions and ammunition; the harbor of Santiago was blockaded by our victorious, invincible fleet, ready to pour shot and fire into the besieged, deserted city, at a signal. It was under such conditions that our memorable visit to the Spanish camp was made. Although our troops in the trenches were resting on their arms, there was great activity between the fighting line and general headquarters for miles distant. Troops were being rushed to the front to occupy the trenches in turn or to take part in the attack on the Spanish line in case the terms of surrender were not accepted at the expiration of the specified time. Ammunition trains and batteries were on the way toward the fighting line to complete the necessary arrangements for the final attack. Orderlies hastened to and from the front conveying orders and messages in both directions. Active preparations were being made at the field hospitals for the reception and prompt treatment of the expected wounded. The continued rains had made the military roads almost impassable for man and beast, but the work was being accomplished with marvelous promptitude in spite of all obstacles, under the stimulus of the occasion and the intense patriotism which animated every soldier. The day was extremely sultry after the heavy rains, and one of the most uncomfortable and hottest of the whole campaign. The sun appeared on a cloudless sky, and under the burning, almost scalding, rays the vapor rose in the form of an almost suffocating mist during the early hours of the morning. Four ambulances, the necessary number of hospital-corps men, and a small detachment of cavalry were sent in advance to El Caney, and we rode over a narrow, ill-defined trail, through the dense forest and deserted plantations, in the same direction by a short cut, expecting to meet the party at El Caney about noon. As we rode through patches of high guinea grass, we repeatedly scared up the wild guinea-hen, the game bird of the country, singly and in pairs. In the forests and fields we found, here and there, small encampments of our soldiers with nothing but their simplest field outfits, waiting anxiously for orders to advance. As we approached the neighborhood of El Caney, the scenes of active warfare were more frequent and pronounced. Men, women and children, the unfortunate refugees from Santiago, sought shelter in the forest, and rambled about aimlessly in search of cocoanuts and mangos with which to quench their thirst and satisfy their sense of hunger. Recent graves showed us where some of our comrades had fallen in the battle but a few days before. Numerous diminutive new mounds indicated where dead horses were incompletely buried. The stench in some places was almost unbearable, and had attracted a large number of vultures and crows from a distance. It is doubtful if these flying scavengers of the country ever before found such a rich harvest, for the thin crust of loose soil over the putrefying carcasses could be readily scratched away, furnishing them with food for weeks and months to come.

We found El Caney densely packed with refugees. The little town perched on the hill has its central square, and it was here that the mass of humanity was most compact. At least fifteen thousand had sought refuge here, and it is difficult to imagine a more motley crowd. Men and women, old and young, rich and poor, educated and ignorant, well and sick, were struggling for something to eat and drink. Side by side with the ragged and more than half naked could be seen well-dressed men and women, but money was of little use because there was little or nothing to buy. We found it very difficult to force our horses through the surging, seething mass of humanity to the old stone church, built in the center of the village on the very crest of the hill, where we met our ambulance train at about 2 p.m. The entrance of the church was guarded by an American soldier, and a young officer was in charge of the small detachment that had been detailed to maintain peace and order in the little town so recently liberated from Spanish rule. Inside the church we found the wounded prisoners of war we were to return to their command. They presented a sight which when once seen will never be forgotten. All were in bad physical condition in consequence of disease and inadequate food supply. The faded uniforms of striped calico bore evidences of prolonged usage. The facial expressions were such as result from a continuation of pain and the depressing effects of defeat. In thought and language they were indeed strangers in the land they yet called their own. Perhaps their only consolataion at the time consisted in the fact that their prison was a house of worship. But what a change even this sanctuary had undergone during the short siege! Undoubtedly the Spaniards took possession of the church before and during the battle. Everything that would remind one of being in a place of worship had been removed, including the altar and baptismal font; nothing but the bare walls and stone floor remained. The priest had deserted the place where he was in the habit of chanting mass during the early morning hours, and he undoubtedly took away with him what he considered sacred, as we found the vestry as desolate and empty as the interior of the church. In the vestry we found a representative of the American Red Cross Association, who was dealing out, from the limited food-supply in his possession, flour and crackers in small quantities to the imploring, hungry crowd that occupied every available inch of space for some distance beyond the vestry door, each impatiently awaiting his turn to receive from the advance agent of that organization the much-needed but limited food. The soldiers who were in charge of the prisoners treated them kindly, but it was beyond their means and power to procure for them the food and comfort they required, and what made the situation still more distressing was the fact that they were unable to converse with each other. A word of comfort or assurance under such circumstances is often more effective than medicine, and more beneficial than food and drink. The more seriously wounded were lying in a row on the bare, stone floor. Among these I found one who was shot in the middle of the back, completely paralyzed below the seat of injury, showing that the spinal cord was severed by the bullet. He had passed the stage of suffering, the wound had become infected, he had a high fever, the eyes were staring, the facial expression meaningless, pupils contracted, pulse almost imperceptible, the extremities cold and livid. It was plain that the infection had extended to the meninges of the spinal cord and brain, from the effects of which he was then dying. The remaining sixteen were in a condition to justify their transportation. The curious motley crowd watched the loading of the four ambulances with the mangled human freight, with no special interest, and certainly without any outward manifestations of sympathy. The contents of my canteen gave out long before our work was done, and, with a boldness engendered by torturing thirst, I approached more than one soldier, begging for a drink of lukewarm water of doubtful source. I had been an ardent advocate of the theory that prophylaxis against disease during an active campaign consisted largely in procuring for the soldier pure or sterilized water; the stern experience of that day gave me an excellent opportunity to study the subject from a practical standpoint. Thirst is a terrible tyrant and will listen neither to argument nor reason. I never questioned the contents of the different canteens that were so liberally offered on request, as long as they relieved the torturing thirst, and I made up my mind that under similar circumstances every soldier will satisfy thirst by any kind of water within his reach. It is under such conditions that we find it much easier to preach than to practice, as suffering will not be governed by any fixed rules and regulations as long as immediate relief is in sight beyond their limitations, even at the risk of remote disastrous consequences. On leaving headquarters in the morning we were informed that lunch would be served at the church on our arrival. On the completion of our work a can of the now famous roast beef and a few "hard tacks" were produced; from where these articles came we did not know, but they were very much appreciated at the time, as we were not only thirsty but were craving for something to eat, and we had been in training long enough to be content with army rations furnished during a forced campaign in a semitropical country. After our hunger was appeased and the thirst quenched, the little procession started for our line, and in the direction of General Lawton's headquarters, where, on our arrival, we made a short stop for the purpose of securing the services of an orderly and to obtain a white flag with which to give the signal beyond our line as soon as we would come in sight of the Spaniards. With these additions the ambulance train again advanced over the principal road leading to Santiago, but came to a standstill when we were about to cross our breastworks, at a point where a deep ditch intersected the road, which had been made as a matter of precaution in case our troops had to retreat, when the Spanish artillery would have lost some time in pursuit while repairing the road. The officer in command of the troops at that point immediately detailed a few men who, in a remarkably short time, made the road passable for our ambulances, and we resumed the journey in the direction of Santiago. From our breastworks the Spanish line was in plain sight and the principal buildings in Santiago could be very plainly discerned. What attracted our attention most was the enormous Red Cross flag which floated over the military hospital. The breastworks on both sides were nearly on the sand level, the heads and shoulders of the Spanish soldiers who occupied the trenches could be readily outlined, and a few, who were above the trenches, appeared like children moving about in different directions. Between the two lines was a lower hill covered with a dense forest. The valley between this hill and the Spanish line was open, so that in case of a charge the Spanish would have had a great opportunity to mow down the advancing columns before they could reach their breastworks. The elevation occupied by our soldiers was clad with shrubs and forest trees on the Santiago side, all along the road as far as the valley. We left the ambulances in a protected place, and with the orderly rode slowly in the direction of our enemy. As soon as we reached open ground we were in plain sight of the Spanish guns that seemed to stare angrily in our faces, and the men on the breastworks and in the trenches were in plain view. The orderly now gave the signal with the white flag, which was replied to almost in the same moment by the Spaniards, showing that they were wide awake and closely watching the space between them and our line. Two officers came toward us and we advanced slowly to meet them. When we reached our side of a bridge, which spanned a small stream near the city limits, we were ordered to halt. We dismounted and awaited their arrival. When within proper distance we saluted and they returned the compliment in genuine military style. We explained to them the object of our visit, whereupon the formal introductions were made and we were welcomed by a hearty grasp of the hand. The officers we met were two lieutenants, well-educated and polished gentlemen. Our orderly returned to bring the ambulances to a point designated by the officers on the Spanish side of the bridge. Before the ambulances arrived, a captain, who, to judge from his appearance, had evidently seen long service, joined us. An orderly who accompanied him brought refreshments, such as could be obtained in the Spanish camp, which were enjoyed by us all. Cigarettes were freely passed around and all kinds of subjects outside of the pending war were freely discussed in the shade of a group of palm trees. About the time our ambulances arrived a surgeon with thirty hospital corps men, and the necessary amount of litters, made his appearance. On the left sleeve of the uniforms of the hospital corps men was sewed a red cross made of ordinary red flannel. The litters compared very favorably with our own. The patients were taken from the ambulances and were formally transferred to the Spanish authorities represented by the officers. The surgeon was a middle-aged man with a splendid physique, brown hair, and a beautiful, well-trimmed, flowing beard of the same color, blue eyes, and most delicate complexion; in fact, he was one of the handsomest men I have ever seen. When he ascertained my name he expressed both surprise and pleasure to have met me under existing circumstances. He recounted some of the hardships of the Spanish army in Cuba, said that the climatic influences and disease reduced the fighting force fully 30 per cent. in three months after landing, and alluded feelingly to the scanty provisions on which the army had to subsist after the siege of Santiago was commenced. Among other things, he said that the Spanish army had attempted to fight the Cubans for four years, and that the Cubans would not fight, but would maraud the country and then retreat to inaccessible jungles, but since the Americans came to Cuba they had no reason to make a similar complaint. They all seemed greatly pleased when I proposed we should meet again in Chicago after the close of the war. The animated, most friendly and cordial conversation protracted our visit until sundown, when the time had come to bid our new friends goodbye, which was done with a strange, mixed feeling, considering the circumstances which had brought us together and the nature of the environments. After shaking hands we mounted our horses, but before we had time to start were requested to dismount; the final parting included the Spanish embrace. When we were again in the saddle I turned my horse in the direction of our line, riding slowly, and never looked backward. I have no doubt that our friends from the other side returned to their headquarters with similar feelings. A decisive battle was expected the next day, and with the fortunes of war so uncertain, it seemed more than probable that some of us might not witness another such glorious sunset that lent such an exquisite charm to the parting hour. In the event of a great batte we had to expect wounded prisoners of war on both sides, perhaps followed by a repetition of a similarly impressive scene to that in which we had just participated. To me this meeting was an instructive object-lesson, demonstrating the humane side of modern warfare. Without much loss of time, and without any serious difficulties, the poor wounded prisoners were returned to their commands, their officers, their surgeons, their friends, and were again brought in communication with their own country. Officers of two opposing armies, within short distance and on the verge of a great battle, met on the most friendly terms and spent the hours of the closing day in a visit that will remain memorable to them all. The affectionate parting made strong ties of friendship between men who, on the next day, might meet again as determined foes in mortal combat. Nothing to my mind is nearer akin to the spirit of true Christianity, and nothing is a better imitation of the work of the Good Samaritan than the prompt exchange of the wounded prisoners of war. Military authorities may differ in regard to the advisability of exchanging prisoners of war, but humanity demands a speedy return of the sick and wounded. I saw many sick and wounded prisoners of war both in Greece and Turkey; all of them suffered from homesickness, although they were well cared for on both sides, and this affection, so common under such circumstances, did much in retarding recovery and in increasing the mortality.

That the Spaniards respected the humane side of warfare, there can be no longer any question, although during the war the press frequently took occasion to state the contrary. It was asserted that the Spaniards did not respect the Red Cross, and that wounded and non-combatants under the protection of the Red Cross flags were frequently fired upon. I have reason to believe, from what I saw during my service in Cuba and Porto Rico, that those reports were made without substantially reliable foundataion. It is true that physicians, litter-bearers and wounded on the stretchers, in being conveyed to the rear were killed and wounded, but such accidents will occur during any battle as long as the first-aid dressing is made, as it should be, near the firing line. In Cuba, the case of a lieutenant who was wounded in action came under my observation; he was conveyed to the rear by the men of his own company, and on his way to the field hospital was shot twice while on the stretcher. It certainly seems more than improbable that any soldier would concentrate his fire on a man already disabled. It is more likely that the two last wounds were made by aimless bullets.

The modern small caliber weapon sends the deadly missile a distance of three miles, and injuries to non-combatants within this range are unavoidable. It must also be remembered that the small Red Cross flag used in the field can not be distinguished with the naked eye for anything like the distance traveled by the modern bullet. No gross violations of any of the articles of the Geneva Convention can be laid at the door of our vanquished enemy. Perhaps one of the best proofs that the Spaniards conducted the war on the most humane principles is to be found in what occurred during the first skirmish after the landing of our troops in Porto Rico. A small Spanish force occupied the summit of one of the foothills, and opened fire. Our troops made a charge in which one of the Pennsylvania regiments took part. A young private of this regiment, in his enthusiasm to drive the Spaniards from their position, advanced far beyond his line. The day was extremely hot, and when he came within a short distance of the brow of the hill he was overcome by the severe exertion and the intense heat and fell unconscious. A Spanish surgeon immediately rushed forward to render first aid, administered stimulants, and had him at once conveyed on a stretcher to our line. I saw this young hero a few days later, in the hospital at Ponce, rapidly recovering from his illness, proud of his military career, and full of gratitude to the one who saved his life on the battlefield. An act like this stands out as a beacon light of the humane side of warfare, and the chief actor deserves the gratitude of our nation, and is worthy of a medal of honor from the country he represented so well.

Another very pleasing evidence of the humane nature of recent warfare came to my notice at Mayaguez, Porto Rico. After a somewhat lively skirmish between our troops and the Spaniards near the suburbs of this prospering little city, the enemy retreated and the wounded from both sides were conveyed to the same hospital. I found the Spaniards on one side of the large room and the Americans on the other, and all of them were under the care of the same nursing sisters of a Spanish order, who, in their ministrations, made no distinction between friend and enemy. To them the uniform the soldier wore made no difference when their services were needed. The Red Cross flag floated over the building that had been temporarily converted into a hospital, and the inmates of both nations received the same kind and considerate treatment. It was interesting to observe how the men, who but a few days before did their utmost to kill or wound each other, were now on the most friendly terms. They exchanged little articles of comfort, such as tobacco, cigarettes, fruits and relics of the war in a manner that did not recall the experiences of a few years ago. They all felt that they had done their duty to their respective countries and now the victors and the vanquished were under the same roof, in care of the same nurses, and were making ties of friendship which, I have no doubt, in many instances will remain permanent. I would cite additional minor observations which would corroborate the above narratives from the late Spanish-American War, and which would confirm the statement that the humane side of warfare was strictly observed on both sides. I can not close without again referring to the work done by the American Red Cross Association from the beginning to the close of the war. Two ships, chartered for their special use, brought provisions, delicacies, medical supplies and articles of comfort to the coasts of Cuba and Porto Rico at a time when they were sadly needed. The nurses furnished by the Association did excellent service wherever they were sent. The people, regardless of political views or religious convictions, had confidence in the work of the Association and made liberal contributions. I am sure that every soldier who participated in the war, at home or abroad, has some pleasant recollections of its work, and a deep sense of gratitude for those who have made it what it is, the central figure, the most earnest advocate and the most powerful agent of the modern movement to bring civilized warfare on a most humane basis. Let us hope and pray that international arbitration may be instrumental in averting war whenever such a course is compatible with the mission and honor of nations, and that when war is inevitable, it may be characterized by the spirit of the age which breathes humanity, and demands the best and most considerate treatment of the sick and wounded of the belligerent armies, regardless of the uniform they wear or the flag they defend.

A PATHOLOGIC STUDY OF EIGHTY TUMORS OF THE MAMMARY GLAND, WITH SPECIAL REFERENCE TO THE OCCURRENCE OF MALIGNANCY.*

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The frequent occurrence of tumors in the mammary gland, the question of their benignancy or malignancy, and the evils which so commonly arise from the waiting policy in these cases, make requisite a knowledge of the microscopic anatomy, manner and possibilities of growth of these tumors, if a rational treatment is to be carried out. There has long been a general classification of tumors in all parts of the body as benignant and malignant. Whether such a classification is possible in neoplasms of the mammary gland is doubtful, and with this doubt I present a microscopic analysis of eighty tumors of the breast. These tumors are largely from Dr. Nancrede's clinic at the University Hospital, during the years 1892 to 1899. A few were sent to this laboratory, by physicians about the state, for diagnosis. The cases may be classified according to their histologic structure.

Fifty-six of the number warrant the diagnosis of carcinoma, the diagnosis resting on the definition of an epithelial tumor, whose cells grow loosely in the connective tissue spaces without a basement membrane, growing both by infiltration and metastasis, and therefore the most malignant of tumors.

Carcinoma Medullare.—Of these, ten are of the medullary variety, the cells being in great preponderance over the stroma. The relation of cells and stroma varies markedly in the different cases, and even in the same tumor. The cells lie in small masses with fine strands of connective tissue between them; or, the nests may be very large, the stroma largely consisting of coarse bands from which finer strands extend between the cell masses. One arrangement frequently merges into the other. An alveolar appearance is also presented, the cells having shrunk away from the enclosing bands of stroma. The cells vary in size from two to several times that of a leucocyte, there being a relation between the size of the cells and the closeness with which they are packed together. They are [illegible], the prevailing shape being round or oval. The epithelial type is always preserved, i. e., oval nuclei, granular chromatin, and large proportion of protoplasm. In every case a part of the cells show a granular, swollen protoplasm and fatty degeneration. The fat appears as small globules in the protoplasm. Three cases show a necrosed cheesy condition, and [illegible], fragmentation of nuclei and cell-bodies; that is, conditions which are the beginning of necrosis. In such cases the small cell infiltration and edema are marked about the areas of necrosis, indicating an inflammatory reaction. A few giant cells are usually present, but these do not show the nuclear division which is so frequently found in the sarcomata.

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*From the Pathological Laboratory of the University of Michigan, Ann Arbor.

The stroma consists of a fibrous connective tissue of varying density. Although as a rule it is not the dense tissue of few nuclei found in the scirrhous variety, there are usually small islands of scirrhus present. The stroma is myxomatous in two cases, and these two are also partially necrosed. The myxomatous change probably preceded the necrosis, for in the necrotic areas are found bits of the mucoid tissue. The stroma is usually edematous. The vascular supply of these tumors consists largely of capillaries lying in the connective tissue, being in no case in contact with the cells. The vascularity is in inverse proportion to the density of the stroma. The capillaries are frequently dilated and congested. In the denser part of the stroma there are few larger vessels.

In four of the ten, remnants of the gland ducts—or adenoma—persist; and in three of them the cells can be seen to have proliferated, filling the lumina of the ducts and growing into the lymph-spaces as rods and nests. In such areas it is easy to see that the carcinoma cells are larger than the parent cells, and that the nuclei are hyperchromatic. In one case the lobular arrangement is retained, indicating that the growth had been by a general proliferation of the epithelial cells. Extension into the fat is often shown by small nests and threads of cells growing between fat cells. In such areas the carcinoma cells are frequently very small and scarcely to be distinguished from leucocytes. In the areas of proliferation and extension there is often an inflammatory infiltration and edema. Three of the ten cases present in part also the characteristics of the simplex form. These are, therefore, diagnosed carcinoma simplex et medullare.

Carcinoma Simplex.—Twenty-one cases come within the diagnosis of carcinoma simplex, the occurrence of cells and stroma in relatively equal parts being the essential characteristic. The arrangement of cells and stroma varies. The cell nests are small and the stroma is in fine strands, or the nests are large and the stroma in heavy bands. The cell nests may be round, oval, irregular or in long narrow rods. In one case the parts examined showed the latter arrangements throughout. There is frequently an alveolar arrangement in which the cells have shrunk away from the walls, thus distinguishing from alveolar sarcomata, in which the cells are always adherent to the enclosing bands of stroma. One tumor frequently shows all of these forms. Moreover, in the same tumor the type of growth may vary from medullary to scirrhous. None of these, nor any of the other cases, conforms to a fixed type. Neither from a clinical nor microscopic standpoint is there a distinct difference between the various forms. All that the names given should mean is that in a given tumor there is a preponderance of the indicated structure. As before stated, three cases were diagnosed carcinoma simplex et medullare.

The stroma consists of fibrous tissue which is soft and rich in nuclei, or dense and scar-like. In half of the cases the stroma has undergone a mucous degeneration, which in one case is so far advanced that the diagnosis of carcinoma simplex myxomatous is given. The cells have the same characteristics as in the medullary form, often showing more marked degenerative changes. In one case there is an early stage of mucous degeneration of the cell nests. The same tumor is partially necrosed. In the areas of necrosis may be found bits of the mucoid substance, which indicates that the myxomatous change preceded the necrosis. In three other cases there is necrosis, one showing calcareous deposits in the caseous areas. Around these areas there is a marked small cell infiltration.

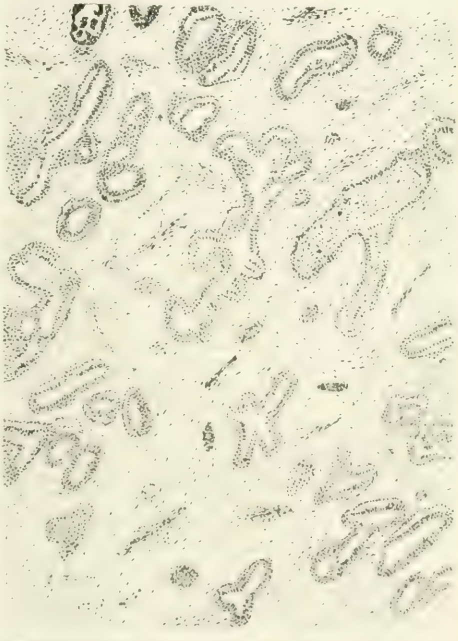
In one case fatty degeneration of the cells, granular and swollen protoplasm, a myxomatous stroma, diffused chromatin, and necrosis indicate the steps in the retrograde process. The vascularity of these cases varies with the density of the stroma. In those tumors whose stroma is soft and rich in nuclei, there is a rich capillary supply in the strands of tissue; while in cases with a dense fibrous stroma there are but few blood-vessels. In other words, as the stroma develops from a soft to a hard tissue, the increasing density cuts off the blood-vessels, as it does in any other tissue which becomes scirrhous. In the denser parts of these tumors are found a few larger vessels with very thick, and often hyaline walls, indicating an obliterating endarteritis or phlebitis.

In one case which retains a lobular arrangement the blood-vessels are those of a normal gland, but much dilated and congested. This case also shows an invasion of the vessels by the carcinoma cells, giving the appearance of emboli. Whether it is a case of embolism, or infiltration through the vessel wall, could not be determined. In either case the malignancy is much increased by the danger of hematogenous metastasis. In nine of the twenty-two cases there is a marked small cell infiltration and edema. This is found oftenest at the advancing border, or surrounding a necrosed area. Neither of these conditions may be present. In six specimens there remain parts of the normal gland or adenoma, and in these cases may be seen a proliferation of the epithelial cells both into the lumina of the ducts and the surrounding lymph spaces. Several times the infiltration of the fat is shown, as mentioned above. In two cases the subjacent pectoral muscle shows infiltration by the cancer cells. The muscle substance is destroyed by the ingrowth, even at some distance from the actual infiltration, the muscle fibers showing atrophy, cloudy swelling and Zenker's necrosis. This suggests that there may be a toxin elaborated by the cancer, which has a poisonous effect on the surrounding tissues. In two cases the tumor has a lobular arrangement, suggesting that the growth had occurred by a diffuse proliferation of the gland cells. One typical carcinoma simplex shows tuberculous changes with epitheloid and giant-cell tubercles in the tumor mass.

Carcinoma Colloides.—Five cases, diagnosed colloid carcinoma, are characterized by a mucous degeneration of the cells, commonly accompanied by a similar degeneration in the stroma. In every one the proportion of cells and stroma is about equal, which indicates that these cases, before the mucoid changes occurred, would have presented the characteristics of carcinoma simplex. The first case shows an early stage in the process. Many of the cell nests show no mucous change, but the other degenerations mentioned previously. Other nests show, about the borders, a change to a stringy, granular substance, while others are completely replaced by this material. Parts of the gland structure remain, and these show the development of the cancer by the cell proliferation. This case indicates the series of steps by which the colloid carcinoma is developed. The remaining four show intermediate degrees between the first case and one in which the cells have completely changed to a granular, stringy substance which stains a deep blue with hematoxylin. The stroma is also changed to a similar material of the same staining reaction. The degeneration of the cells may begin either at the periphery of a nest, or at the center. In one case the latter change had largely taken place, giving the nests a cylindric appearance. In one of these cases carcinoma-cell nests were found in several of the blood-vessels. These may be emboli. In three cases there is an inflammatory infiltration of small cells, in one necrosis of large areas.

Carcinoma Scirrhosum.—Ten cases are scirrhus, the stroma being in greater proportion than the cells. This arrangement prevails, but in each there are areas which conform to the definition of adenocarcinoma and of the medullary and simplex forms. The cells are scattered in the stroma in large or small irregular nests. The stroma consists of fibrous connective tissue of different degrees of density. It may be comparatively soft and rich in nuclei, or very hard and scar-like. The softer portions are in the newer tissue, that is, in areas of proliferation and extension. The stroma is frequently edematous. In two cases it had undergone a diffuse mucous degeneration, and these, therefore, are called myxomatous scirrhus. The cells are like those described in the other forms, showing the same retrograde changes and areas of necrosis. As before, the blood-supply is scanty in the denser tissue, while in the areas of extension may be seen capillaries lying in the cell masses, in every case surrounded by connective tissue. In three cases portions of the gland ducts, or adenoma, remain. These show proliferation of the cells into the lumina of the ducts, and also into the lymph-spaces. Five cases show invasion of the fat by the tumor cells, and in such areas the growth is medullary, from which there is seen a transition to the simplex and scirrhous types. Such cases seem to show the origin of the scirrhous type. In areas showing active infiltration of the fat the tumor cells are often very small, with hyperchromatic nuclei, and scarcely to be distinguished from leucocytes. In one of the ten there were calcareous deposits in the ducts. In two there is a marked inflammatory exudate at the advancing border.

Adenocarcinoma.—Nine tumors show the general plan of the gland, whose epithelial cells have proliferated, i. e., the cells have grown away from the basement membrane into the lumina of the ducts and lymph-spaces. Among these are ducts of which it can not be said whether they belong to adenomata or to the normal gland; while others show areas which correspond to the normal gland, and also areas in which the gland is replaced by enlarged and dilated ducts and new growth of connective tissue. These two conditions merge one into the other. The nine have, in common, an abnormal growth of the epithelial cells. In one case there is a diffuse proliferation of the cells, which have grown into the ducts without much extension into the surrounding tissue. In other cases this is not so marked, the rods of cells extending into the lymph-spaces and the formation of small nests being the striking point. Two cases have so far developed that areas of the simplex type are seen. The stroma is never of the scar-density found in the scirrhous form. In four cases the connective tissue is myxomatous. In two cases there is a marked edema. In the tumors showing the distinctly adenomatous type with an increase in the connective tissue, it is probable that the development of the carcinoma was secondary to that of an adenofibroma. One case especially shows this change. The epithelium of a distinct adenofibroma shows a malignant proliferation, and the diagnosis might properly be carcinomatous adenofibroma; one case shows the beginning of an intracanalicular growth. The cells lining the ducts in all of these cases are similar to the normal gland cells. When these cells have left the basement membrane they preserve their epithelial nature, but are as a rule larger, polymorphous, and show marked degenerative changes. The nuclei are hyperchromatic.



Carcinoma in the guise of Adenofibroma, showing atypical gland spaces, but no infiltration of the lymph spaces. (Camera lucida drawing. Leitz Oc. No. 2, Obj. No. 3.)

In those tumors whose structure is not widely different from the gland, the blood-supply is that of the normal gland, the vessels being usually congested. In one case there are small areas of hemorrhage into the tissue. In three blocks taken from one case the conditions are respectively: normal gland with no visible changes, adenofibroma with beginning epithelial cell proliferation, and carcinoma simplex. From this instance may be gained an idea of the origin of the growth, and of the different phases which one case may present. It also shows how impossible a correct clinical diagnosis of such cases is, and how dangerous a pathologic diagnosis may be when based upon a limited examination. Two of these cases are tuberculous also. Epithelioid, giant-cell, and caseating tubercles were found in the tumor mass. In one case there is a small abscess, in the walls of which there are the histologic evidences of tuberculosis, which are verified by the finding of the bacilli, by means of the carbol-fuchsin method. The existence of the carcinomatous and tubercular processes together is important. One of these and the other case of tuberculosis mentioned have been reported by Dr. Warthin.[1]

Fibroma.—Eighteen cases are fibromata, but in none is the growth a pure fibroma, each showing some modification. There is in every instance some evidence of gland structure. The fibrous tissue varies from a soft tissue rich in cells—which have been called fibrosarcomata—to a hard one of few nuclei. A stroma of the density of scar tissue was not found. With but few exceptions the stroma shows myxomatous degeneration. The blood-supply is scanty, consisting of few thick-walled vessels in the denser parts, and small capillaries in the softer tissues. Three of the eighteen are adenofibromata, consisting of ducts more or less resembling the gland structure, and a fibrous stroma which in one case is in great preponderance, in another about equal parts, and in the third there is a larger proportion of ducts. The gland-like spaces may vary from the size of mammary acini to large, irregular, dilated ducts. In one case the stroma around the ducts is richer in nuclei, which indicates the origin by pericanalicular growth. One case shows a tendency to extend blunt papillæ into the duct spaces, that is, it is the beginning of an intracanalicular fibroma. In one there is a slight malignant proliferation of the epithelial cells. Two tumors, in addition to these characteristics, show around the gland and adenoma ducts a proliferating connective tissue. This tissue becomes poorer in nuclei and denser the greater the distance from the ducts. These are, therefore, diagnosed pericanalicular adenofibromata.

Five of the eighteen show an intracanalicular growth. These tumors are characterized by blunt papillæ which grow into the dilated ducts, as a rule entirely occluding them. In three of these the structure of adenofibroma is also present, and these may be called intracanalicular adenofibromata. Calcareous deposits were found in the ducts of one. The other two show no remains of gland structure except the epithelium lining the large spaces and covering the papillæ. These are intracanalicular fibromata. As mentioned, one case of adenocarcinoma and one of adenofibroma show a beginning of this intracanalicular growth.

Eight of the fibromata are further characterized by greatly dilated ducts which form cysts of varying size. One case is simply adenocystofibroma, its structure varying only from an adenofibroma by the presence of the cysts. Four show papillæ growing into the cysts. These papillæ are slender, leaf-like outgrowths not resembling those in the intracanalicular tumors. These are papilliferous adenocystofibromata, and from their papilliferous nature are more malignant than the other forms, because of their greater tendency to become carcinomatous. The papillæ may be considered as an early stage of the atypical growth of the carcinoma which is likely to arise. One of the four merits a separate description. It is very cystic. The spaces are of many shapes and sizes, some of them being very large, filled with a mucous substance. The smaller cysts especially show the tendency to become papilliferous. The connective tissue is dense, with relatively few nuclei. Surrounding some of the larger cysts is a thin border of a hyaline deposit which stains a deep pink with eosin. The stroma is edematous and in a large part myxomatous. Around the smaller spaces the connective tissue is rich in nuclei, indicating a pericanalicular proliferation. Throughout, and especially in the smaller cysts, there is a beginning carcinomatous change. It is to be noted that the smaller cysts also show more papillæ. The proliferation of the cells is chiefly into the lumina, irregular rods growing away from the basement membrane and forming masses of cells in the spaces. The cells present marked differences from the parent-cells. They are larger and polymorphous. The protoplasm is vacuolated, granular and stringy. The nuclei are hyperchromatic. Where these changes have occurred there is a marked inflammatory infiltration. Two of the eight cystic tumors show a pericanalicular proliferation of the connective tissue, and may be called pericanalicular adenocystofibromata. One of these shows, in the adenomatous portions, carcinomatous change. The remaining one of the fibromata is, in part, typical intracanalicular adenofibroma with all degrees of growth of papillæ into the cystic spaces. In this tumor also the epithelial cells have grown away from the basement membrane. The diagnosis is carcinomatous intracanalicular adenocystofibroma.

Sarcoma.—Six cases are sarcomata, following the definition of a mesoblastic tumor with a preponderance of cells and the presence of a fine fibrillar stroma between the cells. The blood-vessels are capillaries of thin walls, a single layer of endothelial cells, and of wide lumina. They lie in direct contact with the sarcoma cells, and the blood elements are often found outside the vessels. In two cases there is marked hemorrhage into the tissue. Three of the six are polymorphous sarcomata, so-called because of the varied form and size of the cells. The greater part of the cells are round or oval, from a little larger to many times the size of a leucocyte. There are also spindle and giant cells. The nuclei are granular, taking the stain to a lesser degree than the leucocytes. Many nuclei show karyokinetic figures. The giant cells especially have fragmented and mitotic nuclei. In one case the fat is *infiltrated* and replaced by the tumor cells. In this case, at the advancing border, and in one other, there is a marked small cell infiltration. One case shows myxomatous degeneration, necrosis and caseation of the cells. One tumor contains large bands of connective tissue. These are doubtless remnants of the gland tissue. One case has an alveolar arrangement, the cells having disappeared at the center of the spaces, but adherent at the margins. The fourth case is a small round cell sarcoma, consisting largely of small round cells, with few oval, spindle and giant cells. In this tumor there is evidence of hematogenous metastasis. The tumor consists of large masses of the sarcoma structure and fibrous connective tissue, in which are small foci of round cells around or in the vicinity of the blood-vessels. A large proportion of the mass is a fibrous connective tissue which suggests that either a fibromatous change had preceded the sarcoma development, or, that it is a change from a so-called embryonic to a mature tissue. Two cases are spindle cell sarcomata, one characterized by small, and the other by large spindle cells. There are fewer giant cells in the spindle cell sarcomata than in the other forms examined. In none of the sarcomata is there any evidence of glandular structure. Sarcoma apparently does not grow between the ducts, to any extent, but destroys them in the progress of its development. Many of the older writers speak of adenosarcoma, meaning a tumor composed of adenomatous and sarcomatous structure. This error probably arose by mistaking the soft stroma sometimes found in adenofibroma, for sarcoma. The stroma of fibromata is often very rich in nuclei and the mistake would not be unnatural at a time when even carcinomata and sarcomata were often confused. The chief diagnostic point of sarcoma is the growth rather by expansion than infiltration, so that the gland ducts are destroyed early. There has never been presented in this laboratory a sarcoma of the breast which does not show destruction of the ducts, except at the periphery of the growth.

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[1] Am. Jour. of the Medical Sciences, July, [illegible]

The relative occurrence of the different varieties of the eighty cases is as follows: Carcinoma, 70—carcinoma medullare, 12.5; carcinoma simplex, 27.5; carcinoma colloides, 6.25; carcinoma scirrhosum, 12.5; adenocarcinoma, 11.25—adenofibroma, 12.5; adenocystofibroma, 10; sarcoma, 7.5, and tuberculosis, 3.75 per cent. Five per cent. not classified as carcinomata show carcinomatous proliferation. The per cent. of cases of tuberculosis is higher than has previously been reported. This is doubtless due to many cases of tuberculosis being diagnosed simply as malignant, or as cysts.

Of the series, 82 per cent. show undoubted evidences of malignancy, not including the cases of tuberculosis. It will be instructive to compare these cases with others reported.

S. W. Gross reported 637 cases, of which 83.2 per cent. were carcinomatous.

Butlin reported 65 cases of cystic tumors, as follows: carcinoma, 13.8; adenoma, 1.5; sarcoma, 38.4; fibroma, 27.6; adenofibroma, 9.2; mixed connective tissue tumors, 10.7 per cent. The high proportion of sarcomata suggests that there was confusion between sarcomata and the soft fibromata: 52.5 per cent. were malignant.

Williams reported 2430 cases, as follows: cancer, 77.3; sarcoma, 3.9; myxoma, .16; fibroadenoma, 15.3; papilloma, .10; cystoma, 2.6 per cent.; 81.2 per cent. were considered malignant, including only the cases of cancer and sarcoma.

White reports 80 per cent. of mammary tumors as carcinomatous.

Senn reported 440 cases, of which 95 per cent. were malignant.

Gross quotes 481 cases of Bryant's, of which 83.16 per cent. were carcinomatous, and 440 cases of Billroth's, of which 85 per cent. were carcinomata.

With the exception of Senn's series, the number of malignant cases corresponds to mine, that is, cases in which there is good evidence of malignancy. But this series is important because it plainly shows that the idea on which the conception of malignancy has been based is not broad enough, showing as it does the relationship which exists between the various forms and the frequency with which the character changes from a so-called benign tumor to a malignant one. In the carcinomata is easily traced the development from a beginning proliferation of the epithelial cells of the normal gland acini—or adenoma ducts—through the forms of adenocarcinoma, carcinoma medullare, carcinoma simplex and scirrhus. A majority of these changes may be seen in one tumor, showing the gradual transition from one form to another, and in the study of the series the steps of the development are everywhere plainly indicated. As stated, typical adenofibroma, adenocystofibroma, papilliferous adenocystofibroma and pericanalicular adenocystofibroma were found to present carcinomatous changes. An adenocarcinoma, an adenofibroma and an adenocystofibroma show intracanalicular papillæ. An adenofibroma and an adenocystofibroma plainly show their origin by pericanalicular proliferation of the connective tissue. Considering these points there is but one opinion tenable concerning the benignancy of the mammary tumors of the types described.

Many pathologists and physicians hold that all tumors of the breast should be removed. Balloch, among them, says: "Adenomata are not the harmless growths many believe them to be as there is great probability that they may and do become carcinomatous." And Carr writes: "It seems quite probable that in all, or nearly all, cases there is at least a brief period in the development of the carcinomata, when they have neither the clinical nor microscopical appearances of malignancy, nor the tendency to return after removal. . . . We should urgently advise removal at once of every tumor of the breast, no matter how small or innocent it may appear, and invariably have it examined by a competent microscopist." Carr operated on 11 cases supposed to be benign, all of which proved to be carcinomatous; all had passed the three-year limit without recurrence. On the other hand, Johnson says: "The clinical history of cancer is usually opposed to the view that the growth began in a pre-existing simple tumor. The presence of cancer and adenoma in one breast is no evidence that the cancer in question had its origin in the adenoma." This view has no sound pathologic basis. In practically every case which presents both the picture of adenoma and carcinoma can be traced the development of the carcinoma from the adenoma, as I have described. The coexistence of cancer and adenoma is sure evidence that the cancer had its origin in the adenoma.

It is impossible, in many cases, to diagnose a malignant—in the usual sense—tumor clinically, and the microscopic examination is likely to be deceptive. It is the custom in this laboratory to examine all parts of the tumor. When a case is at once proved to be malignant, this is not necessary, but in all others every part must be examined, before a diagnosis is given. Two cases well illustrate this point. One was sent to the laboratory by Dr. Dodge, of Big Rapids, Mich. The tumor presented the picture of typical adenofibroma, yet the axillary glands were infiltrated with cancer. Atypical epithelial proliferation must have occurred in some portion of the tumor, but that area could not be discovered. In the other case only a very small area of carcinoma was found, after careful search. The axillary glands were likewise involved. A number of other cases have been examined at this laboratory, in which the mass of the new growth showed the structure of an adenofibroma, but contained small areas of typical carcinoma structure. When a case presents characteristics of adenofibroma with active proliferation—not cancerous—it can not be diagnosed benign. Such a diagnosis is obviously unsafe, for there is no certainty that such a growth will not, sooner or later, become cystic, papilliferous, carcinomatous, or change to other forms from which we have seen carcinomata may develop. It is much better to call such a tumor a malignant adenoma. Many of the German pathologists now use the term "carcinoma in the guise of adenofibroma." Hanseman, among them, says: 'The malignant adenoma is that form of carcinoma which is most similar, in its structure, to the mammary gland. At times the stroma is strongly developed, and then the picture is exactly that of fibroadenoma. It has happened that I have considered, from the microscopic examination of an excised portion, such a tumor, from a girl 22 years old, as entirely benign; and the tumor was simply enucleated. Unfortunately the pathologic picture was deceptive. In a short time there was a recidivation and the young patient died of a general carcino-

[illegible] Very often the stroma is exactly that of the normal mamma, and there is no small cell infiltration." The accompanying drawing is from a like case. The gland ducts show atypical proliferation, but no evidence of cancer. Nevertheless such a case must be considered malignant, for further search will doubtless show [illegible] this instance. The designation, "carcinoma in the guise of adenofibroma," is most fitting for such cases.

Had all the cases which have heretofore been reported been diagnosed only after a microscopic examination, and the diagnosis rested on the present pathologic knowledge, the per cent. of malignant tumors would doubtless be much higher. That the proportion is so small in this series is due to the fact that the cases are largely from surgeons who believe in early removal of all tumors.

The clinical diagnosis of breast tumors is neither reliable nor important, and should not be taken as an operative guide. In a large proportion of cases it is not possible to distinguish the different forms. In nearly every case which has been diagnosed clinically, the microscopic examination has proved the diagnosis incorrect. The difficulty is obvious when the variety of pictures which one case may present is considered.

It seems justifiable to conclude from the microscopic examination only of these eighty cases, that there is no strictly benign tumor of the breast, and that the only rational treatment is complete removal as soon as discovered.

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OBSERVATIONS IN LARYNGOTOMY: TRACHEOTOMY: INTUBATIONS, BASED ON CLINICAL AND EXPERIMENTAL EVIDENCE.

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The animals were all reduced to full surgical anesthesia by ether before the experiments were begun, and were killed before recovery therefrom. Respiratory tracings were obtained by means of a rubber tambour, attached to a canvas band, encirling three-fourths of the circumference of the animal's chest. This energized a writing style attached to an organ-key mechanism. Respiratory tracings were obtained very accurately. Blood-pressure was recorded by means of a mercury manometer. The drums were revolved by a mechanism so made as to be capable of a variety of movements, ranging from one revolution in thirty minutes to eighteen per minute, so that any phase of any given tracing might be duly recorded. The following is a part of a rather extended research, which enabled us to estimate the reliable [illegible] comparatively few experiments.

Surgeons have not infrequently encountered, in performing a laryngotomy, sudden collapse at the moment when the incision was made through the larynx, and the margins of this incision were kept apart for the introduction of the tube. Even death has occurred not infrequently at this time. Such results have been often encountered in hasty operations, and these latter for admitting air into the tract have usually been laryngotomies. In the history of tracheotomies, collapse or death, at the particular stage referred to above, has been rarely observed.

The experimental and clinical evidence set forth in the preceding subject includes all the principles involved in such results in laryngotomy. The larynx having been reached in the dissection, an incision is usually made boldly through it, and the margins of this incision held apart, a procedure in which there is a mechanical irritation of the dangerous area of the larynx. This area, as has been shown experimentally, occupies the middle and upper portion of the larynx. It is well, then, if a laryngotomy must be made, to bear in mind this "inhibition" area in the larynx. It would add greatly to the safety of the operation if the incision were first made through the cricothyroid space, then a swab of cocain passed through this incision and applied to the laryngeal mucosa. This having been well done, no amount of manipulation could cause any reflex phenomena. Likewise, in the introduction of the tube in the high laryngotomy, there would be almost certain interference with the inhibition area and the production of the usual symptoms. Even though artificial respirations may be supplied, it must be remembered that the heart may be inhibited as well. The cocain is an almost certain preventive of this cardiac inhibition, yet it would be safer to administer a hypodermic injection of atropin before beginning the operation.

What has been said on this subject under intubations may be said for the treatment of like conditions in this operation.

TRACHEOTOMY.

Preliminary Remarks.—I am unaware of instances of sudden collapse or death in the technique for tracheotomy due to other causes than the obstruction for which the operation was performed—that is to say, the collapse and death which occasionally followed intubation and laryngotomy do not follow the performance of tracheotomy.

Experimental.—Animals under surgical anesthesia were subjected to the following experiments: The trachea was submitted to dilatation to different degrees, ranging from gentle dilatation to a sufficient force to rupture that organ, and in not a single instance was there noted any marked change in either the respiration or the circulation. All portions of the trachea from the larynx down were tested, and in all the cases the results were similar. The only variations observed were, in some cases, an increased respiratory rhythm with an increase in the amplitude of the respirations, and in some instances there was slight increase in blood-pressure, without any alterations in the character of the cardiac action. In several instances there was a slight decline in blood-pressure. It appeared that these minor alterations in this and in the respiration were due to mechanical stimulation of sensory tissue having a direct connection with the inhibitory apparatus of either the respiratory or the cardiac apparatus. From an experimental standpoint it would seem to be impossible to produce sudden death in any such manner as it may be produced in operations involving the larynx and certain portions of the pharynx. The experiments on the trachea were made in animals on which experiments were being made for other purposes, and consequently they are not recorded separately.

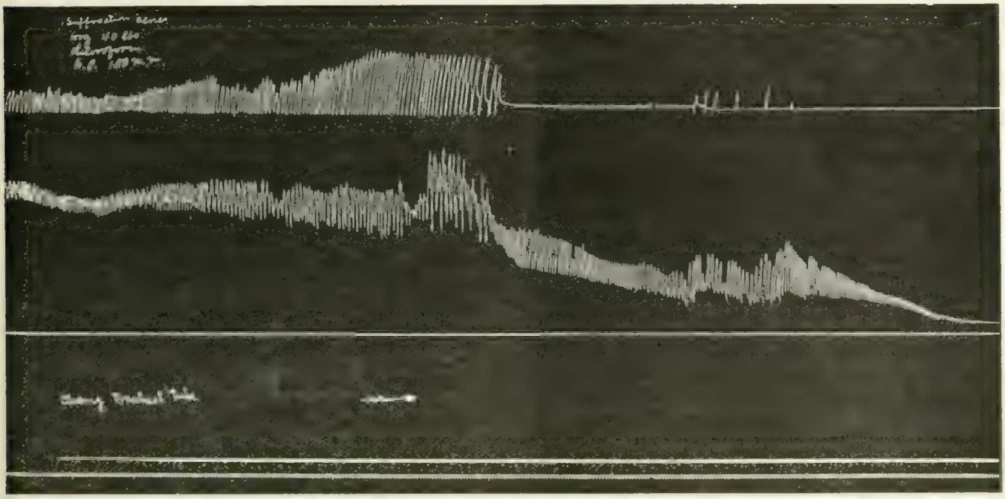
Practical Applications.—The results of these experiments is of practical importance mainly in pointing out the very great safety of operative procedures, so far as the immediate results are concerned, on the trachea, as compared with like operations on the larynx, that is to say, in considering the choice of tracheotomy or laryngotomy the principles involved in the two operations would be of great value in making a choice.

INTUBATIONS.

Preliminary Remarks.—In performing intubations, not infrequently causes of sudden collapse or death are encountered. These results appear with so much suddenness as to give but little time for thought or action, and it would be a matter of great interest to those who perform such operations to know by what means such results are produced. In my own experience, in a series of sixty-five intubations, there were three such sudden deaths. While different theories have been proposed in explanation, none have, so far as I am aware, been founded on any considerable experimental evidence. The results were most frequently attributed to sudden suffocation from forcing down into the air-passage detached membranes. Others have said that the cases die of collapse, which is not an explanation. It has been asserted that the deaths are due to reflex phenomena from irritation, but the method of production of these phenomena is not pointed out.

1. In a healthy fox-terrier, weight twenty pounds, under full surgical anesthesia, with the respiratory apparatus marking the blood-pressure taken in the carotid artery, and after obtaining a control tracing, the larynx was dilated in a manner as nearly as possible like that of introducing a tube for intubation. The result of the careful introduction was merely a temporary inhibition of respirations. After a few feeble respiratory efforts, whose intervals were prolonged, normal respiratory rhythm was again established. However, when the tube was dragged forward with some force, so that its lower end pushed backward against the rima of the larynx, and its upper end pressed forward against the rima glottidis, a more marked respiratory failure was produced, the carotid manometer executed long sweeping strokes, and the blood-pressure during this time fell. On continuing the manipulation for some time a fair degree of tolerance was acquired, and the foregoing phenomena appeared in but a slight degree, that is to say, the heart-strokes were a little longer and a little slower than normal, and the respirations were shorter, with a longer pause.

2. In a collie dog, weight eighteen pounds, with the same arrangements for graphic records as in the preceding, a tube was introduced into the larynx with gentleness, then an attempt was made, by exerting forcible manipulation on the exterior of the larynx, to force the tube out of the larynx into the mouth. This rude manipulation produced an arrest of respiration with a marked fall in the blood-pressure, the heart-strokes being much slower. On cessation of the manipulation, after the tube had been forced out, the respiratory and the circulatory mechanisms resumed their normal action.



The upper tracing represents respiration, the next the blood-pressure, then the base line (abscissa), finally the signal showing the time of closure of the trachea, and the time in seconds. Note the very marked increase of the respiratory action; the increase of the respiratory stroke is very marked. Just before failure the strokes become less frequent, but they remain powerful to the last, the animal bringing into play all the extraordinary muscles of respiration. Note the temporary rise in the blood-pressure, the gradual cardiac failure. The heart beats regularly and rather slowly to the last.

3. A mongrel cur, weight twenty pounds, with preliminary preparation as in the preceding case, was placed on the dog-board so as to bring his mouth into a position convenient for the introduction of the fingers into the pharynx and for tilting the epiglottis forward with gentleness. In so doing there was but little disturbance in the respiratory and the circulatory tracings. The only alteration noted was in a single partial respiratory inhibition. The heart was not at all affected. Then, allowing a good control of tracings to be made, the fingers were introduced, and with considerable roughness and force the epiglottis was dragged forward, and with it the base of the larynx and the tongue, imitating a vigorous effort to dislodge membranes or recover a tube in certain catastrophies, which occasionally attend the operation for intubation. Immediately on so manipulating the parts there was a respiratory arrest and the heart was in-

halted, causing a staggering temporary fall in the blood-pressure and the appearance of "vagal" beats. On repeating such vigorous manipulations at short intervals, a less marked effect on each repetition was observed, until finally, when the animal had become quite exhausted, but little effect was produced.

4. With preliminary preparation as in the preceding case, the diaphragm was exposed by a median incision, and the stomach and the liver so withdrawn as to permit direct observation. The larynx was now subjected to severe manipulation by passing the finger, through an incision between the upper ring of the trachea and the cricoid, into the larynx, and making pressure between this finger so placed and the thumb on the exterior, thereby producing inhibition of the respiration and the cardiac action as before. Observations on the diaphragm during this time showed the organ to be in relaxation. The skin was so removed from the chest as to expose the muscles of respiration, and the foregoing experiment was again performed. Direct observation showed that the muscles were in a state of relaxation. No respiratory muscle was observed to be in a state of tetanic contraction. On section of both vagi the respiratory phenomena appeared as before, but the cardiac remained normal.

5. In a shepherd dog, twenty-five pounds in weight, the preliminary preparations as in the preceding case, the various phenomena were again produced by like procedures. On painting the laryngeal mucosa with 4 per cent. solution of cocain, then repeating the intralaryngeal manipulation, no inhibition of either the respiration or the heart was observed.

6. In a mongrel, weight 21½ pounds, the preparations as before, after securing control inhibitions by manipulations as in preceding experiments, 1/100 gr. of atropin was injected into the jugular vein. Almost immediately following this there was a rise in blood-pressure and the manometer strokes were shortened, indicating the loss of "vagal" influence. Then, on repeating the procedures described in the foregoing experiments, the respirations were arrested as before, but the blood-pressure remained unaffected. On severing the superior laryngeal nerves, then repeating the laryngeal manipulations, no respiratory inhibition followed.

Summary of Experimental Evidence.—These experiments show that the reflex inhibition is due to efferent impulses set up by mechanical irritation of the terminals of the superior laryngeal nerves.

CLINICAL OBSERVATIONS.

Effect on Respiration.—In almost every case of intubation there is at least a temporary inhibition of respiration in a manner and to a degree entirely comparable to that obtained by experiments on animals. The extent of this inhibition depends on the following factors: In cases in which the laryngeal mucosa is completely protected by a closely adherent membrane, reflex inhibition of respiration is observed to be the least marked. In cases in which the membranes have disappeared, and the surface is raw and subjected to much irritation, like pro[illegible]. I have made these observations in a number of cases clinically. It need hardly be said that the extent of inhibition is also in direct ratio to the amount of mechanical irritation produced by the placing of a tube. The greater the irritation, the greater the inhibition. In a child poisoned with toxins, and with but little vitality, inhibition may not be more marked at its very onset, but recovery of the normal [illegible] does not so readily follow.

Effect on Cardiac Action.—In a number of instances in which direct observations on the pulse were made during the introduction of the tube, an inhibitory effect on the heart was occasionally observed. The cardiac inhibition is, however, not nearly so frequently observed as the respiratory, and what has been said as to the variations of the respiratory inhibition may be said equally of the cardiac.

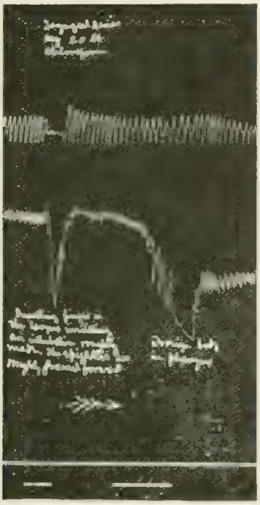
Collapse and Death Due to Inhibition.—From the experimental and clinical evidence at hand, it is evident that collapse and death in intubation are due to the reflex inhibition of the respiration and of the heart, from mechanical stimulation of the superior laryngeal nerves in the manipulation of the tube. The onset of the symptoms is sudden. The patient at once becomes limp and lifeless, the face becomes livid, the pulse has disappeared from the wrist, respirations have ceased, and the child is dead. In cases less severe the child suddenly goes into a collapse characterized by its becoming suddenly relaxed in the midst of the struggle while the tube is being placed, the respirations ceasing, the pulse not being perceptible at the wrist. However, after a brief pause, respirations slowly resume, the pulse may be felt, weak and slow, but gradually growing stronger, and in a few minutes respiration and the cardiac action are again restored. The most marked characteristic is the absolute suddenness of the cessation of the respiratory and the cardiac action.

Differential Diagnosis between Obstruction from Membranes Pushed down and the Collapse from Reflex Inhibition.—In asphyxia from pushing down the membranes, the characteristic symptoms are the deep cyanosis, slow but full pulse, and continued respiratory efforts for a short time. In a case of pure asphyxia from obstruction, respiratory efforts do not suddenly cease. In collapse from reflex inhibition, the pulse disappears from the wrist, the heart-beats if at all observable are very slow and weak. In asphyxia the heart-beats grow temporarily actually stronger. In reflex inhibition death may instantly ensue. In asphyxia it can not. In asphyxia from obstructing membranes, cyanosis is much more marked than in reflex inhibition. In reflex inhibition, when very profound, there may be a sudden pallor on account of the sudden total failure of the circulation. There is an abundance of experimental evidence, and physiologists are agreed that the blood-pressure in asphyxia rises, but the heart-beats become stronger and slower, and there is clinical evidence entirely in accord with that of the experimental physiologists. The quick perception of the difference between these two conditions is of the utmost importance in the conduct of the case, as will be more fully pointed out directly.

Prevention of Collapse from Reflex Inhibition.—So far as the heart is concerned, this is done by a preliminary hypodermic injection of atropin. This drug, as is well known, paralyzes the nerve endings of the vagi in the heart, thereby protecting this organ against reflex inhibitory impulses. Or the local application of cocain on the laryngeal mucosa may prevent not only the reflex inhibition of the heart, but of the respiration as well.

Treatment of Collapse from Reflex Inhibition.—It is now my practice so to arrange the clothing of the patient, before performing the operation of intubation that ready access to the chest and the abdomen is provided, and that a towel and a basin of cold water are at hand. On the appearance of collapse the patient is inclined, head downward, and artificial respiration maintained. In the meantime the chest and abdomen are smartly struck with a cold, wet towel. Immediately after this slapping, the surface is dried and the slapping again repeated. Cold water smartly applied to the surface of the skin is one of the most powerful respiratory stimulants, and inspiratory effort is always first brought out on such treatment. Further than this there is little to be done. There is no time for medication.

It will be at once seen how important it is to recognize the difference between collapse produced in such a manner and asphyxia from forcing down membrane. Suppose in a given case of collapse from reflex inhibition it was believed that membrane had been forced down, the tube having been placed in the larynx, hasty efforts would be immediately directed toward relieving the respiratory tract of this obstruction. Such efforts would consist naturally of an attempt hastily to remove the tube, and the efforts at relief would, by further stimulation of this inhibition area in the larynx, cause an increase in the very condition the operator was seeking to relieve. Furthermore, the blood-pressure having sunk almost to zero, the patient, instead of being inclined head downward, may be kept in the sitting posture while attempts at relieving the obstruction are made. Finally, it is doubtful, in consideration of the extraordinary expulsive power of the respiratory apparatus, whether a membrane may be detached and so firmly lodged below a tube as to cause an obstruction after removal of the tube.



Experiment on intubation roughly made, and foreign body in the Pharynx.—The upper tracing represents the respiration, the next the blood-pressure, and the lower two the time and the signal respectively.

If clinicians will take a retrospect of the cases in which such an obstruction was supposed to exist, they will probably be enabled to recall no great respiratory efforts on the part of their patients. In the presence of so appalling a catastrophe, calm observations are by no means made, as a rule, and if every case was approached with the deliberate intention of making correct observations there would probably not be a mistake in confusing obstruction with reflex inhibition, and it would be found that nearly all the cases of so-called obstruction are cases of reflex inhibition. In one case occurring in my own practice, in which the child went into collapse while introducing a tube in second intubation, the patient was handed to one assistant, another kept up artificial respiration, while I made clinical observations of the phenomena. Placing my ear to its chest, I heard faint, slow heart-beats, soon becoming louder and more rapid as the child rapidly regained consciousness. This case was a repetition in its every phase, clinically, of the inhibition phenomena experimentally produced.

THE INTERDEPENDENCE OF PHYSIOLOGY AND MORPHOLOGY AND THEIR EDUCATIONAL IMPORTANCE.*

BY JAMES WEIR, JR., M.D.
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Since the great epoch-making theory of Darwin has now ceased to be merely a theory, and is accepted as a doctrine that is as clearly demonstrable as is the heliocentric doctrine of Copernicus, an early and universal entrance, by the students of our medical schools, into the study of morphology seems to be demanded.

In our public schools, in which the vast majority of our population gain their education, the scheme of life, with its multitudinous ramifications throughout the animal and vegetable kingdom, receives but scanty attention. In point of fact, beyond a slight and necessarily imperfect knowledge of the fundamental principles of physiology and anatomy, the public school graduate passes through life in absolute ignorance of his or her status in the scale of animate beings and in the economy of Nature. Not only is this true of the public school graduate, but also of the university or college alumnus or alumna unless he or she has taken special courses of study.

The text-books on physiology, anatomy, and kindred subjects, which are to be found in the curricula of our public schools and colleges, are elementary, and for the most part pseudo-scientific in scope and character; hence —owing chiefly to their condensed form, in which authors mistakenly imagine that brevity is necessarily simplification—they are not adapted to the needs of the student, and generally lead to faulty concepts on his or her part. Again, in the study of physiology, the authors of these books seem to presuppose a knowledge of morphology; for, without some acquaintance with the laws governing life in its various modifications and forms, a true concept of physiologic data, I take it, can not be acquired. A knowledge of biology implies not only an understanding and a comprehension of the functions of organs, but a knowledge also of the forms in which life is to be observed and their causes and environments; in one word, the laws which give rise to, or occasion, these forms. All through the study of physiology the student meets with morphologic references, such as the phenomena of cell life, cell growth, etc. Some of the most important discoveries in physiology are based directly on knowledge derived from morphology; for instance, the phenomena of ovulation, of digestion, and renal and hepatic elimination.

It is true, as Haeckel has already pointed out, that "the two chief divisions of biological research—morphology and physiology—have long traveled apart, taking different paths. Morphology, the science of forms, aims at a scientific understanding of organic structures, of the internal and external proportions of forms. Physiology, the science of functions, on the other hand, aims at a knowledge of the functions of organs, or, in other words, of the manifestations of life." This division or separation was wholly unnecessary, and has already done much harm. When we consider for a moment how very dependent function is on form, and how very frequently the former is modified by the latter, we at once see that the two sciences should go hand in hand, for they are in point of fact interdependent.

Again, physiology, by neglecting the comparative method of study—which method is necessary for an accurate and comprehensive grasp of almost every science—has fallen behind, and now lingers at least a decade in the rear of morphology in point of absolute and certain knowledge. "Indeed, the direction at present taken by physiology is so one-sided that it has even neglected the recognition of the most important functions of evolution, namely, heredity and adaptation, and has left this entirely physiological task to morphologists. We owe to morphologists, and not to physiologists, nearly all that we know of heredity and adaptation."

Physiologists are beginning to recognize the fact that they are behind the times in their methods of study, and are welcoming morphologists as brother scientists without whom their own efforts would be practically *nil*. That physiology and morphology are intimately connected and interdependent, the following instance, one of a countless multitude of like ones, will easily demonstrate. The eye of a human embryo is a simple structure, having its analogue in a fixed and permanent type which is to be found in certain forms very low in the scale of animal life. In the fully developed human eye, however, we see that the organ has entirely changed its form, and that with this change of form it has acquired certain functions; therefore the evolution of the eye necessarily requires not only a study of its change of form—morphology—but also a study of its acquired functions—physiology. From a study which in the beginning was wholly morphologic, it has now become physiologic also.

Thus it will be seen that, for a comprehensive insight into the functions of any organ, we must first have some knowledge of its structure and the modifications and changes which have already taken place or which will probably take place in it; for in these days, such is our morphologic lore, in other words, our knowledge of adaptation and heredity, that we can prophesy changes and their results with some degree of success. But, even if physiology were up to date and stood side by side with morphology in point of knowledge, it would be impossible for a student—no matter how thoroughly he may be versed in physiology—who had no morphologic data, to grasp understandingly the doctrine of evolution. Why can not the student who is thoroughly conversant with the "manifestations of life" grasp the meaning of Darwin, who simply enunciated that "the chain of animal life begins in simple organism and ends in complex"? The answer is easy: he does not know the links in this chain of life, nor can he see how one link is joined to another; he is not acquainted with one of the chief divisions of biology—morphology.

I believe that I can assert without fear of contradiction, that there is not one man of any eminence in the entire scientific world who does not believe in the doctrine of evolution. Why then is it that there are so many men and women who utterly and wholly refuse even to consider this doctrine as sensible, much less true? Again, the answer is that it is mainly on account of their ignorance of biology. It has been demonstrated time and again, by eminent theologians, both in this country and abroad, that evolution is not antagonistic to the tenets of the Christian faith. The learned, scholarly, and erudite Martineau died believing in and upholding the doctrine of evolution, while several deans, canons, bishops, and one archbishop of the church of England, have been its ardent champions and supporters. Stanley, Farrar, Sanday, Cheyne, Driver, Sayce, and Robertson Smith stand by the side of Huxley and Haeckel, as far as Darwinism is concerned. We need not go abroad in search of clergymen who have dared to study facts as they were and are, and to announce their acceptance of this doctrine, and who were brave enough to undergo religious martyrdom for the sake of their beliefs. Winchell of Tennessee, Woodrow of South Carolina, and Toy of Kentucky were devoted Christians, and yet they were expelled by their churches and branded as heretics simply because they dared to believe in biologic evidence—the unerring testimony of morphology, physiology, and psychology. These men were the victims of ignorance; the people who condemned them, if they live long enough, will in the end be forced to acknowledge the correctness of the doctrine of evolution, and, coincidently, their own error. Many years ago, when Copernicus enunciated his heliocentric theory, his opponents said: "If your doctrines were true, Venus would show phases like the moon." "Yes," said he, "you are right. I know not what to say, but God is good and will in time find an answer to this objection.". In 1611 the telescope of Galileo showed the phases of Venus. God had answered.

Winchell was not unmindful of those scientific martyrs, Copernicus and Galileo, when his time came. Says Andrew D. White, in his "Warfare of Science with Theology," when discussing Winchell's dismissal from the chair of theology in Vanderbilt University: "The professor was told by Bishop McTyeire that 'our people are of the opinion that your views are contrary to the plan of redemption' (as formulated by the Methodist Church, not by Christ, he might have added), and was requested to quietly resign his chair. To this the professor made the fitting reply: 'If the board of trustees have the manliness to dismiss me for cause, I prefer that they should do it. No power on earth could persuade me to resign.' 'We do not propose,' said the bishop, with quite gratuitive suggestiveness, 'to treat you as the Inquisition treated Galileo.' 'But what you propose is the same thing,' rejoined Dr. Winchell. 'It is ecclesiastical proscription for an opinion which must be settled by scientific evidence.' "

I will venture to assert that if Bishop McTyeire and his fellow-churchmen had been familiar with the history of life as it is written upon the rocky frame-work of the earth, and as it is found in the countless forms of animals and plants scattered throughout animal Nature; if he and they had grasped understandingly the problems of biologic research, their treatment of Dr. Winchell would have been entirely different. The laurel wreath, and not *anathema maranatha*, would have been his portion.

If Gladstone had been a morphologist he would not have subjected himself to the overwhelming attacks of, and decisive defeats by, that great master of biologic science, Thomas H. Huxley.

Our schools are for the education of our children. Then why allow them to pass from out these institutions in utter ignorance of the very principles of life itself? Would it not be far better policy to lay before them the scheme of life as demonstrated by biologic research than to entirely ignore this most important science, leaving them to grope in the dark when they arrive at years of maturity? I think so, for the people of the United States are demanding the right more and more, as time passes, of investigatng the problems of life and of working them out for themselves. We have no moral right to debar the coming generation from that knowledge which is its privilege and its due. Because thousands of men and women of to-day, in their scheme of creation, prefer the mud Adam of the ignorant, half-savage Assyrians—for Moses unquestionably borrowed his "man of clay" from them—to the flesh-and-blood man of the educated Englishman, is no reason for allowing the coming generation to drift into the same absurd error. There should be no excuse for such ignorance, and yet that this lamentable lack of information concerning the scheme of life does exist there can be no question. And why does it exist? Simply because the most important of all sciences, biology, is not taught in our schools. More than once I have seen college graduates, men of wide reading and with well-trained minds, baffled by the sophistical arguments of some cross-roads wiseacre simply for the lack of a few morphologic data.

Biology—morphology, physiology, and psychology—should be taught in every school in the land. When men learn to look at life through the eyes of science, throwing aside forever the hampering influences of dogmatic theology and scholasticism, they will soon recognize error and abandon it. Medical schools especially should establish biologic chairs, from which should be enunciated the great truths of physiology, morphology, and psychology. Without a thorough knowledge of biology a physician's education is incomplete; especially is this true where there is ignorance of physiology and morphology.

ARE WE DEGENERATING? IF SO, WHY?*

BY E. STUVER, M.Sc., M.D., Ph.D.
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This is a question which is being seriously discussed by sages, philosophers, statesmen, physicians and all persons interested in the welfare of the race; but to the physician, who is brought into such intimate contact with its causes and manifestations, and who by his training and opportunities is well prepared to throw a flood of light on it, to illumine its dark recesses and banish misconceptions, it should be a subject of absorbing interest.

Before we can formulate a definite opinion one way or another in this matter, we must have some standard or ideal by which to be governed in arriving at conclusions. This standard should be a broad and a comprehensive one, and should embrace not merely certain parts or phases of human progress, but should include all those elements which are necessary for the symmetric development and uplifting of the human race. Men and women should not only be attaining to greater physical, intellectual and moral perfection at the same time, but this should be true of the great majority of the individuals constituting a nation or a race. It is not enough to constitute national or racial progress, that the stream of evolution carries forward on its bosom to greater physical perfection, higher intellectual achievement and grander moral excellences, a few favored ones, if at the same time the great mass of individuals are not likewise moving forward along the same lines. If the majority of the people do not possess healthier bodies, more acute and better balanced minds and higher moral natures, it becomes a serious question, despite our achievements, to decide whether we are progressing or retrograding.

There can be no doubt of the truth that the massing of enormous populations in large cities, with the impure air and bad sanitary surroundings, and insufficient or excessive quantity or improper kinds of food, late hours and excesses of various kinds, together with the high-pressure of methods of living and the mad struggle for wealth, have done much to lower the health and vital resistance of a large part of our population. The crowded tenement houses and the sweat-shops, with all their physical evils and moral degradation, form a dark and corrupting current in the stream of our national life. And while it is true that some choice spirits in the great stream which is constantly pouring into the cities from the rural districts escape these contaminating influences, rise to high positions of honor and trust, and, by mingling with, infuse strength and vitality into the decaying city populations, still the greater number are either engulfed or ruined by the putrid stream or are soiled by its foul contact. That this great change from rural to urban life has been followed by physical degeneracy in the population of to-day as compared with our ancestors of fifty or one hundred years ago no one will deny, and unless existing evils are speedily corrected, these physical defects and moral obliquities will become more pronounced with each succeeding generation as the population becomes more aggregated in the cities.

Whether from an intellectual standpoint we are in advance of a few generations ago is a very difficult matter to decide. There can be no question that the greater attention given to the study of the objects and phenomena of Nature, which has led to so many discoveries and inventions, has greatly enlarged our mental horizon and given us a vastly more comprehensive view of the universe than was possessed by our ancestors.

The facilities for travel and the ease of communication between the most distant parts of the civilized world have placed the mental products of the whole world within easy reach of every worker. This has unquestionably led to breadth and comprehensiveness of view, but at the same time, by presenting so many distractions to the mind, has caused a plethora, a satiety, in short a mental dyspepsia, which has led to the formation of many toxins, to defective assimilation and a very imperfect nutrition of the intellectual centers.

While brightness, quickness and the superficial, showy qualities of mind have been highly developed—power of concentration and profound thought have not been correspondingly increased—indeed so intense is the competition and so strong the desire to attain an early fame or, more properly speaking, notoriety, that in order to secure this object almost any means is adopted in preference to long-continued investigation, hard work and profound thinking. Nor is it difficult to point out at least some of the causes that have led to this state of affairs. Under the conditions which prevailed fifty years ago most of the boys and girls of our country lived in the rural districts; they were brought into close contact with nature, they breathed its atmosphere and were bathed in its influences. This communion with grand and beautiful objects—the majestic mountains—the vast and solitary forests breathing a language of their own, the expansive prairies, the mighty rivers and the rippling brooks, together with the exacting conditions on which success and even existence depended, infused health and vigor into their bodies, gave time for their minds to develop in accordance with the plan impressed by Nature on the race throughout the ages, and inspired them with a strength and steadfastness of purpose which are sadly deficient at the present time. In those days boys and girls attended school, three, four or five months in the year and, even while in attendance, spent a large part of their time out of school hours in active work or out-door sports, so that there was but slight opportunity of pro-during that mental tire and satiety which are so prevalent at the present time.

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*Presented to the Section on Physiology and Dietetics, at the Fiftieth Annual Meeting of the American Medical Association, held at Columbus, Ohio, June 6-9, 1899.

The minds of the children were being evolved in accordance with the phylogenetic laws impressed on the race throughout the long distant past, and the result was mental stability, strength and endurance, as well as a dogged determination to get down to the bottom of things, even if it took years or a lifetime to do it. But how different is everything at the present time! The child probably comes into the world loaded down by inherited weakness or tendencies to disease or crime, caused by the high pressure, unnatural life, dissipations or vices of its parents.

When it gets hungry, which is in a very short time indeed, instead of being fed on the food designed by Nature for its sustenance, it is filled up with cow's milk or some manufactured nostrum; when it cries it is given brandy, paregoric or some other narcotic poison to paralyze its digestive organs and nervous system into submission, and still many wonder why indigestion is so prevalent among children and why the use of narcotic poisons is so fearfully on the increase among the people.

When scarcely out of the cradle the child is grappled by the tentacles of our educational system, and they never relax their hold until he has run the gauntlet of the kindergarten, the graded schools, high schools, colleges and universities, and emerges a finished product of this system. While much of the work throughout the whole course is illogical, and sins against the symmetrical physical, intellectual and moral development of the child, the youth and the man, still it is during the early years of childhood and youth, when the brain is unstable and easily irritated, that the greatest amount of harm is done by the stuffing, cramming processes, the almost endless examinations and the continual nervous strain and irritation which attend them. That the above statements are no mere jeremiad, but based on actual facts is conclusively shown by thousands of physical and mental wrecks caused every year by this system; bodies which under better management might have become bulwarks of our national safety, and minds that if allowed to develop in accordance with Nature's laws might have helped to advance and adorn our civilization instead of being obliged to drag out a weakened, miserable existence or to languish behind prison bars or within the walls of insane asylums.

The enormously increased percentage of the insane, as compared with the whole population, within the last twenty or thirty years, is very strong proof that mental stability at least is not increasing.

The American home has always been the upbuilder of physical health and integrity, the conservator of mental strength and power and the preserver of moral rectitude and purity. The sanctity and influence of the home have always been among the strongest bulwarks against physical evils, the greatest safeguards against moral delinquencies and a powerful protection against mental dissipation, and it naturally follows that anything which tends to lessen the influence exerted by the home upon the people must have a demoralizing effect. No one will deny that the home has lost much of the power which it once exerted over the people. Its sanctity has been invaded and its members have been drawn into clubs, societies, secret organizations, etc., which, if not positively injurious, at least do not possess the strengthening, tranquillizing and uplifting influences of the home.

While it may be claimed that the diffusion of education is so general that it is becoming a rare thing to find people who are not able to read and write, it is also true that crime is on the increase and that this increase is not confined to the illiterate but includes many with a good, nay, even a superior, education.

The intellectual faculties have been cultivated at the expense of the moral nature, and the result is an asymmetric development—a social pariah, a degenerate.

We are wont to boast about our progress, our liberty and our freedom, but I fear that we forget that the most rapid and brilliant results are not always a sure criterion of the most enduring advancement, that liberty may not mean physical, intellectual and moral disenthralment, but license leading to the most abject slavery, and that freedom, instead of breathing forth a spirit that ennobles and uplifts mankind to a higher and better plane, may exhale a mephitic poison which degrades and besots all who come within the range of its baleful influence.

No better illustration of the abuse of this so-called freedom can be cited than the material appearing in our modern newspapers. Their columns are not only filled with falsehood and misrepresentation, but reek with sensationalism and vileness which make them unfit for decent homes. They bristle with advertisements of vile nostrums, which not only defraud and swindle the unwary and ignorant but carry death and devastation in their trail. In one column appears a panegyric on the elevating influence of the press, and in another the notice of an abortifacient remedy which carries death in its wake and makes virtual murderers of the people who use it, and if justice and right were done would make the newspapers accomplices in the transaction. In another place can be seen the report of an eloquent sermon, accompanied in a nearby column by the heartrending appeal of some scoundrel and fakir to the real or imaginary victims—principally the latter—of youthful indiscretions or lost manhood. And still we are told that the newspapers are the great educators of the people!

If guiding youthful minds into sensationalism and vice, if acquainting them with and showing them how to commit crime, if giving assistance to the vilest frauds and swindles and helping them to plunder a credulous and ignorant public, if these and many other similar things for which the newspapers are directly responsible, are high and noble, then truly they are performing their mission in a highly successful manner.

The spread of venereal diseases, tuberculosis and carcinoma, together with the widespread use of stimulants and narcotic poisons, has done much to taint the blood and lower the vital resistance of the people, so that it is doubtful whether much of the progress made in sanitary science and the stamping out of contagious and infectious diseases has not been counterbalanced by a lowered general vitality.

It is true that owing to these advances and the enormous increase in the number of hospitals and charitable institutions the death-rate among children and the dependent classes of all ages has been greatly reduced, and along with this reduction the general death-rate has been greatly lowered, but the fact nevertheless remains that an immense number of weaklings have been saved to transmit their defects to coming generations and still further lower the general health and vital resistance.

As all very well know, Nature is inexorable and no respecter of persons or position in life, and by a process of natural selection she weeds out the weak and preserves the strong; still, so thoughtless, careless or ignorant are most people on this important matter, and so easily and widely can physical evils and crime be disseminated, that no opportunity should be lost in directing attention to the question. Men who exercise the greatest care in selecting the best stock for breeding horses, cattle, sheep, dogs or even hogs, give scarcely a thought, save in some instances a mercenary one, to the life partners of their sons and daughters, and permit their grandchildren to come into the world loaded down with a burden of disease and a tendency to vice and crime which they might have prevented.

I do not wish to be regarded as a pessimist, because I believe that evolution is carrying mankind forward to a higher and nobler destiny, but whether we as a nation shall participate in that grand future or, by lapsing into the vices and mistakes of the great nations of the past, follow their downward course to ruin or extinction; whether we, in adopting the corruption, profligacy and crimes of Greece and Rome, shall follow Greece and Rome to degeneracy and extinction, will largely depend on our disposition and ability to stem the adverse tendencies which are sapping our physical vigor, undermining our mental strength and debasing our moral nature. If we would avert the fate of Rome, we must avoid the evils that led to Rome's downfall.

NOTES ON FRACTURES OF THE LONG BONES WITHOUT DEFORMITY. THE SUBPERIOSTEAL TYPE OF FRACTURE IN THE YOUNG.*

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That fractures of the long bones often occur without deformity, and indeed without many of the usual signs of fracture, is well known; still the absence of the usual signs may lead to the overlooking of the principal lesion at the first examination, and when this has happened, the subsequent condition may be quite disastrous to the attending physician at the second examination. A study of the clinical features of simple fractures, combined with the findings of the operator, should enable the careful observer to make a rather accurate diagnosis in most of the bone lesions brought to his attention.

Fractures without deformity may occur in the long bones at any age, but in adults these fractures are easily displaced and give the usual signs on examination. In children, loss of continuity without deformity has been noted in cases of epiphyseal separation, where there has been spontaneous reduction, or where the force has not been sufficient to produce displacement, yet mobility has been found on examination. We have also noted many cases of simple complete fracture in the young, where the fragments were in accurate apposition, but where the usual signs, including displacement, were elicited on manipulation. It is not these cases which I intend to consider here, but a type of fracture occurring in children and young people where there is no tendency toward displacement, which, on examination, presents certain features which I think entitle it to be considered by itself, and which we regard and shall speak of as the subperiosteal fracture. On the fracture service at the Roosevelt Hospital Dispensary, we have recorded a number of cases in children, all of which presented the same signs and symptoms as regards the existence of fracture, and which I feel justified in placing in this category.

It has been stated that fractures are accompanied by rupture of the periosteum. In adult life this is generally true, but in the young we have several types where the periosteum is more or less intact. In fact, the forms of incomplete fracture noted are accompanied at most by only partial rupture of the periosteum, and in the subperiosteal type the injury to periosteum is slight. Such a fracture occurring after a trauma, slight or of moderate severity, without deformity, may be overlooked where one's suspicions are not aroused, or by a hasty or superficial examination.

One of the earliest cases noted came before me at the Roosevelt Hospital Dispensary. A child, 15 months old, fell from a cot and suffered a contusion about the hips and thigh. Taken at once to a neighboring physician, it was regarded as a simple contusion and lotions prescribed. The next morning the child was brought to us and a careful examination revealed a fracture of the upper third of the femur. No displacement, crepitus, nor edema was present, and not much pain, but on gentle manipulation a hinge-like motion demonstrated the bony lesion. There was no tendency toward displacement, and as the body showed certain signs of rickets, it was evident in this case that a thickened periosteum extended over the break which, combined with muscular fixation and superimposed fat, rendered the case somewhat obscure.

My observations on rhachitic subjects, made since 1894, at the New York Post-Graduate Hospital, may be of some interest. In certain cases of bow-legs, where the deformity was of such a nature as to require the removal of a wedge from the tibia, after such a removal, instead of chiseling the fibula, I have forcibly straightened the leg after the manner of *a brisement forcé,* and after full correction the condition of the fibula was noted. In no case was the periosteum completely torn, nor was there any tendency toward displacement at the site of fracture; in fact, these cases were typical, subperiosteal fractures of the fibula produced artificially.

These cases are brought to us by the parents or friends, with a history of slight or moderate trauma, as a rule. If recent, edema is absent or slight and ecchymosis usually absent. Where only one bone is the seat of this particular lesion, as in the forearm, we must look for it, in order to discover it, and the only safe rule is to look for this sort of fracture in every trauma to the limbs, no matter how slight. These fractures have been overlooked where a fairly careful examination for bone lesion has been made, and our manipulations must be of a particular kind as well as exceedingly gentle to demonstrate them, and at the same time not damage the parts. My method is as follows: The bone to be examined is held in one hand, at the middle third, while the lower end is grasped and an attempt made to gently sway it back and forth. If a subperiosteal fracture be present, a hinge-like motion is appreciated at some portion of the shaft under examination. During such manipulation no crepitus is elicited. There is no tendency to overriding, and pain is absent or slight. The entire shaft is examined after this manner. The bone should never be grasped and an attempt made to forcibly rub the fragments of a supposed fracture together.

The chief features based on the cases which have come before me are as follows: 1. Trauma, often slight or of moderate severity, is usually from direct violence. 2. Pain may be absent or slight, seldom severe. 3. Deformity is absent; exceptionally there is slight sagging, as where both bones of the forearm are involved, never any overriding. 4. The function usually has but slight impairment, seldom complete loss. 5. Crepitus is always absent. In connection with the above the examination will show a hinge-like motion at the site of the lesion, which is typical of these fractures.

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*Presented to the Section on Diseases of Children, at the Fiftieth Annual Meeting of the American Medical Association, held at Columbus, Ohio, June 6-9, 1899.

A simple yet complete classification of fractures is of value both to the student and teacher, and by reference to the following table we see just where this type of fracture belongs. This table is based on the fractures treated by us at the Roosevelt Hospital Dispensary during five years ended Sept. 1, 1898, aggregating 1029 cases, of which 841 were fractures of the long bones, and of these 423 occurred in patients under 16 years of age.

Fractures	Simple [illegible]	Complete [illegible]	
		Incomplete [illegible]	Greenstick [illegible] Subperiosteal, [illegible]
	Compound [illegible]		

When we bear in mind that these are hospital statistics, I feel I am justified in stating that the subperiosteal fracture occurs more frequently than indicated by this table. Many of our fracture cases, and this is especially true of the obscure ones, have been subjected to harsh and unnecessary manipulation before they reach us, and in this way cases have been converted from the subperiosteal type into the simple complete fracture.

It will be of interest to compare the subperiosteal fracture with the simple complete one, which I have done in the following table.

	Subperiosteal.	Simple complete fracture.
1. Trauma.	Usually not severe. Direct.	More severe. Direct or indirect.
2. Pain.	Absent or slight.	Marked. Often severe.
3. Function.	May be only slight impairment.	Usually marked loss, often complete.
4. Deformity.	Usually none.	Present or easily produced.
5. [illegible]	Slight or absent.	May be marked.
6. Ecchymosis.	Usually absent.	Often present.
7. Crepitus.	Absent.	Present.
8. Mobility.	Hinge-like motion.	Complete.

At one time I was of the opinion that in the younger children we were more apt to have subperiosteal fractures, while in older ones the green-stick variety would preponderate, taking into consideration all incomplete fractures brought to us, but this opinion was probably due to the greater liability of subperiosteal fractures occurring in rhachitic bones before the stage of sclerosis.

I think it may be said that a "false diagnosis," or rather a lack of appreciation of the true state of affairs, is more often due to the neglect of a systematic examination than any other factor, and this is certainly true as regards the recognition of the subperiosteal fracture. As a rule in these injuries, the parts are favorable for a complete examination, but this must be systematic, the manipulations must be made in the proper manner and with due gentleness, and the anatomy of these fractures must be borne in mind.

Where these cases are overlooked they will develop undue pain and possibly excess of callus formation, with some angular deformity later on, due to sagging at the point of fracture. In fact, we have had cases brought to us where the first sign noted by the parents has been either bony thickening, or a slight angular deformity, and many of these were undoubtedly subperiosteal fractures following a slight trauma, and not recognized or treated. I can bring to mind several cases where children have received injuries, have concealed their existence from their parents, and where later a slight angular deformity followed. In each case loss of function was absent or trifling.

As regards treatment, simple fixation has been practiced, either by means of lateral splints, the starch dressing, or the plaster-of-Paris cast. In my hospital cases I have continued the fixation for four weeks, as a rule, though I am satisfied that in many cases repair has occurred somewhat sooner. The amount of provisional callus thrown out is always less than in the complete fracture, and in some cases it has been impossible to detect callus formation during the process of repair.

Various forms of incomplete fractures have been recorded and described. Some of these are frequent, have certain anatomic features, and may be recognized by certain clinical symptoms. Others occur more rarely, may be due to some peculiar combination of force, attitude, and constitutional dyscrasia, and do not give rise to any diagnostic group of clinical symptoms. Of the simple incomplete fractures of the long bones in the young, we have two principal types, the green-stick and the subperiosteal.

CONCLUSIONS.

Subperiosteal fractures usually present certain typical symptoms, and we should be able to recognize these lesions and differentiate them from the complete fractures.

Their union is characterized by the formation of a slight amount of callus, and solid union takes place in considerably less time than in the complete fracture.

In every contusion to the limbs, in the young, no matter how slight, a systematic search should be made for this particular lesion.

In rickets there is a greater liability toward the occurrence of incomplete fracture, and especial liability during the stage of softening for the production of the subperiosteal fracture.

Many cases of subperiosteal fracture are undoubtedly converted into simple fracture through improper manipulation or by too forcible examination.

In submitting these preliminary observations I wish to express my appreciation of the many courtesies extended to me by Dr. Alexander B. Johnson and Dr. John McGaw Woodbury.

ALBUMINURIA; ITS PROGNOSTIC VALUE IN CHRONIC NEPHRITIS.*

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The mass of evidence which has come to us of late, from the autopsy table, shows conclusively that chronic nephritis exists and is an unrecognized cause of death in a proportion of cases far beyond ordinary belief, and the comparison of carefully kept records of cases before death with autopsy findings shows that little reliance can be placed on the mere urinary examination, either positive or negative, as a means of absolute diagnosis or prognosis of Bright's disease. It will be the purpose of these notes to show that the result of the ordinary examinations of the urine, either in our offices or laboratories, are of little if any value in very many cases, from a diagnostic or prognostic standpoint, and that we are forced upon the very varied and numerous clinical manifestations and the absolute toxicity of the urine as offering the best and safest means of diagnosis.

That chronic insterstitial nephritis can exist without albumin, without casts and without uremic symptoms is beyond question; and that such conditions do exist and are brought out only at the autopsy is not an unusual circumstance and, further, that albumin of measurable quantity, casts, either of a hyaline or granular variety or both, can exist and the health of the individual be unimpaired throughout many years is the experience of the writer. "Formerly—a single observation of albumin in the urine meant albuminuria; albuminuria meant disease of the kidney; disease of the kidney meant, in a great majority of the cases, chronic Bright's disease; Bright's disease meant steady progress toward a more or less remote fatality; interrupted at times by various accidents which would still more accelerate it."[1] In this both the premises and the logic are in error and are in general as untrue as would be the opposite statement that chronic Bright's disease is never attended with albuminuria, or that albuminuria never meant nephritis. My experience leads me to believe: 1. That Bright's disease may exist without the ordinary urinary manifestations, viz.: albumin or casts. 2. That positive urinary indications, viz.: albumin and casts, may be found in the normal urine and hence do not necessarily mean Bright's disease. 3. That, given a case of chronic Bright's disease attended with albuminuria, the fact of its presence, its constancy or its amount has absolutely no prognostic significance.

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*Read before the New York State Medical Association, New York City, Oct. 24-26, 1899.

1. As to Bright's disease without urinary manifestations, there can be no question to-day that it may begin, run a more or less lengthy course and terminate fatally without at any period showing other urinary symptoms than continued, low specific gravity or frequent micturition, and cases also occur which at one period of their course have both albumin and casts, but in which these disappear and the patient has comfortable health throughout an indefinite number of years. Austin Flint, as early as 1886, says:[2] "the small granular kidney may sometimes secrete urine which in no way differs from normal," and quotes Bartel as mentioning a case in which albumin was absent throughout the whole course of the disease. He says, further, "that casts may be likewise absent." Saundby,[3] in 1889, said: "We should absolutely give up the idea still current in practice that albuminuria must always coexist with nephritis," and Cheberly,[4] speaking of the symptom albuminuria, says: "Often the only symptom of Bright's disease, it may be entirely wanting in a pronounced case and its intensity varies without direct reference to the degree of renal alteration." Coquet,[5] in a thesis on the same subject, divides the cases into three classes: 1. Those from which the symptom—albuminuria—is absent but a portion of the time. 2. Those from which it is absent all the time. Anders,[6] speaking of interstitial nephritis, says: "The existence of this condition may be unknown, as frequently happens when the post-mortem examination shows the characteristic kidney in one who, during life has no symptoms indicating renal disease." Stewart[7] writes: "There is a non-albuminuric nephritis exclusive of cases of typical fibroid kidney. In this form of nephritis albuminuria may be completely absent while signs of renal insufficiency and even uremia may appear." Fienga,[8] Denby,[9] Brandyth Symonds[10] bear witness to the same thing, and E. R. Edwards[11] also writes: "I am certain we overlook both acute and chronic nephritis in regarding albuminuria as a certain or constant symptom. Nephritis without albuminuria certainly exists." Qurirolo,[12] Lecorche,[13] Talamon[14] and Lancereaux each report many cases and agree with D. D. Stewart,[16] who says that he believes that albumin may be constantly absent and casts be detected only after much search if at all, and states frankly the conviction which he feels regarding his own experiences that he has overlooked many cases of nephritis without albumin. In summing up his article, Edwards makes this pertinent remark: "Hence as we fear instinctively, as it were, the existence of nephritis before we examine the urine, so we may still fear its existence after negative urinalysis," and he also says that casts should be searched for, as they are more constantly found than albumin, but are not invariable in nephritis.

This is also the experience of the writer. In my last twenty cases, all in private practice, where the diagnosis of nephritis was made, two only are of interest in this connection. In one, A. G. (Case 12), there was neither albumin nor casts at any time, the diagnosis being made on the edema and uremia, and in the other, A. T. (Case 10), albumin was found in one-third of all examinations, seventy-five in number, extending over approximately three months. In two only of the twenty cases could autopsies be secured, one, A. G., who had presented only negative uranalysis, and yet the pathologic condition of the kidney was unquestionable.

2. Positive urinary indications, viz., albumin and casts, may be found in the normal urine, and hence do not necessarily mean Bright's disease. By means of the recent and more exact methods of uranalysis, it is made possible to show a much smaller amount of all the elements of the urine than formerly. This is particularly true of albumin and casts until to-day quantities of the former amounting to only 1 in 300,000 can be detected and approximately measured, and casts found with comparative ease where formerly none were believed to exist. I shall attempt to show, largely by reference, that not only albumin but casts occur in the normal urine—that is, if we accept as normal the urine passed by indviduals in whom it is impossible to detect anything but perfect health and strength and harmony of physiology at the time, and whose physical condition remains unimpaired throughout many years. It is not my purpose at this time to go far into the so-called "functional" or physiologic albuminurias. That albumin, both constant and intermittent, may occur in an individual and not be renal in its origin, or if supposedly renal be consistent with perfect health and longevity, will in this day hardly be questioned. The writer has at present no less than seven cases under observation, of healthful individuals in whom albumin has existed for from two to nine years, notably one of a man about 60 years old, in whose urine, twenty years ago, was detected a considerable quantity of albumin which still exists. He is hale, hearty, and with but slight arteriosclerosis. Saunby,[16] as early as 1889, answered the question: "Does albuminuria occur in healthy persons?" in the affirmative, and based his reply on the examinations of 461 cases of supposedly healthy individuals, in 118 of whom he found albumin.

Senator,[18] of Berlin, holds that urine is a product of transudation and normally contains a certain amount of albumin, as do all transudation fluids, and that the normal amount of albumin in the urine may be increased without fault in the kidneys to the production of so-called physiologic albuminuria. The writer agrees with Richardson[19] (London), who says: "It seems now to be accepted that there is a form of albuminuria in which there is no renal disease whatever, nor actual organic disease of any organ of the body, but a physiological state during which albumin passes by the urine as if the act were natural and dependent upon some simple physiological changes." The significance of the presence of casts underwent similar changes as to opinions, to that of albumin, in estimated importance, and for similar reasons, until recent writers—Haines and Skinner[22]—claimed that by their method of careful search casts might be found in samples of urine even from persons in perfect health. If, then, we accept this as true, and allow also the statement and later statistics of Shattock and Mitchell, showing that they have found casts for years in healthful individuals, we must be impressed with the idea that little significance can be attached to them. In concluding this section, let me refer to one writer, Edwards (q. v.), who says: "Our conception has been broadened concerning the significance of casts, especially hyaline, now regarded as occurring in urine otherwise normal," and to Symonds,[23] who speaks of casts of "functional origin," or as I would prefer to call them, *physiologic casts*.

3. Given a case of chronic Bright's disease attended with albuminuria, the fact of its presence or its constancy or its amount has absolutely no prognostic significance. For some time it has been the personal opinion of the writer, based on the observations of something over one hundred cases, that the amount of destruction in the renal parenchyma is, in chronic nephritis, a measure of the prognosis, but that the amount of albumin in the urine is in no sense indicative of such destruction, and, further, that we to-day have nothing, unless it be the absolute toxicity of the urine or the degree and character of the albuminuric retinitis, that at all serves as a measure of this destruction. Albumin may simply indicate a lesion of the glomerular filtering membrane, nothing else, and to form an idea of its profundity, extent, or gravity, other sources of information are to be searched. Lecorche and Talamon (l. c.), in speaking on this point, say: "It is impossible to attach any prognostic value direct or remote to this condition, as the percentage of albumin in the urine is not proportionate to the degree of renal lesion." In a recent address before the Academy of Medicine, Paris, Semola[25] expressed himself as follows: "There can be no exact relation of cause or effect between the severity of the renal lesion and the degree of albumin excreted, and one can influence the latter only by the state of the blood, albumins without any reference to the condition of the kidneys." Mesnard[26] writes: "The intensity and character of this condition (albuminuria) are without value to indicate the degree of pathological changes in the kidneys or the imminence of the grave occurrences common in Bright's disease." That a fatal issue in Bright's disease may be forestalled in some and the prognosis as to time materially modified in almost all cases, is beyond question, for those are not uncommon where the individual life has been prolonged fifteen, twenty, or even thirty years under the influences of judicious medication and dietary.

It would seem, from what has been written, that Bright's disease might be difficult of diagnosis, and I believe it is more often overlooked than any other common disease. Insidious in its approach, indefinite in its manifestations, and far-reaching in its effect, it often baffles the most acute of diagnosticians until one realizes the full force of what was written by Edes, who says: "If in such a case as is reported by Edwards, nephritis is *suspected* when there are no suggestive cardio-vascular findings, no albumin, no casts, no decrease in total solids, specific gravity or quantity, no edema mentioned, and the possible diagnosis is confirmed by autopsy, we can only congratulate the physicians on their acuteness and feel that when a diseased organ presents absolutely no symptoms of abnormality in its products and no evidence —except so very indefinite one as nausea—of impaired functions, nobody but a clairvoyant can be blamed for overlooking it."

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SIMPLE AND ETHEREAL SULPHATES.

A SIMPLE AND RAPID METHOD FOR THEIR SEPARATE DETERMINATION—THIRTY MINUTES.

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The clinical value of the estimation of the proportion of the ethereal to the simple sulphates in the urine is an indication of the extent of intestinal putrefaction from the most common forms of intestinal organisms and the consequent associated formation of intestinal toxins is very great. The importance of the estimation of the ethereal sulphates is based on the fact that they are the result of a combination of the simple sulphates of the urine with certain aromatic principles, the products of bacterial action in the intestinal tract. The principal compounds of this class of aromatic substances are phenol, indol, skatol, cresol, and pyrocatechin. Most of these substances are, so far as we know, the exclusive result of bacterial action, which may occur anywhere in the organism, as in an abscess cavity, but which as a matter of fact nearly always occurs in the intestinal canal. The quantity of ethereal sulphates, otherwise known as conjugate, aromatic, or combined sulphates, or ester compounds therefore becomes in large measure an index of the intensity of bacterial processes. These substances may have, some of them, considerable importance on account of their own toxic properties, but are perhaps more important as indicators of a process which would have associated with them other substances more toxic than these, but not so far as we know responsive to any chemical test after their elimination through the kidneys. It is perfectly well understood that there may be other toxic processes in the intestines which do not produce aromatic substances and would not therefore lead to an increase of ethereal sulphates; the absence or normal amount of the latter has not thus the same clinical importance as an excess.

It is the more unfortunate, therefore, that the methods in vogue are so cumbersome and time-consuming as to preclude their use in ordinary routine clinical work. My first attempt at a practical solution of the question in my private clinical laboratory was with the ordinary titration method. This is intolerably slow, owing to the fact that after each addition of barium solution the specimen under examination ought to be boiled in order to insure the combination of the sulphates with the barium, and then allowed to settle before the further addition of the latter solution. This settling process, which is recommended by Purdy[1] is very tedious, owing to the finely divided state of the barium salt, aided perhaps by the proteid matter of the urine with which it sometimes appears to form a sort of gelatinous mixture. The method hereinafter described is, as I think can be easily shown, more accurate than some of those described in the textbook, while it consumes much less time. For instance, Novy[2] adds .2 c.c. at a time of a solution of barium chlorid, 1 c.c. of which is equal to 10 mg. of SO_3; this is equal to .4 c.c. of the solution used in my method, and the possible error is therefore four times as great; and could possibly be considerably more than this as he does not advise getting the amounts of barium solution on each side of the end reaction and taking the mean between them, as I do, which reduces the possible error by nearly one-half. The wide limit of possible error in some of the methods would seem to justify the assertion of Long[3] that "We have no volumetric method accurate enough for these determinations." Von Jaksch[4] does not mention a volumetric method for the estimation of sulphates at all. Finding the ordinary titration method too tedious for practical work I then resorted to the gravimetric, which is absolutely correct, providing every technical detail is carried out with perfect accuracy. When this is done, however, this method, like the last mentioned, consumes altogether too much time to be available for routine clinical work.

METHOD.

To obviate these difficulties and get approximate results sufficiently accurate for all clinical purposes, it occurred to me that a modified titration method with a series of test-tubes containing definite quantities of urine and graduated amounts of barium, all of which could be boiled together, and the end reaction sought in each, would be available; the following method, worked out with the aid of my assistant, Dr. B. W. Rhamy, by means of which both the fixed and ethereal sulphates can be estimated in about thirty minutes, the actual time of work being about ten minutes, has been the result.

The apparatus required comprises: one dozen five-inch test-tubes in two series, each labeled 1 to 6; one wire rack in which the test-tubes and contents can be boiled; watch crystals; filter paper—3 inch circles; three small funnels in filtering rack—convenient but not essential; small nipple pipette; one 5-c.c. volumetric pipette—*absolutely essential* in measuring the urine; one 1-c.c. volumetric pipette graduated in 100 cubic c.mm.; a dark background on a table on which watch crystals can be placed in good light; barium solution, 15.25 BaCl in 1000, 1 c.c.=5 mg. of SO_3; hydrocholoric acid (C.P.); acetic acid (C. P.).

The total quantity of urine required is 120 c.c.—about 4 oz. In each of the twelve test-tubes place 5 c.c. of urine accurately measured with the volumetric pipette. To each one of the first set of the tubes, designed for the estimation of the simple sulphates add 0.5 c.c. of acetic acid; then to the tubes, in their serial order, beginning with No. 1, respectively, add 0.5, 1.5, 2.5, and 3 c.c. of the BaCl solution. To each of the other set of tubes designed for the estimation of the total sulphates—including both the simple and conjugate—add 0.5 c.c. of HCl; and then to each of the numbered tubes the same quantity of BaCl solution as in the first set. The rack containing the twelve tubes is then placed in a water-bath and vigorously boiled for ten minutes, which insures the combination of all the simple sulphates with the barium in the tubes containing the acetic acid, and likewise the combination of the barium with the total sulphates in the tubes containing the HCl. A little of the fluid is now taken from a tube in the middle of the series, say of Set No. 1, with a nipple pipette, and a few drops filtered in a watch crystal and a little of the barium solution added. If there is no reaction, after a few seconds, it shows an excess of barium in that tube, and all the tubes in that set containing more barium than this one are ignored and the next lowest one taken, which may chance to give a barium reaction, and this at once indicates that the quantity of simple sulphates in the 5 c.c. of urine is between the amounts represented respectively by the quantity of the barium added to each of the tubes just tested. It is a very simple and expeditious matter to work in either direction with the tubes, until we get the two limits of possible range of sulphates which are noted, and the second set of tubes containing the HCl is treated in exactly the same manner, excepting that we will certainly know to begin with that the quantity of sulphates is somewhat greater than in the first set of tubes, and probably not more than two filtrations and qualitative tests will be necessary in order to find the limits of range of the total sulphates.

As stated above, each cubic centimeter of the barium solution corresponds to 5 mg. of SO_3. Supposing, for instance, that the barium gave no reaction in the tube to which 1.5 of the BaCl had been added, but did give it in the tube to which 1 had been added. By a simple calculation we would know that the quantity of SO_3 contained in 5 c.c. of urine is more than 5 mg. and less than 7.5 mg. These calculations are very simple and can be made in an instant.

The tubes are now emptied and refilled with 5 c.c. of urine again—*and more important than in the preliminary test—accurately measured with the volumetric pipette,* the acetic acid and HCl again added precisely the same as in the preliminary test. The quantity of barium solution to be added, however, will depend on the results of the first titration. In the case above supposed, in which the barium reaction was obtained in the filtrate from the tube to which 1 c.c. has been added, and none in the tube to which 1.5 c.c. had been added, the quantity of barium solution would be graduated through the six tubes in quantities between 1 and 1.5, by means of the 1 c.c. volumetric pipette graduated in 100 millimeters. In this instance we would add 1, 1.1, 1.2, 1.3, 1.4, 1.5 c.c. of the barium solution respectively. The other set of tubes would be started in a similar manner, varying the BaCl in .1 c.c. or 100 c.mm. amount, but in quantities indicated by the preliminary test.

Again the tubes are placed in the rack, put in a hot water bath and boiled for ten minutes, and again tested as before. Suppose now that there is no barium reaction with the filtrate from the tube to which 1.3 c.c. of the barium solution had been added, but that there is in the one to which 1.2 c.c. was added; it would follow, by a simple calculation, that the quantity of SO_3 in 5 c.c. of urine must be more than 6 mg. and less than 6.5 mg. We now take the mean of these two quantities, which would be 6.25 mg., as the approximate quantity of SO_3 present in the 5 c.c. of urine. Supposing there has been 1000 c.c. voided in the twenty-four hours, multiplying this by 200—the quotient of 1000 divided by 5—gives us 1.25 grams as the quantity of simple sulphates present in the urine in twenty-four hours. We know with absolute certainty, assuming that the error of measurement with the 5 c.c. volumetric pipette is so small as to be negligible, that the total quantity in the twenty-four hours must be greater than 1.2 and less than 1.3. The difference between 1.2 and 1.3 is only 8 per cent. of the first-named amount. As we take the mean between them the error must be less than 4 per cent., and is too small to be of any clinical importance. This error could be still further reduced by diluting the barium solution one-half and using more tubes for the final test, which would bring the limit of possible error down to less than 2 per cent., but the results here indicated are sufficiently close for all clinical purposes.

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[1] Purdy: Analysis of Urine, 1898, p. 60.

[2] Novy: Physiological Chemistry, 1898, p. 244.

[3] J. H. Long: Manual of Chemical Physiology and Urine Analysis, 1898, p. 297.

[4] Von Jaksch: Clinical Diagnosis (translation), 1897.

Having estimated the quantity of simple sulphates and the quantity of total—i. e., simple and conjugate sulphates combined—it only remains to subtract the former from the latter, which will give the quantity of ethereal sulphates, the proportion of which to the simple sulphates should be about 1 to 10 in ordinary health.

It may now and then happen that the quantity of sulphates present in the urine will be outside the range provided for by the preliminary test. This has very rarely happened, however, in a large experience in my clinical laboratory, dealing with a large range of cases exclusively within the domain of internal medicine, and almost exclusively "office patients," in whom chronic nutritional disorders, and gastrointestinal disturbances were rife.

There are several points in the method concerning which I would like to make brief comment. In the first place, if Salkowski's modification of Baumann's process as adopted by Von Jaksch[5] is reliable, the acidulation with acetic acid and boiling for the complete precipitation of the simple sulphates is unnecessary. In Salkowski's process they are precipitated by the simple addition of alkaline barium chlorid solution, and filtered after standing a few minutes, the remaining ethereal sulphates being estimated by a separate process. I have satisfied myself by repeated tests that this does remove the simple sulphates so completely that no reaction can be seen after adding acetic acid to the filtrate and boiling with excess of barium; however, out of deference to American authorities, and in view of the fact that both sets of tubes can be simultaneously boiled without additional trouble, these details are recommended.

The length of time which the ethereal sulphates are boiled with hydrochloric acid in my method may be regarded as short, in view of the fact that from a quarter of an hour to an hour is recommended by various authors. This I have also tested and find that no amount of boiling, up to half an hour, changes the results within the approximate limits already indicated.

In conclusion, it may be said that for those physicians who do not care to go to the small amount of trouble indicated in the method above described for the separate determination of simple and ethereal sulphates, approximate results can be obtained by the combination of Jaffe's method for the detection of indican with Salkowski's gravimetric method as given by Von Jaksch, together with the distillation of the urine and the addition of bromin water as bases for phenol and cresol and testing the reaction with hydrochloric acid as a rough test for skatol.

[illegible] West Main Street.

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[5] [illegible]

According to the British Med. Jour. (March 17), Spain has ordered a report on malaria. The Royal Academy of Medicine is to prepare it within two years.

A STUDY IN ANESTHESIA.

BY ROSALIE M. LADOVA, B.S., M.D.

CHICAGO.

I submit a record of 101 cases of anesthesia administered by me during my service at the Woman's and Mary Thompson hospitals of Chicago. Notes were taken as to the duration, pulse and respiration range, condition of the pupils, gastric irritation, how soon anesthetized, how soon out, and the amount of anesthetic. The pulse and respiration were recorded every time there was a change in either of the two, and in a few cases a complete record was made. Space does not permit publication of the tables *in toto,* and so I give only the lowest and highest pulse and respiration, except that their complete range is given in a few cases. What attracts special attention in these tables is this pulse and respiration range, and the relation of the two under anesthesia. The normal ratio of the pulse and respiration is disturbed in almost every case, and the changes in one are quite independent of the changes in the other.

CASE 6.

Pulse.	Respiration.	Pulse.	Respiration.
114	30	114	60
114	40	102	48
96	54	120	54
102	48	108	42
90	72	114	48
96	66	120	42
120	60	120	42
120	48		

CASE 55.

Pulse.	Respiration.	Pulse.	Respiration.
120	36	120	36
108	36	120	48
96	42	138	42
120	42	120	42
120	48	132	48
108	48	120	48
120	36	132	42
100	36		

CASE 67.

Pulse.	Respiration.	Pulse.	Respiration.
96	30	72	36
84	30	72	33
96	30	78	36
72	36	72	36
72	42	90	36
72	24	108	39

Cases 4, 5, 7, 12, 36, 49, 61, 65, 73, 74, 75, 76, 82, 83, 84, 88, 89, 90 and 99 show the same.

In Case 101, stretching of the rectal sphincter brought the respiration up from 30 to 60, without affecting the pulse. This emphasizes the importance of watching the former as well as the latter in every case. In two of the series the radial pulse was so small that it was difficult to count it, but the facial, temporal and carotid were good, also color, respiration, and pupilary reflex good, and the patients went through the operation safely. Hence the importance of taking the pulse in more than one location. While the pulse and respiration range depend to some extent on the duration and nature of the operation, the amount of shock connected with it, the amount of the anesthetic consumed, there are individual variations. I am rather inclined to think that shock of the operation is a more potent factor than is generally held. The highest pulse in the series was 168, the lowest 66. The highest respiration was 78, the lowest 18, both with a pulse of 108. The relation between the condition of the pupils and the pulse and respiration is not as close as one would be led to suppose, the connection between the pupil and respiration being the closer of the two. The pupils were contracted and active throughout, in 72 cases, moderately dilated and active in 6, contracted and sluggish in 3, dilated, sluggish or inactive in 3, changeable and unequal in 3. Case 6 had a duration of one hour and forty minutes. The pulse range was 90-120, respiration 30-72. The pupils were dilated, at times inactive, at times sluggish. The respiration here was high at times, and the pupils to correspond. Case 9

Case.	Duration.	Pulse, Resp.	Pupils.	Gastric irritation.	Anesthetized.	Out.	Amount of anesthetic.
1	35 m.	98-120; 22-30	Contracted, active.	Yes		40 m.	Ether, ½ lb.
2	2 h. 40 m.	96-120; 42-60	Contracted, active.	Yes	20 m.	20 m.	Ether, 1 lb. A.C.E. dr. 3.
3	1 h. 30 m.	108-132; 36-48	Contracted, active.	Yes	15 m.	1 h.	
4		136-150; 42-54	Contracted, active.	Yes	15 m.	25 m.	
5	30 m.	120-120; 30	Contracted, active.	No	30 m.	10 m.	A.C.E. dr. 9; $CHCl_3$, dr. 1.
6	1 h. 40 m.	90-120; 30-72	Widely dilated, at times sluggish, at times inactive.	Yes.	20 m.	1 h.	A.C.E. dr. 3; ether 1 lb.
7	1 h. 30 m.	78-108; 30-54	Contracted, active.	Yes.	20 m.	1 h. 30 m.	
8	45 m.	96-102; 30-42	Contracted, active.	Yes	10 m.	1 h.	
9	1 h.	78-90; 30-42	Contracted, sluggish, later moderately dilated, inactive.	Yes	10 m.	1 h.	Ether, ½ lb.
10		90-102; 30-36	Contracted, active.	Yes			A.C.E. dr. 4; ether, oz. 4.
11	1 h.	102-120; 36-54	Contracted, active.	Yes	20 m.	2 hrs.	
12	1 h.	84-102; 30-54	Contracted, active.	Yes	10 m.	1 h.	
13	1 h. 30 m.	96-108; 33-48	Moderately dilated, active.	Yes		1 h. 30 m.	A.C.E. dr. 10; ether, 1 lb.
14	1 h.	84-114; 24-42	Contracted, active.	Yes	10 m.	1 h. 30 m.	Ether, oz. 13.
15	2 h. 15 m.	78-120; 30-48	Contracted, active.	Yes	10 m.	1 h. 30 m.	A.E.C. dr. 4; ether, ½ lb.
16	30 m.	90-102; 24-30	Contracted, active.	Yes	15 m.	1 h. 30 m.	A.C.E. dr. 8; oz. 3
17	2 h.	96-104; 32-42	Contracted, active, last 45 m. dilated, but active.	Yes		1 h. 30 m.	
18	2 h.	96-120; 36-42	Contracted, dilated; contracted, active.	Yes	15 m.	45 m.	
19	45 m.	120; 36	Contracted, active.	Yes		1 h. 10 m.	
20	1 h.	92-120; 24-30	Contracted, active.	No	15 m.	1 h.	
21	50 m.	120; 36	Contracted, active.	No	10 m.	1 h. 40 m.	
22	30 m.	120-150;	Contracted, active.	Yes	15 m.	25 m.	
23	1 h. 45 m.	110-138; 28-54	Contracted, active.	No.	10 m.	45 m.	
24	45 m.	96-108; 24-36	Dilated, contracted; moderately dilated, active.	Yes	15 m.	1 h. 15 m.	
25	15 m.	132; 30	Contracted, active.	No.	15 m.	15 m.	
26	40 m.	132; 36	Contracted, active.	Yes	10 m.	50 m.	
27	40 m.	120; 36	Contracted, active.	Yes	10 m.	25 m.	
28	45 m.	66-84; 36	Contracted, active.	Yes	10 m.	30 m.	
29	45 m.	102-138; 36	Contracted, active.	No	15 m.	30 m.	
30	20 m	96; 30	Contracted, active.	No.	10 m.		
31	35 m.	120; 54	Contracted, later dilated, but active.	Yes.	10 m.	1 h. 15 m.	
32	1 h. 5 m.	96-120; 36-48	Contracted, active.	Yes	15 m.	1 h. 45 m.	
33	1 h. 15 m.	104-132;	Contracted, active; dilated, contracted on withdrawal of anesthetic.	Yes		2 hrs. 45 m.	
34	30 m.		Contracted, active.	No			
35	40 m.	96-120; 30-36	Dilated, sluggish.			1 h. 25 m.	Ether, ½ lb.
36	55 m.	90-108; 36-42	Contracted, active.		10 m.	1 h. 25 m.	Ether, oz. 18.
37	50 m.	72-84; 28-48	Contracted, active.	Yes			Ether, oz. 9.
38	1 h.	104-120; 30-42	Contracted, active.	No		1 h. 10 m.	A. C. E. dr. 5; ether, oz. 11.
39	10 m.	90; 30	Contracted, active.	No.		1 h. 10 m.	A. C. E. dr. 5; ether, oz. 12.
40	40 m.	96-96; 32-36	Contracted, active.	No		10 m.	Ether, ½ lb.
41	45 m.	72-108; 36-42	Contracted, active.	Yes		25 m.	
42	1 h. 20 m.	84-120; 24-36	Contracted, active.	Yes		1 h. 5 m.	A. C. E. dr. 11; ether, ½ lb.
43	30 m.	78-108; 30-42	Contracted, active.	No		2 hrs. 25 m.	Ether, oz. 12.
44	1 h. 25 m.	78-114; 42-48	Contracted, active.	No		1 h	A. C. E. dr. 8; ether, oz. 11.
45	1 h.	76-114; 24-42	Contracted, active.	Yes		2 hrs. 20 m	A. C. E. dr. 6; ether, oz. 13.
46	2 hrs. 25 m.	96-132; 36-48	Sluggish, later dilated.	No	5 m.	45 m.	A. C. E. oz. 2; ether, ½ lb.
47	2 hrs.	84-120; 42-60	Contracted, active.	Yes		30 m.	A. C. E. dr. 8; ether, oz. 14.
48	1 h.	90-120; 30-54	Contracted, active.	Yes		2 hrs. 5 m	Ether, oz. 7.
49	1 h. 50 m.	72-90; 36-36	Contracted, active.	No		1 h. 30 m.	Ether, ½ lb.
50	50 m.	78-120; 36-48	Contracted, active.	Yes		2 hrs.	Ether, ½ lb.
51	1 h. 45 m.	84-120; 36-42	Contracted, active	Yes		1 h. 35 m.	A. C. E. dr. 9; ether, ½ lb.
52	50 m.	72-114; 24-30	Contracted, active, dilated with pulse 72; contracted on withdrawal of anesthetic.	Yes		1 h. 10 m.	A. C. E. dr. 4; ether, oz. 13.
53	45 m.	108-120; 42-78	Moderately dilated				
54	15 m.	96-114; 24-36		No		45 m.	Ether, oz. 15.
55	2 hrs.	96-138; 36-48	Moderately dilated, active.	No		50 m.	Ether, oz. 12.
56	1 h.	90-102; 30-36	Contracted, active.	Yes		1 h.	Ether, oz. 5.
57	45 m.	84-114; 24-36	Contracted, active	No		20 m.	
58	50 m.	72-120; 30-36	Contracted, active.	No		30 m.	
59	40 m.	144;	Contracted, active	Yes		10 m.	
60	35 m.	118-120; 30-36	Contracted, active.	Yes	10 m.	20 m.	
61	1 h.	72-90; 30-30	Contracted, active.	No		1 h.	
62	30 m.	96-120;	Contracted, active	No	10 m.	20 m.	
63	50 m.	96-114; 24-42	Contracted, active.		10 m.		
64	45 m.	96-120; 30-36	Contracted, active				
65	45 m.	94-132; 30-34	Contracted, active	No	10 m.	15 m.	
66	20 m.	114-120; 30-30	Contracted, active.	No			
67	2 hrs.	72-108; 24-42	Contracted, active	No	10 m.	30 m.	Ether, ½ lb.
68	1 h.	90-108; 20-30	Contracted, active	Yes	10 m.	1 h.	Ether, ½ lb.
69	30 m.	90; 30	Contracted, active		15 m.		Ether, oz. 5.
70	1 h.	90-108; 30-48	Contracted, active.	No	10 m.	30 m.	
71	1 h. 15 m.	90-132; 30-48	Contracted, active.	Yes		20 m.	$CHCl_3$, oz. 2.
72	50 m.	102-126; 18-36	Sluggish.	No	15 m.	20 m.	Ether, oz. 7.
73	30 m.	102-114; 42-42	Sluggish	No	15 m.	20 m.	
74	45 m.	120-132; 42	Contracted, active.	No	7 m	20 m.	$CHCl_3$, oz. 1.
75	35 m.	72-96; 24-30	Contracted, active.	Yes	10 m.	30 m.	
76	20 m	90-102; 24	Contracted, active.	Yes	10 m.	20 m.	
77	45 m.	90-102; 24-30	Moderately dilated, active	No	10 m	20 m.	
78	1 h.	42-60	Sluggish, then dilated		7 m		Chloroform and ether 1:2, oz. 1
79	15 m.	96-102; 24-30	Contracted, active.	Yes	5 m.	5 m.	$CHCl_3$, dr. 3.
80	20 m.	84-102; 30-48	Contracted, active.		15 m.	20 m.	Ether, oz. 6.
81	25 m.	96-120; 36-42	Contracted, active		10 m.	15 m.	
82	1 h. 10 m.	90-132; 36-42	Contracted, active	Yes	7 m.	30 m	
83	30 m.	99-102; 30-36	Contracted, active	No	10 m.	50 m.	
84	30 m.	132-138; 54	Moderately dilated, active.		15 m.	15 m.	Ether, oz. 11.
85	30 m.	78-120; 30-48	Contracted, active	Yes	10 m.	15 m	Ether, oz. 4.
86	25 m	90-102; [illegible]	Contracted, active	No	10 m.	10 m.	Ether, oz. 7.
87	1 h. 20 m	102-168; 36-48	Contracted, active, later dilated	No	25 m.	15 m	Ether, 1 lb.
88	1 h. 10 m	72-90; 24-48	Sluggish.	No	15 m.	5 m	Ether, oz. 6; $CHCl_3$, dr. 7.
89	25 m.	96-114; 30-36	Contracted, active	No	15 m	30 m	Ether, oz. 6.
90	45 m.	72-78; 18-24	Pin point.	No	15 m.	15 m.	Ether, oz. 10.
91	25 m.	78-90; 24		No	10 m	15 m	
92	2 hrs. 15 m	[illegible]-102; 30-54	Sluggish, wide, inactive, contracted, active	Yes	5 m	20 m.	$CHCl_3$, oz., dr. 1; ether, oz. 6½.
93	55 m.	78-102; 24-36	Contracted, active	No	15 m.	40 m	Ether, oz. 10.
94	20 m	90-102; 30	Contracted, active	Yes	10 m.	30 m.	Ether, oz. 6.
95	1 h. 40 m.	90-102; 30-42	Contracted, active, unequal inact., unequal right act. both act., both inact., both act., both inact. again.	No	10 m.	10 m.	$CHCl_3$, oz. 1, dr. 2.
96	5 m	72-90; 30-42	Contracted, active	No	10 m.	15 m.	$CHCl_3$, oz. 1.
97	35 m.	72-90; 20-24	Contracted, active	Yes	15 m.	30 m	Ether, oz. 6.
98	1 h.	90-114; 26-42	Contracted, active	Yes	15 m	30 m	Ether, oz. 11.
99	50 m.		Contracted, active.	Yes	5 m	15 m.	Ether, oz. 8.
100	1 h	66-72; 24-30	Contracted, active	Yes	5 m	20 m.	$CHCl_3$, oz. 1, dr. 2.
101	1 h. 5 m.	102-132; 30-60	Contracted, active	No	5 m		$CHCl_3$, oz. 1, dr. 2.

had a duration of one hour. The pulse was 84-90, the respiration 30-42. The pupils were contracted, but sluggish; later, with a pulse of 84 and respiration 42, they were moderately dilated and inactive to the end.

Case 35 had a duration of 40 minutes. The pulse was 90-120, respiration 30-36. The pupils were dilated and sluggish throughout. Case 95 gave a pulse of 90-102, respiration 30-42, pupils changeable, unequal and at times inactive. Case 92 had a duration of 2¼ hours. Pulse was 66-102, respiration 30-54, the pupils sluggish, then wide, inactive, later contracted and active. (Note Cases 72 and 73.) In some cases a moderately dilated pupil, with an active or sluggish reflex is due to an overdose of the anesthetic, and then it contracts on withdrawal of the latter; in others it may be due to anemia, in which case the condition sets in early in the anesthesia and withdrawal of this produces no effect.

The following case is very instructive, showing the rather loose connection between the pulse, respiration and pupil: Case 95 gave a pulse of 96, 102, 102, 102, 90, 102, 96, 90, 96, 90, 90, 108, 96, and a respiration of 30, 30, 30, 42, 33, 30, 36, 30, 36, 39, 42, 42, 36. The pupils were contracted, active, then unequal and inactive, unequal, right active, left inactive, then both active, both inactive, then again both active, then both inactive.

In 48 of the series gastric irritation was present, in 38 absent. In the rest no record was made. Although the degree of anesthesia has some bearing on the nausea and vomiting, incomplete anesthesia favoring it, it is often due to high irritability of the stomach of the individual. In Case 19, the patient, after being promptly anesthetized, was kept lightly under for some time on account of delay in the operation. Nausea persisted a week. Whether it was due to this fact alone I can not positively say, but I am inclined to think that this was the case.

Complete anesthesia was secured in less than ten minutes in 8 cases, in ten in 30, in fifteen in 20, in twenty in 4, in twenty-five in 1, in thirty in 1 case. Ten to fifteen minutes is the average time; to try to secure it in much less time means to shut off the air before the patient has lost consciousness, and give a smothering feeling, which is anything but humane.

The time it took the patients to get over the effects of the anesthetic varied from five minutes to 2¾ hours. The length of time corresponds more to the amount of the anesthetic consumed than to the duration of the anesthetic. (Note Cases 43, 51, 54 and 79.) While the amount consumed depends on the individual susceptibility of the patient, to some extent, the duration of the anesthesia and the skill of the anesthetist, which is acquired through experience combined with close observation, have much to do with it. In Cases 43 and 54, the individual susceptibility seems to be the determining factor. (Note Cases 2, 15, 42, 43, 47, 49, 51, 52, 54, 39, 55, 56, 71 and 78.)

The stage of excitement was present in only 4 patients. I will say in conclusion that by giving the patient his or her undivided attention as to pulse, respiration and pupilary reflex, the anesthetist will avoid cyanosis, dilated and inactive pupils, apnea and other unfavorable signs.

I can not imagine anything more disturbing to the equanimity of the surgeon than the anesthetizer's report that the patient is not breathing well, or that the pupils are beginning to dilate. It is almost inconceivable that the idea of a trained anesthetist in every hospital is gaining ground so slowly in the minds of those in power.

[illegible]

A PHYSIOLOGIC CONSIDERATION OF THE FOOD VALUE OF ALCOHOL,

WITH ESPECIAL REFERENCE TO THE EXPERIMENTS OF PROFESSOR W. O. ATWATER, CONTAINED IN BULLETIN NO. 69 OF THE UNITED STATES DEPARTMENT OF AGRICULTURE.

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It has been remarked that the medical men of the present day are distinguished above all who have preceded them by their practical knowledge of dietetics. It may with equal truth be said that the people of the present day exhibit more intelligent interest in the discussion of sanitary problems, both public and private, than any preceding generation, and this interest appears to be steadily increasing. In fact, it is a most encouraging sign of our advance in civilization, and a favorable evidence of our culture at this end of the century, that so large a proportion of the community is demanding exact information as to the positive and economic value of the various alimentary substances offered to man as his daily food. Probably there is no other substance of this kind which is attracting more general attention at this time than alcohol, nor about which the desire for an exact determination of the true food value is more insistent.

As to the cause of this gratifying interest in dietetics, it may in part be ascribed to the general increase of intelligence in the community, and it may have partly resulted from the activity of local boards of health, which may have forcibly directed public attention to the importance of the questions. A large share, however, in our opinion, in this country at least, may with justice be attributed to the systematic study of physiology and hygiene, including the scientific temperance instruction, which has for some years been a part of the regular course of study for all pupils in our public schools. This course has so commended itself to the judgment of the people that the national congress and—with the exception of Virginia, Georgia and Utah—every state of the Union, have passed laws requiring such instruction to be given to all pupils in all schools under federal or state jurisdiction. This study is popularly called "scientific temperance" because it includes special instruction as to the physiologic effects of alcoholic drinks and other narcotics when taken into the human body. To the untiring energy and zeal of the Department of Scientific Instruction of the Woman's Christian Temperance Union, too much credit can not be given for bringing about this gratifying state of affairs, nor to the superintendent of that department, Mrs. Mary H. Hunt, of Boston, under whose skilful management the efforts of the Union have been rewarded with such signal success.

Recently a criticism of the teachings contained in the text-books recommended by this department on the subject of alcohol has been made, and some of the statements, especially the one declaring alcohol not to be a food but that it is a poison, have been challenged. The recent experiments of Professor Atwater have been freely cited in support of the foregoing criticism, and also of the view that alcohol is entitled to rank as a food with sugar, starch and fat.

In the summary of the report of Professor Atwater's experiments, issued by the United States Department of Agriculture, the following paragraphs are found:

> As regards the special action of alcohol three important results were observed in these experiments. 1. Extremely little of the alcohol was given off from the body unconsumed, in the breath or otherwise. The alcohol was oxidized, i. e., burned, as completely as bread, meat, and other ordinary foods in the body and in the same way. 2. In the oxidation all of the potential energy of the alcohol was transformed into heat or muscular energy. In other words, the body transformed the energy of the alcohol just as it did that of sugar, starch and fat. 3. The alcohol protected the material of the body from consumption just as effectively as the corresponding amounts of sugar, starch and fat. That is, whether the body was at rest or at work, it held its own just as well when alcohol formed a part of the diet as it did with a diet without alcohol. The official summary further states that in unauthorized statements regarding these experiments, which have been widely disseminated, much more has been claimed for them than they legitimately cover.

The summary concludes with the following caution, which all who discuss the question will do well to heed:

> It should be remembered that the physiologic action of alcohol involves much besides its nutritive effect. Its influence on the circulatory and nervous functions is especially important. These matters are not treated in Professor Atwater's experiments.

It is to be regretted that this last statement did not accompany the newspaper reports sent out last June, five months in advance of the publication of any data on which they were based. If it had been made then, much misapprehension on the part of the public, in favor of the use of alcohol as a beverage, might have been prevented.

Previous to making an analysis of the results obtained by Professor Atwater, as published in "Bulletin 69," of the Department of Agriculture, in order to ascertain their real scientific import, it may not be amiss to briefly review the testimony of a few well-known authorities as to the value of alcohol as a food and its place in dietetics. Professor Atwater has said that "Whether alcohol is to be called a food or not depends upon the definition of a food." As he does not himself supply such definition, it is to be inferred that he is in accord with other physiologists upon the subject of what the requirements of a food should be. It is understood that a definition might be framed which physiologists generally could not accept. For instance, to adopt the legal definition, as contained in laws to prevent food-adulteration, "that the term food shall include every article used for food or drink by man," would be to settle the whole question offhand, since alcoholic liquors, being used for drink by man, would necessarily be food.

However useful such a definition might prove for purposes of preventing food-adulteration, it obviously does not touch on the very vital question of the real nutritive value of alcohol. The "Standard Dictionary" defines food as "any substance that, being taken into the body of animal or plant, serves, through organic action, to build up normal structure or supply the waste of tissue." This definition, on the other hand, is too restricted to admit alcohol as a food, for no physiologist, with any regard for his reputation, would assert, in the light of present knowledge, that alcohol serves "to build up normal structure or supply the waste of tissue." Within the limits of this definition, alcohol could not be admitted to be a food at all. It is to be noticed, however, that this definition entirely disregards the important class of thermogenic foods, which do not necessarily build up tissue, but which are destroyed in the system by oxidation, just as oil is burnt in a lamp, and which yield energy in the form of heat as a result of their combustion. If alcohol is to be regarded as a food, it is to this class of substances that it must be assigned. In fact, the utmost claim that is made by those who defend the use of alcohol as a food is that a small quantity, not exceeding 1½ or 2 ounces in twenty-four hours, for a healthy adult, can be consumed or oxidized in the human body, yielding up its equivalent in calories of energy, and that it is therefore capable of taking the place of a corresponding small quantity of fat or of carbohydrates in the food. In the summary of Professor Atwater's experiments already referred to, the statement is made that:

> The alcohol was oxidized, i. e., burned, as completely as bread, meat and other ordinary foods in the body and in the same way. In the oxidation all of the potential energy of the alcohol was transferred into heat or muscular energy. In other words, the body transformed the energy of the alcohol just as it did that of starch, sugar and fat.

The natural inference from this is that a moderate quantity of alcohol is an efficient and acceptable substitute for an equivalent amount of hydrogen and carbon which might be contained in starch, sugar, or fat in the daily diet. Such an inference, however, is incorrect and misleading. It is incorrect because alcohol is not innocuous like sugar and starch, and it can not therefore be accepted as a substitute in any normal dietary. We have already quoted Professor Atwater's official summary, as saying:

> It should be remembered that the physiologic action of alcohol involves much besides its nutritive effect. Its influence on the circulatory and nervous functions is especially important. These matters are not treated in Professor Atwater's experiments.

A food, as we define it, is any substance which, when taken into the living human body, is capable of—usually after being subjected to the action of the digestive organs—entering, through the absorbent vessels, into the circulation, and of supplying assimilative material and potential energy to the cellular elements of the tissues, and of promoting normal metabolism and the general bodily health. The following less technical definition also, though simpler, seems to be what every definition should be, both exclusive and inclusive: "Food is any substance whose nature it is, when absorbed into the blood, to build up tissue, retard waste, or furnish energy to the body without injuring the latter." Or in still simpler and more popular form: "Food is a substance which is capable of assimilation and which, when properly administered, nourishes the body without injuring it."

When the statement is made to the public that a certain substance is a food the implication is that it is a wholesome and beneficial food under ordinary and appropriate circumstances. The scientific proof that a limited quantity of alcohol can be oxidized in the body, even though heat and force be liberated by such oxidation, would not make alcohol a food like sugar or starch, as has been hastily assumed to be the case, in the face of cumulative testimony, of experience and of physiologic investigation, to the contrary. Professor Atwater's own figures in his "metabolism experiments Numbers 7 and 10" do not support his claim that the alcohol "protected the material of the body from consumption just as effectively as the corresponding amounts of sugar, starch or fat," as we shall proceed to demonstrate presently.

Even admitting that alcohol oxidized yields certain calories of energy, it has not therefore, *ipso facto,* any just claim to be regarded as a substance suitable for human food. On the contrary, this claim is completely disproved if its deleterious effects can be shown to more than counterbalance this slight advantage. It is true that such general effects on circulatory and nervous functions are admittedly beyond the scope of Professor Atwater's experiments, but they can not be omitted from a discussion of the use of alcohol as a food. In this connection we quote the well-known author of a standard text-book on physiology, Prof. William B. Carpenter, whose views, expressed nearly half a century ago, are as true to-day as they were then, having never been disproved. Professor Carpenter says:

> The physiologic objections to the habitual use of alcoholic liquors rest on the following grounds: 1. They are universally admitted to possess a *poisonous* character, exhibited when they are taken in tolerably large doses, by loss of appetite and muscular power and control over the voluntary movements, with partial paralysis of the sympathetic nervous system, leading to dilatation of the smaller vessels; while death is the speedy result of very large doses through the suspension of nervous power, which their introduction into the circulation in sufficient quantity is certain to induce. 2. When habitually used in excessive quantities, universal experience shows that alcoholic liquors tend to produce a morbid condition of the body at large, and especially of the nervous system, this condition being such as a knowledge of its *modus operandi* on the body would lead the physiologist to predicate. 3. The frequent occurrence of more chronic diseases of the same character, among persons in advanced life, who have habitually made use of alcoholic liquors in "moderate" amount, affords a strong probability that they result from a gradual perversion of the nutritive processes of which that habit is the cause. This perversion manifests itself peculiarly in the tendency to fatty degeneration of the muscular substances of the heart, of the walls of the arteries, of the glandular substances of the kidney and liver, and of many other parts; and thus gives rise to a great variety of forms of disease. 4. The special liability of the intemperate to zymotic diseases seems an indication that the *habitual* ingestion of alcoholic liquors tends to prevent the due elimination of the azotized products of the disintegration of the system, and thus induces a "fermentable" condition of the blood. 5. Extended experience has shown that, notwithstanding the temporary augmentation of power, which may result from the occasional use of fermented liquors, the capacity for prolonged endurance of mental or bodily labor, and for resisting the extremes of heat and cold, as well as other depressing agencies, is diminished rather than increased by their habitual employment; and the reason for this, so far as cold is concerned, is sufficiently obvious. Under ordinary circumstances of exposure to cold, the circulation of the blood through the vessels of the surface, owing to the contraction of the cutaneous capillaries, is greatly reduced, and much less heat is lost by contraction and radiation, the skin alone being a very bad conductor. When, however, considerable quantities of alcohol are taken more or less complete paralysis of the vasomotor nervous system is the result: the vessels of the skin no longer respond to the stimulus of cold, and the blood traversing them loses a large amount of heat; so that while in all instances where the quantity of alcohol consumed exceeds the moderate limits of 1½ to 2 ounces *per diem*, there is diminished power of resistance to cold, this is felt much more acutely in extreme cases, and death may take place from the general reduction of the temperature. On these grounds the author has felt himself fully justified in the conclusion that for physiologic reasons alone, habitual abstinence from alcoholic liquors is the best rule that can be laid down for the great majority of healthy individuals; the exceptional cases in which any real benefit can be derived from their use being comparatively few.

This positive and authoritative statement of the physiologic objections to the use of alcohol, even in moderate quantity, in the diet, concluding with a strong recommendation for habitual abstinence as the best rule that can be laid down for the great majority of healthy individuals, seems to be conclusive. It certainly should not be laid aside or lost sight of in any discussion of the questions of scientific interest regarding the effects of alcohol on metabolism and its possible limited action as a force-producer or force-liberator in the human system.

The favorable effects of alcoholic preparations, when administered in certain conditions of disease, have been offered as an argument to prove the nutritive value of alcohol. This claim is summarily dismissed by Prof. J. Bauer, in the following statement: "I am, however, of the opinion that the favorable effects of the administration of alcoholic drinks in many instances are satisfactorily explained if we regard them solely as excitants and stimulants, those especially which contain no appreciable constituents other than alcohol and water, and estimate their nutritive properties as insignificant."[1] Clinical observation therefore confirms physiologic teaching that alcohol is not a food, but is simply an excitant, yielding a comparatively insignificant amount of energy to the body.

Direct testimony to the same effect is also given by Dr. Rudolf Rosemann, in an article "On the Influence of Alcohol upon Human Metabolism,"[2] in which he details the results of certain physiologic experiments similar in their scope to Professor Atwater's. As the result of these experiments, Rosemann concludes that alcohol does not possess the same power that starches and fats have, to protect the albuminous principles from wasting. This is contrary to the statement of the summary already referred to—which, however, as already intimated, does not appear to be in accord with Professor Atwater's own figures. Rosemann confirms the statement of Miura that "albumin-sparing is no primary action of alcohol" and concludes his article with the remark that, as a food, alcohol must be regarded merely "as an article of luxury (Genuss-mittel) because its action as a nutritive material is, solely and alone, the storing up of fat, which, generally speaking, is not a very desirable object." As regards its value to the sick, he says: "So much, however, can be regarded as certainly estabished; the hope that the calories of alcohol may be available for the protection of the proteids of the sick must be regarded as having no foundation. . . . Alcohol can no longer be looked upon as an efficient remedy for diet-therapy."

It is a curious but a well-established fact in physiology and pharmacology that the human system under certain circumstances is capable of gradually becoming accustomed to the actions of certain poisons, so that, when reguarly taken for a length of time, an adjustment of the nutritive processes and nervous forces to the new conditions takes place. In such cases the sudden taking away of the poison is usually accompanied by symptoms or disorder and disturbance of apparent health. This is seen in the case of the arsenic eaters of Styria, and in morphin victims, and also in the case of persons who are accustomed to the constant use of alcohol as a part of their daily diet. That such individuals suffer from impaired vitality is a well-known clinical fact. It has been repeatedly observed by surgeons that patients accustomed to the use of spirits require much larger quantities of ether or chloroform to induce anesthesia for the performance of surgical operations. Unfortunately for such individuals, it is in just these cases that fatty degeneration and fibrous change have occurred in the heart, liver, and kidneys, and in these fatal accidents are most likely to occur from the effects of anesthetics.

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[1] Ziemssen's Handbook of General Therapeutics, vol. i, p. 70. English edition, New York, 1885.

[2] Ueber den Einfluss des Alkohols auf dem Menschlichen Stoffwechsel. Ztft. f. Diatetische und Physikalische Therapie, Leipzig, 1898, p. 138.

At the present day, the weight of evidence is decidedly against the popular opinion that alcohol stimulates the nerve-centers. In opposition to Binz and his followers, Schmiedeberg, Bunge and others maintain that alcohol does not stimulate the central nervous system, the symptoms of excitement being not due to true stimulation of motor areas, but that these symptoms occur as the result of those areas being freed from control by the weakening of the highest functions of the brain—the will and the self-restraint. A recent authority, Professor Cushny, says that Schmiedeberg's theory seems the more satisfactory one—"for there is evidence on every hand that even the smallest quantities of alcohol tend to lessen the activity of the brain. . . . Evidences of the depressing action of alcohol on the brain are embarrassing by their number."[3] It is needless to stop to point out that neither sugar nor fat, taken into the body as food, cause any such depressing action on the nerve-cells as does alcohol, and this fact of itself is sufficient to stamp it as unfit for human food and to place it as a narcotic among medicinal substances in the class to which opium, the bromids, and anesthetic agents belong—a place that is usually assigned to it in our text-books on pharmacology and therapeutics.

Turning now to the examination of the details of Professor Atwater's experiments, we find that criticism is to some extent forestalled by the statement that they are only a portion of a series, the data of which are to be published at a future time, and that they are preliminary and not conclusive. It is to be noted, however, that the principal subject of the experiments was a man who had been accustomed from his youth to the use of a moderate quantity of alcohol in his diet. As already intimated above, it is questionable whether such an individual is in a strictly normal condition, and whether or not the results from such experiments could be accepted as applicable to healthy adults who had not become accustomed to alcohol. This point, however, we will not dwell upon. As therapeutists, however, we may express surprise that Professor Atwater, in his experiments, entirely ignores the physiologic effects of 300 c.c. of infusion of coffee given three times a day, as regards especially its influence on nutrition, as an *aliment d'épargne*, or *spar-mittel*, and that he counts it only as so much water. The nitrogen-content of caffein is an entirely subordinate question, just as it would be in the case of atropin or aconitin. There are many individuals in the community, we are convinced, whose nutrition would be seriously affected by one or two cups of coffee taken three times a day, and it might be well to repeat this series of experiments, leaving out this disregarded but disturbing factor in the problem. It is a matter of common knowledge that coffee may be well borne by those who are leading active lives in the open air, but is often badly borne by those who lead sedentary lives. Therefore, while the subject of the experiment might with impunity drink coffee three times a day while he was unconfined, it is quite reasonable to suppose that it would produce its characteristic effects to a greater degree when he was in the calorimeter.

As has already been stated, it is to be regretted that the subject chosen was one whose personal equation had been disturbed not only by the use of alcohol in small quantities from his youth, but also, and probably what is more important here, by the total abstention from all alcohol "for a time previous to the period of the experiments," during which period "he used only what was needed for the experiment."

Six experiments are detailed in full, called respectively, "Metabolism Experiments Nos. 5, 6, 7, 8, 9, and 10." It should be noted that after Experiment No. 8, some change was instituted in their conduction, consisting mainy in the method of "preparation and sampling of food materials," enabling the observers to obtain, as they believed, "more accurate samples than had hitherto been possible;" so that the first four experiments should be considered in a group by themselves and apart from the last two, which form another, and perhaps more accurate, group.

Every scientist will appreciate the liability to error which is involved in the consideration of such a small number of experiments; but if they are all consistent in one respect, their evidence has a certain weight and can be accepted, especially as Professor Atwater has ventured to publicly announce certain deductions from them and thus made them legitimate subjects for criticism and discussion.

As stated in the summary issued by the United States Department of Agriculture, Experiments Nos. 7 and 10 apparently show that small or moderate quantities of alcohol can be consumed in the body and, also, that such combustion of alcohol is almost complete and results in its conversion into its equivalent of heat or potential energy, with but very little loss, from the body, of alcohol in an unoxidized—unconsumed—state. This, we believe, is already admitted by most modern physiologists, and it is not questioned, therefore, that small quantities of alcohol can, like other matters—foods—produce heat and energy in the body.

It is also stated, however, in the aforesaid summary, that it was observed as a result of these experiments that "the alcohol protected the material of the body from consumption just as effectively as the corresponding amounts of sugar, starch and fat. That is, whether the body was at rest or at work, it held its own just as well when alcohol formed a part of the diet as it did with a diet without alcohol." This may be true as far as it concerns the passive carbon and fat of the body, but it is certainly contradicted, in so far as it refers to the active and more valuable and important nitrogen and protein of the body, by Professor Atwater's own figures, given in the various tables printed in Bulletin 69; that is, as far as "rest experiments" are concerned, for, unfortunately, there is no experiment detailed in the bulletin in which alcohol was administered during a period of work, and we can not, therefore, contradict the assertion of the summary in that respect.

Table A has been carefully compiled by us from the various tables included under the respective experiments in the Bulletin. Table B has been, in turn, compiled from Table A, for reasons to be mentioned later. A study of these tables will at once show that when alcohol is substituted in part for carbonaceous foods, *there is an increased loss of body nitrogen*, it being remembered that in each case the quota of food was primarily, as nearly as possible, that necessary to maintain the nitrogen and carbon equilibrium of the body. This same deduction is to be derived from a direct study of Tables 42, 44, 84, and 86 of the Bulletin and we can not, therefore, understand or accept the statement quoted above, that "alcohol protected the material of the body from consumption just as effectively as the corresponding amounts of sugar, starch and fat." In fact, comparing Experiment No. 7 with No. 5—the two being carried on under as nearly as possible similar conditions except that the former was with, and the latter without, alcohol—we find that although there was less of nitrogen, protein,

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[3] Text-book of Pharmacology and Therapeutics, Philadelphia, 1899, pp. 131, 132.

TABLE A SHOWING INCOME AND OUTGO OF NITROGEN AND CARBON.

(Compiled from Prof. Atwater's report in Bulletin 69.)

Experiment		Nitrogen given in food	Nitrogen gained or lost. + gain. — loss	Protein given in food.	Protein gained or lost. + gain. — loss	Carbon given in food.	Carbon gained or lost. + gain. — loss.	Carbohydrates given in food.	Fat given in food.	Fat gained or lost. + gain. — loss.
No 5 Rest; no alcohol	4 days of experiment	76 2	—2 7	476.4	—16.8	995 56	— 32 8	1102 0	378 8	— 31 2
	Last 3 days of experiment	57 15	+0.1	357 3	+ 0.7	746 67	— 17.3	826 5	284 1	— 23.1
	Daily average of 4 days	19 05	—0.675	119 1	— 4.2	248 89	— 8.2	275.5	94 7	— 7.8
	Daily average of last 3 days		+0.033		+ 0.23	....	— 5.77	....	....	— 7.7
	1st day of experiment		+2.8		—17.5	....	— 15.5	....	....	— 8.1
No. 6 Work. no alcohol	4 days of experiment	76 32	+4.4	476 4	+27 5	1346 72	133 4	1511.2	611.6	—193.5
	Last 3 days of experiment	57 24	+4 3	357 3	+26 9	1010 04	— 80.6	1133 4	458 7	—124 1
	Daily average of 4 days	19 08	+1 1	119.1	+ 6 88	336.68	— 33.37	377.8	152 9	48 4
	Daily average of last 3 days		+1 43	....	+ 8.97		— 26 87	....	....	— 41.4
	1st day of experiment		+0.1	....	+ 0.6	....	— 52.8	....	....	— 69.4
No. 7 Rest. alcohol	4 days of experiment	66 80	—7.7	417 6	—48 2	Inclu. alc. 874 24	— 66.4	Inclu. alc. 1253 6	272.8	— 57 3
	Last 3 days of experiment	50 10	—3.9	313.2	—24.4	655 71	— 55 3	940 2	204.6	— 55 3
	Daily average of 4 days	16 70	—1.9	104 4	—12.0	218 57	— 17.4	313.4	68.2	— 14.3
	Daily average of last 3 days		—1.3	....	— 8.1	....	— 18.4	....	....	— 18.4
	1st day of experiment		—3.8	....	—23.8	....	— 14.1	....	....	— 2 0
No. 8. Rest; no alcohol.	4 days of experiment	83 00	0.	517.6	0.	1082.72	+ 86.7	1231.2	381.8	+113.3
	Last 3 days of experiment	62 25	+1.4	388 2	+ 8.7	813 04	+ 69.5	923 4	287.1	+ 84.8
	Daily average of 4 days	20 75	0	129.4	0	270 68	+ 21.7	307.8	95 7	+ 28 3
	Daily average of last 3 days		+ .467	....	+ 2.9	....	+ 23.17	....	....	+ 28.27
	1st day of experiment		—1.4	....	— 8.7	....	+ 17.2	....	....	+ 28 5
No 9 Rest; no alcohol	4 days of experiment	76.32	—2.3	478.4	—14.4	1046 16	+ 48 0	1367.2	276.0	+ 72.7
	Last 3 days of experiment	57.24	—1.5	358.8	— 9 4	784 62	+ 39.3	1025.4	207 4	+ 57.8
	Daily average of 4 days	19.08	—0.6	119 6	— 3.6	261.55	+ 12.0	341.8	69.0	+ 18.2
	Daily average of last 3 days		—0.5	....	— 3.13	....	+ 13.0	....	....	+ 19 27
	1st day of experiment		—0.8	....	— 5.0	....	+ 8 7	....	....	+ 14.9
No. 10. Rest; alcohol.	4 days of experiment	79 00	—4 4	494.0	—27.5	Inclu. alc. 1013.22	+ 50.3	Inclu. alc. 1681 6	126.4	+ 84.8
	Last 3 days of experiment	59 25	—3.0	370.5	—18.7	759.90	+ 30.3	1261 3	94 8	+ 52.6
	Daily average of 4 days	19 75	—1.1	123 5	— 6 9	253 33	+ 12.6	420.4	31 6	+ 21.2
	Daily average of last 3 days	....	—1.0	....	— 6.25	....	+ 10.1	....	....	+ 17 5
	1st day of experiment	....	—1.4	....	— 8.8	....	+ 20.0	....	....	+ 32.2

carbon and fat given during the period of No. 7, there was a greater body loss of each of these food constituents, than in the corresponding data of Experiment No. 5.

In spite of the preliminary feeding of the subject on the selected diet for several days prior to his entering the calorimeter—or chamber in which he lived continuously during the entire period of the experiment—it was found "that the loss of nitrogen was greater, or the gain less, on the first than on the succeeding days." This was the case in every one of the experiments detailed, and is explained in the Bulletin as follows: "Assuming that the nitrogen lag is short, this may perhaps be connected with the slight mental excitement which accompanies the accommodating of the subject to the conditions of life in the chamber." At any rate, it shows that the personal equation can be, and was, for a time disturbed by the experiment, and that the conditions were not absolutely normal.

Moreover, it is evident that the daily average of the factors for the entire four days spent in the calorimeter will not be the same as that for the last three days of the experiment, and that the average of the latter will be more correct for the given conditions. For this reason Table B, with its respective subdivisions, was prepared.

Moreover, it is also to be noted that this disturbance on the *first* day, involving a greater loss, or lessened gain, of nitrogen and protein, is *always more marked* in the experiments in which alcohol was made to take the place of food, indicating that it—alcohol—tended to create a condition of more unstable equilibrium in the body, as well as to deprive the latter of part of its nitrogen and protein store.

In conclusion, Professor Atwater's own experiments and figures only serve to confirm the opinion so well expressed by Fothergill, that the consideration of alcohol as a "force-producer" can never be entirely dissociated from the fact that it is also a "force-liberator," and that the evils of the latter function overbalance in result the benefits of the former.

TABLE B, SHOWING GAIN OR LOSS OF NITROGEN, ETC.

Experiment.	Nitrogen.	Protein.	Carbon.	Fat.
a, Daily average for all four days.				
No. 5 Rest; no alcohol	—0 675	— 4.2	— 8.2	— 7.8
" 6 Work; no alcohol	+1.10	+ 6.88	—33.37	—48.4
" 7 Rest; alcohol	—1.9	—12.0	—17.4	—14.3
" 8 Rest; no alcohol	0	0	+21.7	+28.3
" 9 Rest; no alcohol	—0.6	— 3.6	—12.0	+18.2
" 10 Rest; alcohol	—1.1	— 6.9	+12.6	+21.2
(*b*) For first day only.				
No. 5 Rest; no alcohol	—2 8	—17.5	—15.5	— 8.1
" 6 Work; no alcohol	+0.1	+ 0.6	—52.8	—69.4
" 7 Rest; alcohol	—3.8	—23.8	—14.1	— 2.0
" 8 Rest; no alcohol	—1.4	— 8.7	+17 2	+28.5
" 9 Rest; no alcohol	—0.8	— 5 0	+ 8.7	+14.9
" 10 Rest; alcohol	—1.4	— 8 8	+20.0	+32.2
(*c*) Daily average for last three days.				
No. 5 Rest; no alcohol	+0 03	+ 0 23	— 5.77	— 7.7
" 6 Work; no alcohol	+1.43	+ 9.97	—26 87	—41.4
" 7 Rest; alcohol	—1.3	— 8.1	—18.4	—18.4
" 8 Rest; no alcohol	+0 47	+ 2.9	+23 17	+28.27
" 9 Rest; no alcohol	—0.5	— 3.13	+13.0	+19.27
" 10 Rest; alcohol	—1.6	— 6.21	+10.1	+17.5

Note that in any one experiment the food is the same in quality and quantity for each of the four days of that experiment.
— Loss. + Gain.

Therefore, we are forced to the conclusion that Professor Atwater has produced practically no evidence whatever to support the claim that alcohol is a wholesome or useful food, nor to change the generally accepted view that its physiologic action on the human body is destructive and never constructive.

CELL EMBOLISM.—According to Charrin and Levaditi, Paris Académie des Sciences, in a case of typhoid fever and with experimental administration of pancreatin, single cells from the myocardium, and scraps of epithehlial cells, etc., were found in the capillaries of the lungs, liver and a few other organs. This cell embolism is probably a premortal occurrence as similar cells injected into the veins promptly disappear.

SHOULDER-HUMERO-SCAPULA ARTICULATION.

SOME OF THE COMPLICATIONS AND SEQUELAE ATTENDING OR FOLLOWING REDUCIBLE OR IRREDUCIBLE DISLOCATIONS, WITH A BRIEF REVIEW OF THE VARIOUS MODERN OPERATIVE MEASURES NOW EMPLOYED FOR THEIR TREATMENT.

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(Continued from page 734.)

THE ROENTGEN RAY AND POSITIVE DIAGNOSIS IN HUMERO-SCAPULA DISLOCATIONS OR FRACTURE-DISLOCATIONS.

The place of the skiagraph in the diagnosis of various complex or obscure shoulder traumatisms, especially those involving the humero-scapula joint, we would suppose by this time would be determined.

If those shadow pictures could only always be relied on, a vast and definite advance would have been made; the outlines depicted on the camera would at once, in many cases, determine the futility of attempting reduction by the ordinary means.

Simultaneous fracture of the greater tuberosity, the outer head of the humerus, sometimes complicates humero-scapula luxation. Stimson says it can not always be detected; fracture through the base of the glenoid fossa, with detachment or clipping off its superior or inferior surface; a fracture through the anatomic neck, or the acromian process above may complicate this luxation, and often can not be detected by manipulation or other outward signs. These should always come well into view with the Roentgen rays.

Some years ago in Europe, I saw an eminent surgeon, after every description of manipulation and the application of pulleys, entirely fail to reduce a dislocation at the shoulder. Then an arthrotomy was performed when it was found that there had been no dislocation, but a fracture squarely through the anatomic neck; the articular head was in position, while the greater tuberosity, the outer head, was carried far out under the clavicle. Surely, here the Roentgen rays should have clearly set forth the osseous lesion, and spared the patient the great and exhausting violence to which he had been subjected.

But these rays may lead one into no end of pitfalls, as was illustrated in another case witnessed by myself about the same time. A boy of 14 years, with a contracted, shortened lower limb, was brought into the operating-room for the purpose of having a very old hip dislocation reduced. Before operation, a large skiagraph card was passed about the operating theater to the spectators, which showed a shadowy, undefined, circular outline suggestive of the displaced head on the dorsum-ilii, besides the acetabulum seemed to show a marked hollow. But the surgeon, a man of large experience, before opening down on the tissues, dwelt briefly on the uncertainty of this new diagnostic aid. On section the disappointment was great when it was found that every trace of the femoral head had been resorbed, and the acetabular cavity was flat and smooth, with nothing evident even suggesting a depression.

In Helferich's late work on "Fractures and Dislocations," although several cuts of the Roentgen ray shadow pictures figure through it, the author is mute on this expedient in diagnosis, and says that "without the use of anesthetics it is often impossible to diagnose fracture." And Stimson, in his latest edition, affirms that "the X-rays aided by the fluoroscope rarely give practically any important information in fractures which can not be obtained without their aid."

Oberst and Braunn, at the German Surgical Congress, 1897, pointed out that although the Roentgen rays showed that very many fractures united with very poor coaptation, still these limbs recovered with full function and strength. Beck declares that "Since the Roentgen rays came into use, methods for treatment of fractures and dislocations have been revolutionized[1]" and, "Nothing," says another, "may inculpate or exculpate a surgeon more than a good skiagraph." (Clayton Parkhill, Denver, Colo.) It does not appear clear, just yet at all events, where the "revolution" comes in, nor can any one of experience for a moment endorse the extreme views of the western surgeon.

Dr. J. W. White summarizes the subject, by doubting whether these rays give us a fuller understanding of fractures in general, suggest more efficient treatment, or modify the rules governing treatment either of fractures generally or any special fracture. He denies that the patient has the right to demand of the medical attendant a skiagraph of his fracture, and he adds, "until a much larger number of cases has been observed and the clinical results have been compared, the routine use of the skiagraph may be more harmful than useful[2]."

No one can dispute the assistance derived from the X-rays in many types of fracture and dislocation, but let us not overlook the fact that, if not utilized by a skilled hand in the photography, and interpreted with caution and discrimination, they may work an incalculable mischief and may involve practitioners in trouble in every direction. My experience has been that no two or more X-ray photographers will produce a shadow-picture with the *same* general characters; i. e., one will skiagraph a fracture or two for you, another with the same limb perchance, will show a perfect continuity. "Variations in the visual acuity," as an editorial writer in a recent issue of THE JOURNAL put it, "is necessary for the interpretation of the shadow." The "correct reading" (?) of the pictures, to my mind, is all moonshine to those of ordinary vision.

In shoulder luxations the rays will be of much help where these are complicated with fractures; but in those cases where the displacement is obvious, to magnify their importance and to criticise a practitioner for failing to employ them is to inflict a wrong. A case is in point:

History of Case.—The patient, 18 months old, was a hearty, vigorous, male child, brought to me by the father accompanied by the physician who delivered the mother. The infant was said to have been about 10 lbs. weight at birth, and labor was non-instrumental and moderately easy. It was noticed a few days after birth that the child failed to use the right hand. This condition continued until the child was brought to me. At this time there was no wasting of the limb. There was some movement about the shoulder and arm, but none below the elbow. Sensation as tested everywhere appeared normal. The muscles of the forearm reacted feebly to galvanism; heat of parts normal; good circulation.

It was my belief that the arm was palsied through contusion or over-tension of the brachial plexus, and that the chances of recovering motor power were good, as I had seen several similar cases all recover.

There was an obvious drooping of the whole shoulder, most marked at the tip of the acromian process, from a relaxation of the deltoid muscle. But the humero-scapula joint was normal in every particular.

My advice was to employ the feeble current, massage, and bathe the limb. This was followed by some improvement, but too slow for the anxious parents who, after a few months, took the child to a distinguished orthopedic surgeon who gave practically the same opinion, and advised the same directions for treatment. After a year, there being but slight improvement, the child was taken to another surgeon, who at once skiagraphed the shoulder and pronounced the lesion an "unreduced dislocation of the shoulder, produced by the physician at birth," and proceeded to reduce (?) it.

This diagnosis was a harsh reflection on the physician, who it appears, in no measure manipulated the infant during delivery, and on myself and the other practitioner; though the family was jubilant that the "oversight was discovered and the bone reduced."

It certainly is our bounden duty to avail ourselves of every possible means at our command in making a diagnosis, but let us go slowly in forming definite conclusions from skiagraphy, and in shoulder traumatisms never rely on its revelations without the confirmatory evidence of other definite signs.

THE TIME WHEN REDUCTION SHOULD BE UNDERTAKEN.

With a dislocation so prone to complications and troublesome sequelæ, it is obvious that we should resort to every prophylactic expedient which may prevent or minimize them; and here, the question as to the *time* when reduction may be effected with the least violence to the structures is an important one.

Most authorities advise immediate reduction; or as soon after injury as possible. My own experience has led me to doubt the expediency of this course. Boyer declared that inflammatory changes in the peri-articular tissues seldom followed dislocation for several days. This, he added, was notably the case when luxation succeeded from great violence; as immediately after, a state of "stupor" followed which greatly diminished the sensibility of the articulation. However this may be, we know from clinical observations that many times when our efforts at reduction have been futile, by allowing the patient to rest for some hours the bone will easily slip into position by gentle manipulation; moreover, Dr. Lund of the Boston City Hospital says that a dislocation of the shoulder of less than two weeks' duration is as easily reduced as a fresh one.

PULMONARY ANESTHETICS IN REDUCTION.

My experience has long since convinced me that pulmonary anesthetics are seldom required in the reduction of humero-scapula luxations. That they "relax" anything is a fallacy: in nervous intractable subjects they may be permitted for obtunding pain but no other purpose.

Moreover, once a young woman nearly lost her life in my hands while under an anesthetic for shoulder reduction; and experience with records confirms their special dangers here. Kocher recommends, when possible, to dispense with anesthetics in these cases.

Bardenheuer has collected 134 fatal cases under anesthetics administered during efforts at reduction; and Parkham emphasizes the importance of always endeavoring to dispense with them in the above class of cases.

THE CHARACTER AND FREQUENCY OF SEVERE COMPLICATING SHOULDER DISLOCATIONS, AND THEIR MANAGEMENT BY MODERN METHODS.

Before the writer undertook his present task, he made a careful perusal of all the literature on the subject of shoulder dislocations, contributed from various sources which were published in the ten years preceding 1899.

The main object in view was to note any radical departure in the diagnosis, or the treatment of such conditions, their complications and sequelæ, by the aids placed in the hands of surgeons by the discovery of Roentgen, through antiseptics, or the researches of Ollier. My investigation in this direction, however, was somewhat disappointing, as it was found that, with the exception of the able and exhaustive contribution of Dr. Souchon, there had been little written on the subject of shoulder dislocations during this decade. There has been little added to the subject beyond what may be found in Stimson's master work on dislocations.

The most notable addition to the treatment has been undoubtedly McBurney's device for reduction of fracture dislocations. It was found that surgeons are not agreed on the utility of arthrotomy in irreducible or relapsing cases, nor on the mode of operating when that procedure is undertaken.

On complications or sequelæ, in the last decade, but little has been published.

It is therefore intended here to very briefly invite attention particularly to the consideration of those structural changes or disorganizations coincident with, or consecutive to, humero-scapular luxations; besides, to some of the more notable sequelæ, with the hope that it may stimulate others more capable, to further advance this important phase of the subject: briefly noting in conclusion, the present status of operative methods for dealing with the irreducible or recurring shoulder dislocations.

DISORGANIZATION OF STRUCTURE.—THE PATHOLOGIC CONDITIONS PRESENT IN COMPLICATED DISLOCATIONS.

Immediately after a dislocation has occurred, we have to deal with morbid anatomy, with over-tension, contusion or laceration of the soft parts, displaced or fractured bone. Pathologic changes have not occurred until reaction has set in, until constitution shock, or what Boyer designated "local torpor" of the arthritic structures, has passed off. The severity, the degree and quality of these will depend: 1, on the constitutional state; 2, the extent and character of complications; 3, the degree of force employed in reduction. These changes are of a primary order when *restitutio ad integrum* follows early reduction, and when the nerves and bloodvessels have escaped serious damage.

Pathologic changes of a *consecutive* character follow in various types of irreducible or relapsing dislocation. These impair the nutrition of the joint and limb, and lead to degeneration of structure.

SEVERE INJURIES OF THE MUSCLES.

In all the shoulder luxations, the *first* and the greatest violence is sustained by the muscular structures.

In complicated cases the tendons may be torn from their attachments to the bones, their sheaths are lacerated, they may have been over-stretched or severely crushed; intermuscular or interstitial hemorrhages may occur later, giving trouble through provoking adhesions. Marked muscular atrophy of all the muscles of the shoulder is one of the most serious sequelæ of severe dislocations. Percival Pott long since emphasized the importance of muscular changes in dislocations which resisted reduction. He correctly observed that "the connecting ligaments afford only moderate retentive action, in this joint; but its stability quite wholly depends on the tendons and muscles acting on it; and the muscles require our first and greatest attention." Follin dwells at length on damage to the muscle structures in dislocations, and violent wrenches of the articulations; on the inflammatory infiltration, the resulting induration, contracture, and fibrous bands of new tissue welding their sheath together. In certain cases of painful, useless arms resulting from shoulder dislocation where reduction is possible but retention impossible, the most melancholy feature is the quite complete disappearance of the deltoid. It had suffered irretrievable injury at the time of dislocation, or by excessive violence in efforts at reduction.

SERIOUS INJURIES OF THE BLOOD-VESSELS.

Lesions of the large blood trunks, of such a character as to structurally destroy them, and hence imperil the limb, have been recorded in the past, in connection with shoulder dislocation; but we have no instance on record where it constituted an essential part of the morbid anatomy of a luxation; as in every instance recorded the great blood trunks only gave way under the application of violent force in reduction, in nearly all, old cases. Serious vascular injury is the risk we must always take when we employ great force in the reduction of a dislocated arm. This is an accident which, it appears, no skill or experience can fortify us against. Lord Lister gives a graphic description of a case ending mortally, in his own hands. His patient was a man 58 years old, whose shoulder was dislocated for eight weeks. First manipulation was tried; this failing, the pulleys were employed and failed to effect reduction. The patient was about to be set aside for another trial, later, when there was discovered a large throbbing tumor in the axilla. The lacerated axillary artery was now exposed and ligated, but the man sank three hours later. The records of the autopsy stated that there were adhesions of the axillary artery with the head of the humerus; something which is certainly an anatomic impossibility, unless the tendon of the subscapularis was torn away.

In Desault's case the patient was 60, and very muscular, great force being necessary to reduce the arm. A vast axillary tumor appeared after reduction. For a moment Desault was quite distracted, but not being certain that an aneurysm was present, he ordered a bandage applied. By moderate pressure the tumor slowly vanished. Probably the axillary vein was opened.

Dr. A. B. Strong, Chicago, records an instance of operative rupture of the axillary artery in shoulder dislocation. His patient was a man of 54, the dislocation of one year's duration. The case had resisted reduction before the patient entered the hospital. The surgeon undertook reduction by passing a twisted sheet over his neck and shoulders and then securing the patient's arm with one end. above the elbow. Then the heel was crowded into the axilla. On the fourth effort, the Doctor writes, "a deluge of blood gushed through a rent in the integument which was as big as a fist." Reduction failed, and death followed thirty-six hours later. On autopsy, both the axillary artery and vein were found ruptured. The capsule was greatly thickened.

Körte, of Berlin, has collected seventeen cases of rupture of large blood-vessels in the axilla after violent efforts at replacement in ancient luxations at the shoulder; and Prof. A. L. Stimson collected the records of a much greater number, viz., forty-four cases of injury to the blood-vessels of the axilla caused by efforts to reduce dislocated arms; of these, thirty-one were fatal.[4] In all this class of grave injury to the vessels with few exceptions, we find that the patients were advanced in age and the dislocations were of more than a month's standing. Without doubt atheromatous changes had begun, and the elasticity of the vessels had diminished. They belong to that class in which our efforts should be restricted to manipulation without the employment of violent counter force in the axilla. We know that a healthy artery can sustain, with impunity, a great degree of violence; of tension, torsion, or pressure; but that the veins are endowed with less resistance and are much more vulnerable. Hence, why do we so often find evidence of phlebitic inflammation in the axilla after reduction, with sometimes wide areas of a deep ecchymosis in others from rupture or contusion of the axillary vein, or the venæ comites of the subscapular artery?

Dupuytren attached considerable importance to the site of these ecchymotic patches when they were formed through a traumatism. Thus, he thought that when the sanguineous extravasation was in the inner and upper aspect of the arm it pointed to a dislocation, and when posteriorly, to a fracture.

The malnutrition of the structures investing a joint, is, without question, an important factor in the etiology of many of those sad cases of general muscular atrophy of the scapula muscles seen after reduction. It is therefore important in all cases to dispense with great violence in attempting reduction, until the simpler or less harmful expedients have been faithfully tried. The heel in the axilla is much like Kocher's method in one respect, viz., it will generally reduce the bone or damage something. Like it, it exercises a powerful leverage; but Kocher's method will often fracture the humerus while Cooper's plan endangers the large blood trunks, which are caught between the heel and the invested head of the humerus and crushed violently, with each effort at reduction.

NERVE LESIONS IN SHOULDER DISLOCATIONS.

Experimental research as well as clinical observations prove that of all the organized structures concerned in the processes of life and the motor mechanism of the body, the nerve is the last to part with its vitality; and besides, anatomically we know that at the shoulder the three large dense nerve cords of the brachial plexus, along with animating the arm, likewise serve as powerful accessory stays in holding the head of the humerus up against the glenoid fossa.

It, therefore, necessarily follows that when the proximal end of the humerus is suddenly and violently projected far out of its cavern under the acromian vault, either downward or forward, these nerve cords must sustain varying degrees of injury from over-tension, laceration, or contusion, and that this may sometimes constitute one of the most painful and serious sequelæ of luxation.

But the nerve cords in the axilla stand off from the scapulo-humeral articulation, and are separated from the articular head by the broad tendon of the subscapularis and the thick capsule; moreover, they lie lax in a loose atmosphere of connective tissue, thereby being permitted a freedom of action not seen in the nerve trunks at any other major articulation. But nerve tissue sustains the effects of force with remarkable impunity; as, for example, has been demonstrated by Tillaux, who has shown that each of the brachial cords could sustain a weight nearly equal to one hundred pounds; and Rombery has stretched the ulnar and the median nerves from 15 to 20 cm. without serious impairment of function following. We have good reasons to believe that the nerves sustain more frequent and serious damage from over-tension than from direct contusion in shoulder injuries; more frequent harm too, from great violence in efforts at reduction than the causes producing the displacement; although Mitchell Banks, Jonathan Hutchanson, Paget, Ross, Latlaire, Symmonds, and Morrison in narrating the morbid anatomy of shoulder luxations, have reported cases of rupture of the brachial plexus from wrenches or falls and blows on the shoulder, without either dislocation or fracture. In all, complete and permanent paralysis followed. Hence they warn us of the importance of always examining into the state of nerve function before we apply force in the reduction of a dislocation.

But, Mr. Bolby questions whether there was complete rupture in all these cases, even though eye symptoms were present; as those ocular symptoms might ensue from injury of the cervical sympathetic without rupture of the brachial cords. Besides, he adds, "these symptoms might be absent in rupture of the nerves anterior to the cilio-spiral branches of the sympathetic."

Nélaton and others have pointed out the grave injuries which the nerves may sustain during shoulder reduction by their compression between the articular head and the first rib. In Le Bret's case, a young soldier with a shoulder dislocated twenty-four hours, just as reduction occurred, a sensation of something giving way or tearing was felt in the axillary space. Total paralysis followed.

Bolby has recorded four similar cases, and Desault two.

In Mr. Bolby's comprehensive monograph on nerve traumatisms, the consideration of this phase of the subject is given considerable space; but, unfortunately, in neither his work nor in any other published is there any record of the morbid anatomy as found on post-mortem, immediately after injury.

Dr. Weir Mitchell has recorded a considerable number of nerve injuries encountered in military hospitals, and believes that at the shoulder contusion was responsible for injury to the brachial plexus, or its branches, rather than tension or torsion. But he evidently confounds injury to the muscular elements with subsequent crippling of the arm for true paralysis, as he cited as an illustration of immdiate paralysis following a contusion, the loss of power in the arm succeeding a violent blow over the deltoid, through injury to the circumflex nerve.

But, although considerable reduction in the range of brachial movement does follow such a blow, there is certainly no true paralysis; nor have we any proof that the circumflex has suffered damage, because structures supplied, other than the deltoid, quite entirely escape any palsied condition. Dr. Mitchell believed that the atrophy of the deltoid and other muscles sometimes seen in shoulder dislocations is dependent on injury of the musculospiral nerve; while Hamilton, De Bout, and other surgeons attributed these atrophies to contusion, over-stretching, or laceration of the muscular tissues.

My own experience is entirely in accord with the latter view. This derives further support from the fact that, in nearly all those cases of stiffness and muscular wasting after reduction, the parts are *hyperesthesic*, but muscular power is wanting. The deltoid muscle quite alone retains the articular head of the humerus in position, and limits nearly all its movements; hence, myitis, rheumatic or traumatic, involving its parenchymatous elements, [illegible] its power as a muscle, a tendon and a ligament, the triple function inherent to it.

In a personal practice of nearly twenty years, in which luxations of the shoulder, reducible, irreducible, recent, and complicated, were fairly numerous, no single instance has come under my care which would tend to prove that neural rather than muscular injury was responsible for the various types of any trophic changes encountered, except in cases of rupture of the brachial plexus. There were several, however, in which neurotic or hysteric tendencies made their impress on the processes of repair.

THE ROLE OF THE CONSTITUTIONAL NEUROSES.

There is no class of cases which will oftener test the skill and judgment of the surgeon than those of dystrophic arthropathies of the shoulder, succeeding traumatisms. This is notably the case in females of a neurotic taint, in whom monarticular rheumatoid arthritis is so commonly witnessed. In one a shoulder is luxated or subluxated, and recovery of full function follows; while in another, rigidity and wasting of the muscles follow, with areas of the most acute hyperesthesia.

Pitres has noted this, and observes that in some individuals a traumatism will provoke hysteric manifestations. Gosslin and Perregon describe a class of traumatic arthritis, non-hysteric, of a very persistent character, in which we sometimes find lesions, but the suffering is out of all proportion to them. In these, they add, there is a fixed pain quite peculiar to the female.

It is somewhat remarkable that, with an articulation provided with so large a synovial investment as the humero-scapula joint and its accessory synovial sacs, as the subscapula and subacromian bursæ, authors have given them so little notice, as important factors when involved by inflammation, after luxation. The importance of their lesions is, without doubt, of very considerable importance in many types of arthritis encountered after various luxations.

Sir Benjamin Brodie was deeply imbued with a conviction that the hysteric arthralgias were a frequent sequel of joint injuries, which, according to him, constituted four-fifths of those we meet with in the upper classes. Briquet took an opposite view. Chipault never saw a dozen cases. He regards their diagnosis as peculiarly difficult and delicate. Charcot declared that the shoulder-joint was seldom involved, but when it was, the effect was generally of long duration, lasting from six months to three or four years.

In a considerable proportion of these so-called "hysterical" neuralgias of the shoulder, evolved subsequent to luxation, there is a tangible pathologic basis, the structures involved being the fibroserous, so extensive in area at the shoulder; quite insensible in the normal state, but the seat of the most acute and persistent pain when seized on by inflammation.

In the absence of paralysis we are not justified in assuming anything approaching a grave neural lesion after a luxation. But that the nutrition of the limb may be seriously impaired, through a participation of the trophic nerves, the vasomotor system, and that there is some remote and inexplicable relation between the neuro-arthroses and the sensorium, clinical evidence abundantly demonstrates.

It might seem, however, rational to suspect nerve lesion or pathologic changes in the nerves succeeding shoulder injury, because pain, cutaneous hyperesthesia, and feeble vascular action are present in most of those cases, and because we often find pseudo-ankylosis, muscular rigidity and wasting.

We have evidence here, however, that the neural phenomena are usually consecutive and not primary, and are a consequence and not a cause, for the reason that when it is practicable to overcome the peri-arthritic and intermuscular adhesions and liberate the joint, these promptly vanish.

(To be continued.)

Therapeutics.

Treatment of Diarrhea.

J. T. Moore, in *Merck's Archives* for February, says that in the majority of diarrheas, a process of fermentation is to be found which has had its beginning in indigestion from improper food or improper feeding, the temperature being much aggravated by environments, particularly temperature range. These cases, if not given early attention, frequently pass into an inflammatory condition. But it is the diarrheas of a bactericidal character in which the fermentative processes are most intense and pathologic changes most marked. The great danger with diarrheas is the slight importance attached to them by the laity, in their beginning. The stoppage of food and the administration of soluble antiseptics at the outset, would insure prompt recovery in most cases. The idea is extant among mothers that a little diarrhea is the proper thing for teething babies, and a physician is not called until the symptoms are grave and the seat of inflammation is in the lower bowel, out of the reach of soluble antiseptics. The drugs that have been relied on in the cases last mentioned have been sodium benzoate, bismuth subnitrate, resorcin and the salicylates.

His attention has recently been called to tannalbin, a new product which was said to be insoluble in acid media. At first he only looked for astringent and non-irritating properties and used it alternately with various antiseptics. Subsequent results led him to try tannalbin alone, when he was astonished to find that clinical results were equally as good as when combined with antiseptics. He gives a report of cases of several distinct types of diarrhea, in which tannalbin was used with surprisingly good results, and he says that from this clinical experience he believes the drug to be as near a specific in selected cases of diarrhea as quinin is for malaria. He has also used it with good effect in typhoid characterized by excessive discharges and finds it a most satisfactory remedy in infectious diseases.

Treatment of Enuresis.

Unless the case be discovered and its removal effected the treatment of this disease must then be empirical.

Atonic conditions, in children as well as in adults, often lie at the foundation of the lack of control over the passage of urine, and, in these cases, out-door exercise should be advised and a carefully selected diet prescribed for its nutritiousness and digestibility.

Medicinally, the use of ferruginous preparations is indicated. The syrup of the iodid of iron is readily taken by children. The dose is from 3 drops upward, well diluted with water. Jacobi speaks highly of the elixir pepsinæ, bismuthi, et strychninæ of the "National Formulary," in insufficient digestion associated with atony of the stomach; a child of 3 years taking a teaspoonful three times a day.

Incontinence due to weakness of the sphincter muscle is best relieved by ascending doses of strychnin or the tincture of nux vomica.

Douching of the perineum with cold water is advised, or the application of the faradic current, one electrode being placed in the rectum and the other over the perineum in the male and over the mons veneris in the opposite sex. The current is to be gradually increased.

If incontinence is due to hyperesthesia of the mucous membrane or irritability of the bladder the remedy indicated is belladonna.

Baruch, Watson and other observers bear testimony to the efficiency of this drug in the treatment of the nocturnal form of incontinence. Both belladonna and atropin are tolerated in much larger doses by children, in proportion to their size or age, than by adults.

In many cases a single evening dose of the extract of belladonna gr. 1/4 to 1/2 to 1—or of the sulphate of atropin—gr. 1/100 to 1/75—answers to an unexpected degree, according to Jacobi. In most cases, however, belladonna or its alkaloid must be pushed to the extreme limit before an impression is made on the disease.

Habit, which Tyson mentions as sometimes the cause of enuresis in children, may be corrected, as suggested by this author, by encouraging the cautious practice of holding the water.

Masturbation, phimosis, adherent prepuce, rectal affections, etc., must receive appropriate treatment, after which the incontinence of urine, if it persists, will demand attention.

Sir Henry Thompson strongly advocates the application of nitrate of silver to the urethra, whether in the male or the female. He states that the use of a flexible bougie, small, of course, for children, passed daily, and removed in a minute or so, is sometimes successful. If this fails, the injection, by means of a sufficiently long tube, of the nitrate of silver solution to the prostatic portion of the urethra and neck of the bladder is a remedy of no mean value. For young women up to the age of 18 or 20 in whom this malady still exists, Thompson has found this treatment almost invariably successful. It should be applied immediately after the bladder is emptied, in quantity, say of a dram, and of a minimum strength of 10 grains to the ounce, up to treble that strength, if necessary for subsequent application. Enough should be employed to produce smarting, which should continue for a day or so. A week or two should elapse between each application.

Some authors advise blistering the perineum, others the use of the actual cautery, touching the same at several points around the anus. J. William White and Edward Martin state that when a habit of nocturnal incontinence is due originally to carelessness—the child, though awakened by the desire to urinate, prefers to wet the bed to getting up—such cases may be cured by having the patient waked at about 1 or 2 in the morning, or at an hour before the habitual time of involuntary micturition, and made to empty the bladder.

Among other remedies employed in this affection are antipyrin, rhus toxicodendron, potassium bromid, monobromid of camphor, and ergot.

—*Louis H. Adler, Jr., in Sajous' Annual.*

Dr. H. B. Carpenter, in a recent communication, says that fluid extract of rhus aromatica, 2 to 15 drops three times a day, has been used with good results in incontinence or urine in children. If the urine is acid and high colored, it is well to begin the treatment by giving an alkaline mixture, as

℞. Potassii citratis..........................ʒii
Spt. etheris nitrosi..........................ʒiv
Syrupi simp..........................℥i
Aquæ q. s. ad..........................ʒiii

M. Sig. A teaspoonful in water every two or three hours.

Macalister says: In a number of instances I have had success in using the following modification of a formula originally proposed by Kelaiditis, especially in the purely nervous form:

℞. Cupri sulphat. ammoniat..................gr. vi
Liquoris ammoniæ..........................gtt. x
Aquæ destil..........................℥i

M. Sig. From one to six drops, according to age, in water morning and night.

The following formulæ are also recommended by Macalister:

℞. Ext. rhois aromaticæ fluidi..........................ʒiiss
Ext. ergotæ fluidi..........................℥ss
Ext. belladonæ fluidi..........................ʒss
Strychninæ sulphat..........................gr. 1/4
Syr. aurantii cort., q. s. ad..........................℥iv

M. Sig. Teaspoonful four times daily.

The quantity of belladonna may be increased, and if this fails after a fair trial, increasing doses of atropin may be used.

The following prescriptions for enuresis have been recommended by various physicians:

FOR AN ADULT.

℞. Tinct. ferri chloridi
Tinct. nucis vomicæ..........................℥ss
Tinct. cantharidis..........................ʒvi
Syr. simplicis..........................℥ii
Aquæ, q. s. ad..........................℥vi

M. Sig. Teaspoonful three times a day.

—*Hollister.*

FOR MIDDLE AGED AND OLD WOMEN

℞ Tinct. cantharidis m. ii
Tinct. hyoscyami m. x
Aquæ destil. ʒx
M. Fiat haustus. Repeat four times daily.

Gregory.

℞ Strychninæ gr. i
Pulv. cantharidis gr. ii
Morphinæ sulph. gr. iss
Ferri pulv. gr. xx
M. et ft. pil. No. xl. Sig. One thrice daily.

—S. D. Gross.

℞ Ext. jaborandi fluidi
Ext. belladonnæ fluidi, āā ʒi
Ext. tritici repentis fluidi ℥ss
Ext. ergotæ fluidi
Ext. rhois aromaticæ, āā ℥i
Aquæ ℥ss
M. Sig. One teaspoonful thrice daily.

—S. W. Armitage.

Thiosinamin in Dermatology.

In a report on dermatology, J. T. Bowen, in the *Boston Medical and Surgical Journal*, Feb. 22, 1900, gives Unna's experiments with thiosinamin soaps and plasters. Hebra had observed that this substance injected subcutaneously had a marked action on the lupous process, particularly the scar tissue. The latter was rendered pliable so that joints which had been immovable by contraction of surrounding scars recovered complete motion.

The substance being insoluble in water and injections of alcohol solution being painful, Unna used it in the form of a soap, in 5, 10, and 20 per cent. strength, and spread on plaster muslin, in the treatment of fibrous tumors of various kinds, keloids, leprous and syphilitic lesions, and scarring from smallpox. He found them much more effective in the treatment of these conditions than his former treatment had been; this had consisted of massage combined with mercurial plaster, salicylic acid plaster muslins, etc. The soap was more irritating than the plasters, so these were used in the majority of instances. With these plasters no irritation nor pain was experienced, as had been the case with injections. In the treatment of smallpox scars, a mask of the thiosinamin plaster was worn at night. The parts of the body free from hair and protected by clothing were benefited most by a plaster worn constantly. The soap is more effective on the face, hands and scalp, it being allowed to dry on. Severe cases may be treated by the plaster at night and the soap by day. This treatment may be alternated with mercurial plasters and massage. Unna believes that thiosinamin is a distinct advance in the therapeutic treatment of fibrous cicatricial deformities, which are regarded by most practitioners as practically hopeless.

Value of Hydrogen Peroxid.

A number of French leaders in the profession have recently been extolling the great value of hydrogen peroxid as a disinfectant. It is especially powerful in lesions due to the presence of anaërobic bacteria. Championnière recommends it warmly for uterine injections—a 10 per cent. solution—after septic abortion, Terrier for diffuse phlegmons, Albarran for infiltration of urine with consecutive gangrene, Jalaguier for suppurating appendicitis and Quénu for perirectal abscesses, in all which these confrères have found it extremely effective. Mendel injects it into the trachea in the treatment of affections of the upper air-passages: 12 c.c. twice a day. In the decomposition of the amount about 400 c.c. of nascent oxygen are liberated. The fluid passing down the trachea does not produce any irritation, and its effects are evident in increased appetite, easier respiration and improvement in general health, although it is not a specific for lung troubles.

Bruises.

The following prescription must not be employed if the skin is broken. These should be dressed antiseptically, and hot or cold applications made.

℞. Tinct. opii
Liquoris plumbi subacetatis, āā.............℥i
Aquæ destil., q. s., ad....................℥xvi
M. Apply freely on old soft rags or lint.

Breninger.

Medicolegal.

Health Inspectors are "Officers."—In Patton vs. Board of Health of City and County of San Francisco, the Supreme Court of California holds that health inspectors appointed by said Board are "officers" who hold during the pleasure of the Board, the legislature having failed to declare the term of the office.

Slight Misstatement by Physician Not Fatal.—A slight misstatement as to the cause of the injury, mistakenly made to the insurance company in behalf of the insured by the physician who attended him, the Supreme Court of Kansas holds, in Wildey Casualty Company vs. Sheppard, will not prevent the insured showing the actual facts in an action brought by him to recover upon a contract of accident insurance.

Loss of Weight May Be Shown.—Evidence of loss of weight by a plaintiff in a personal injury case, the Court of Civil Appeals of Texas holds, in San Antonio & Aransas Pass Railway Company vs. Weigers, is admissible, if it affects in any measure the decision of other issues, as for example tends to establish a serious physical condition produced by the injuries alleged to have been inflicted by the defendant, and this notwithstanding that the pleadings may not make the loss of weight a specific element of damage.

Under Interstate and Texas Antitrust Law.—By virtue of the transaction being one of interstate commerce, the Court of Civil Appeals of Texas holds that a foreign corporation selling, say vaccin, from Chicago, to a person in Texas, can maintain an action for the price thereof without its having obtained a permit to do business in Texas in compliance with the state statutes. But, under the Texas antitrust law, it holds, Pasteur Vaccine Company vs. Burkey, stipulations in the contract providing that the purchaser shall have the exclusive sale of the vaccin within certain territory in that state and fixing prices thereon are void, and can not be enforced.

Admissible One-side Hypothetical Questions.—The principle involved when it ruled that error can not be predicated on the giving of an answer by an insanity expert to a hypothetical question based on the state's testimony, where it is afterward made to appear that hypothetical questions are put by both the state and the defendant's counsel, submitting thereby to the expert the testimony upon the entire case, is by the Court of Criminal Appeals of Texas practically reaffirmed and applied to an entirely different hypothetical question, in the murder case of Squires vs. State, where the defendant's attorney first asked a medical expert a hypothetical question and the district attorney thereafter asked him a somewhat different one, apparently sustained by the evidence.

Act of February 8, 1897, Constitutional.—The act of Congress of Feb. 8, 1897, making it unlawful for any person to deposit with any express company or other common carrier for carriage from one state or territory of the United States or the District of Columbia to any other state or territory of the United States or the District of Columbia any article or thing assigned or intended for the prevention of conception, the United States District Court in California holds constitutional, and not subject to the objection that this provision is an attempt to legislate on a matter to which the police power of the state extends, and over which it has exclusive jurisdiction. It further holds, in United States vs. Popper, an indictment sufficient in describing the article in question as one contained in a certain package and being an article designed and intended for the prevention of conception, without stating whether it was an instrument or a drug in liquid or solid form, the indictment giving the place and the date of its deposit by the defendant with a certain express company and the name of the person and place to which it was addressed.

As to Damages for Mental Anguish.—In reasserting its adherence to the doctrine that damages may be recovered for mental anguish and injured feelings unaccompanied with physical injury, the Court of Appeals of Kentucky says, in

Western Union Telegraph Company vs. Van Cleave, that a recovery in this class of cases can likewise be had under the decisions of the states of Texas, Alabama, Indiana, Iowa, North Carolina, and Tennessee, though most of the state courts hold otherwise. But on the appeal of this same company vs. Steinbergen, the court points out that none of the courts appear to have extended the rule beyond the nearest degrees of blood relationship. And it holds that a recovery must therefore be denied to a father-in-law because of the absence of his son-in-law at the death of his mother-in-law. And in the companion case of Davidson vs. the Company, it holds, for the same reasons, that a son-in-law can not maintain an action for damages for mental anguish occasioned by not being able to attend his mother-in-law in her last moments. It says here that the law does not presume from this relationship alone such ties of affection as will support such an action.

Medical Experts in Case Against Dentist.—A dentist having been sued for damages for alleged malpractice in using unclean instruments, the Supreme Court of Kansas sees no error in questions intended to secure the judgment of persons skilled in medicine and its effects as to the likelihood of the plaintiff's affliction having been caused by the defendant's failure to sterilize his dental instruments, although from the hypothetical questions propounded to them they could merely give their best judgment as to the cause of the plaintiff's disability. The contention of counsel for the defendant that the physicians should have been required to state with certainty the cause of the paintiff's condition after a hypothetical case had been submitted to them, it holds, would be supposing an exactness in medical science to which its most learned followers have not yet attained. In other words, it holds that medical experts, in response to hypothetical questions, are not required to answer with certainty, but may give their opinions as to the probable result of a given treatment or operation. In propounding such questions, it further says counsel may base the same on testimony which is weak and inconclusive, and on testimony of one or more witnesses, or on inferences properly deducible therefrom. It is not necessary that the exact words of witnesses be used in propounding the questions. But an objection that a hypothetical assumes facts not proved, ought to point out with particularity the facts which are claimed to be untruly stated. Judgment for $2000 for the plaintiff, Roark vs. Greeno, was affirmed.

Will to Attending Physician's Wife.—In the Keefe's will case, the surrogate, after a hearing, directed a revocation of a decree admitting the will to probate as a will of personal property, on the ground that its execution was procured by fraud, artifices, circumvention, and undue and improper influences practiced against and exerted upon the testator by or at the instigation of his only attending physician at the time, and by the physician's wife. But the fact that the doctor, whose wife was made the principal beneficiary and largely in his stead, for three days had acted as attending physician to the testator, a bachelor, and had made him daily professional visits, the appellate division, third department, Supreme Court of New York holds, could have little or no weight in creating a conclusion that fraud of undue influence was practiced. It says that the long-existing intimacy was not thereby increased. Nothing was added to the confidential relations. It showed only a reliance on the doctor's professional skill. There was here no weak mind to operate on, no habits shown of reliance on the doctor's advice in matters outside of his professional skill. No importunities were shown; no dominant will in the physician; no fear on the part of the testator. This soil it declares altogether too thin to grow a presumption of wrongdoing on, or to support even a healthy suspicion. And the decree of revocation is reversed.

Warranty of Horse for Use by Physician.—A physician set up, in an action which he brought to recover damages for breach of warranty, that a horse he had bought was warranted on the sale to him as sound, kind, true, gentle, quiet in harness, and suitable for use by him in his profession as a physician to drive in harness as a carriage horse. The damages which he sought to recover were for injuries to his person and his vehicle, arising from the kicking, bolting, and running away of the horse. The question of damage in the impaired value of the animal was substantially eliminated from the case by a resale of the horse by the physician to the original seller, which was accomplished without a relinquishment of the damages to his person and property, by the viciousness of the horse, here claimed. Now, in general, it is held, the measure of damages in an action for breach of warranty is the difference between the value which the thing sold would have had at the time of the sale, if it had been sound, or corresponding to the warranty, and its actual value with the defect. But where an article is warranted fit for a particular purpose, the purchaser can recover the damages caused by an attempt to use it for that purpose. So the appellate division, second department, Supreme Court of New York holds, Bruce vs. Fiss, Doerr & Carroll Horse Company, that the doctor was in this case entitled to recover damages for the injury done to the vehicle and its occupant or occupants on the first occasion. But when he made a second experiment with the horse it holds that he did so at his own risk.

Allows Damages for Injury from Fright.—Based on testimony tending to show that a serious nervous affection, said to be traumatic neurasthenia had resulted from a railway accident, and that it might have been caused either by the physical shock or by the mental shock produced by fright, or by both, which the claimant for damages therefor alleged that he had suffered, the Supreme Court of Texas has affirmed a judgment in his favor. As it says, it is generally held that for mental suffering accompanying physical injuries, negligently inflicted, damages may be recovered; but many courts hold that for sickness, impairment of the mental faculties, or physical lesions which merely result from a mental emotion caused by the wrongful act or omission of another, but which do not accompany such mental emotion, no recovery can be had. And this court has itself held that there can be no recovery for mere fright neither attended nor followed by any other injury. But the present decision has increased interest bcause the court before rendering it apparently took special pains to go carefully over the very numerous authorities on the subject which counsel presented for its consideration. The result, it states, is that it has been unable to discover any substantial difference between the case where an injury has been inflicted through physical agencies and one in which a mental emotion constitutes one of the links in the chain of causes which have led to the injurious result. By some courts, it finds, it is held that a physical injury is not a natural and probable consequence of a mental emotion, however potent, and that the injury in such a case is one not reasonably to be anticipated. Others content themselves by saying, in effect, that a favorable ruling would result in a multiplication of damage suits, and in intolerable and vexatious litigation. Besides, the uncertainty and obscurity attending the facts, and the consequent difficulty of administering the law, are also urged as an objection to allowing damages for such injuries. But to the mind of this court neither of these propositions affords a sufficient reason for denying a recovery in these cases. It points out that it has announced the doctrine that, in order to constitute negligence, the act or omission must be the proximate cause of an injury which, in the light of the attending circumstances, ought to have been foreseen as a natural and probable consequence of such act or omission. But, it goes on, in the light of modern science—nay, in the light of common knowledge, can a court say, as a matter of law, that a strong mental emotion may not produce in the subject bodily or mental injury? May not epilepsy or other nervous disorder or insanity result from fright? May not a miscarriage result from a mental shock? Wherefore, the court concludes that, where a physical injury results from a fright or other mental shock, caused by the wrongful act or omission of another, the injured party is entitled to recover his damages, provided the act or omission is the proximate cause of the injury, and the injury ought, in the light of all the circumstances, to have been foreseen as a natural and probable consequence thereof. To this it adds, Gulf, Colorado & Santa Fe Railroad Company vs. Hayter, that, in its opinion, as a general rule, these questions should be left to the determination of the jury.

Current Medical Literature.

Titles marked with an asterisk (*) are noted below

New York Medical Journal, March 17.

1.—*Sheldon Murder Trial. Résumé of Expert Testimony for State. (Continued.) Wm. M. Cheesman and Albert H. Hamilton.
2.—*Tinea Favosa. Charles A. Kinch.
3.—*Shock and its Surgical Significance. (Concluded.) John H. Rishmiller.
4.— Administration of General Anesthetics. C. Algernon Temple.
5.—*Apomorphin as a Hypnotic. Charles J. Douglas.
6.— Extensive Thrombosis of Lateral Sinus and Internal Jugular Vein Following Acute Suppurative Otitis Media. Ligation of Internal Jugular Vein in its Lower Portion. Secondary Periphlebitis. Recovery. M. D. Lederman.
7.—*So-Called X-Ray Burn. J. Rudis Jicinsky.
8.—*Varicose Spinal Veins. Unusual Post-Mortem Find. Clarence E. Coon.

Philadelphia Medical Journal, March 17.

9.—*Diseases of Arteries. T. Clifford Allbutt.
10.—*Case of Tetanus, Treated by Subdural Injections of Antitoxin and Hypodermic Injections of Carbolic Acid. Ernest Laplace.
11.—*Spontaneous Disappearance of Senile Cataract, with Report of Case. Walter L. Pyle.
12.— Hairpin Removed from Bladder through No. 12 Kelly's Cystoscope. Hiram N. Vineberg.
13.—*Connective Tissue Tumors of Abdominal Wall. Albert L. Stavely.
14.— Glosso-Labio-Laryngeal Paralysis, with Report of Case. Francis P. Morgan.
15.— Peroneal Type of Progressive Muscular Atrophy. Report of Two Cases. Theodore Diller.
16.— Report of Case of Gangrene of Tonsil. Alexander C. Howe.

Medical News (N. Y.), March 17.

17.—*Significance of Earache in Children. T. H. Halsted.
18.—*Case of Pulmonary Tuberculosis Successfully Treated by Drainage and Iodoform, with Apparent Recovery. Alexander Hugh Ferguson.
19.—*After-Treatment of Fractures and Dislocations. D. N. Eisendrath.
20.—*Instruments and Apparatus Used in Diagnosis and Treatment of Gastric and Intestinal Diseases. H. W. Lincoln.
21.— Tympanomastoiditis. E. Fritz.

Medical Record (N. Y.), March 17.

22.—*Some Points in Therapeutics of Heart Diseases. W. H. Thomson.
23.—*Inoculation Wound of Lues. Charles W. Allen.
24.—*Chorion Epithelium and Decidua in Tubal Gestation. B. S. Talmey.
25.—*Some Remarks on Whooping-Cough as Seen in Dispensary Practice. Walter A. Dunckel.
26.— Six Nephrectomies. F. V. Cantwell.

Boston Medical and Surgical Journal, March 15.

27.—*Injuries about the Shoulder at Birth. J. S. Stone.
28.—*Steam in Treatment of Chronic Hyperplastic and Senile Endometritis, Putrid Abortion and Puerperal Sepsis. F. W. Johnson.

Cincinnati Lancet-Clinic, March 17.

29.—*Tuberculosis: The Dawning. H. H. Spiers.

Annals of Gynecology and Pediatry (Boston), February.

30.—*Supravaginal Hystero-Myomectomy. I. S. Stone.
31.—*Intra-Abdominal Adhesions. A. L. Beahan.
32.—*Meddlesome Gynecology. Herman E. Hayd.
33.—*Oöphorectomy for Gross Functional Nervous Diseases Occurring During Menstruation. D. C. Brockman.
34.— Case of Cystic Teratoma Complicated with Hemorrage. Edw. Hornibrook.
35.— Tolerance of Gravid Uterus with Case. H. C. Young.
36.— Vomiting of Children. A. Nil Filatow.

Journal of Nervous and Mental Disease (N. Y.), March.

37.—*Relation Between Trigeminal Neuralgias and Migraine. James J. Putnam.
38.—*Lesions of Optic Chiasm, with Clinical Report of Three Cases. William M. Leszynsky.
39.— Epileptic Ambulatory Automatism. D. J. McCarthy.

Pediatrics (N. Y.), March 1.

40.—*Report on Cause and Prevention of Infant Mortality. (*Concluded.*) Ernest Wende.
41.—*Case of Alcoholic Cirrhosis of Liver in a Baby. R. Abrahams.
42.—*Short Paper on Rickets. Charles A. Tuttle.
43.—*Vaccination. James W. Guest.
44.— Thomas Knee Splint. Henry Ling Taylor.

Annals of Surgery (N. Y.), March.

45.—*Effects of Intracerebral and Subcutaneous Administration of Tetanic Antitoxin in Tetanus as Observed in Nine Cases. Robert Abbe.
46.—*New Method of Suture in Operation for Inguinal and Other Forms of Hernia. Leonard Freeman.
47.—*Fracture of Neck of Humerus with Dislocation of Upper Fragment. Report of Three Cases Treated by Operation. B. Farquhar Curtis.
48.—*[illegible] Charles Greene Cumston.
49.— Report of Results Obtained in Treatment of Ununited Fractures with the Parkhill Clamp. Albert L. Bennett.
50.— Case of Acute Osteomyelitis of Femur, with General Systemic Staphylococcus Aureus Infection, Terminating in Recovery. Albert A. Berg.
51.—*Coccygeal Dermoid Fistula. Robert T. Morris.
52.—*Report of Case of Recovery After Gastrectomy for Carcinoma. John Bruce Harvie.
53.— Two Cases of Cicatricial Stricture of the Esophagus Treated by Gastrostomy, the "String" Method, and Permanent Dilatation by Elastic Tubes. B. Farquhar Curtis.

Railway Surgeon (Chicago), March 6.

54.— Normal Saline-Solution. Edward O. Plumbe.
55.— Some Practical X-Ray Advantages. H. A. Leipziger.
56.— Little Things in Surgery. Manning L. Allen.

Yale Medical Journal (New Haven, Conn.), March.

57.—*Conditions of Tuberculous Infection and Their Control. Edward R. Baldwin.
58.—*Simple Fracture into Elbow Joint. Dudley Carleton.
59.—*General Theory of Sensation and Nervous Activity. Benjamin Moore.

Medical Herald (St. Joseph, Mo.), March.

60.— Should the Young Physician Advertise as a Specialist? W. F. Mitchell.
61.— Nose and Throat Affections. C. H. Powell.

Brooklyn Medical Journal, March.

62.—*Diffuse Infective Peritonitis: Observations and Deductions. Charles H. Goodrich.
63.— Extra-Uterine Pregnancy; Operation. Enormous Ventral Hernia, Containing Uterus, Left Tube and Ovary, Bladder and Omentum and Several Feet of Small Intestine; Operation. Normal Pregnancy and Labor. Russell S. Fowler.
64.— Changes Affecting Long Island State Hospital (Formerly the Kings County Lunatic Asylum) Incident to its Transfer to State Administration. Robert M. Elliott.

St. Louis Medical and Surgical Journal, March.

65.— La Grippe. Wm. Henry.
66.— Asthma and Its Treatment. G. A. Gilbert.
67.— Contagion and the Communion Cup. Albert S. Ashmead.

Atlanta Journal-Record of Medicine, March.

68.—*Morphinism. C. C. Stockard.
69.— Nose and Throat Affections. C. H. Powell.
70.—*Medico-Religious Charity: the Guild of Mercy. W. Thornton Parker.
71.—*Therapeutic Application of Blisters. C. D. Hurt.
72.— Diagnosis of Disease of the Stomach. Charles D. Aaron.
73.— Law and Medicine. C. A. F. Lindorme.

Medical Sentinel (Portland, Ore.), February.

74.— Some Legal Aspects Concerning the Physician. W. W. Watkins.
75.— Appendicitis. Thomas Parker.
76.— Treatment of Unavoidable Hemorrhage by Removal of Uterus. L. P. McCalla.
77.— Headache, a Symptom of Eye-Strain. Thos. D. Tuttle.

Pacific Medical Journal (San Francisco, Cal.), March.

78.—*Ether Narcosis by the Rectum. Eustorjio Calderon.

Texas Medical News (Austin), February.

79.— Retiring Presidential Address, before Austin District Medical Society. J. C. Anderson.
80.— Typhoid Fever and Its Management. B. H. Brown.
81.— Treatment of Abortion. Sigmund Burg.

Woman's Medical Journal (Toledo, Ohio), March.

82.— Congenital Sarcoma of Scalp with Insanity of Pregnancy in the Mother. Report of Case. Helga Rudd.
83.—*Neuroses of Induced Menopause. Jennie McCowen.
84.— Case of Induced Labor for Placenta Previa with Complications Rather Unusual. Alice Guthrie.
85.— Operating Room and Its Accessories Adapted to Aseptic Surgery. (*Concluded.*) Anna Braunwarth.

Texas Clinic (Dallas), January.

86.— Hero Doctors of Texas. John O. Scott.
87.— Report of Case of Tertiary Syphilis. J. E. Wilson.

Physician and Surgeon (Ann Arbor and Detroit, Mich.), February.

88.— Annual Address before Grand Rapids Academy of Medicine. Herbert M. King.
89.—*Treatment of Suspected Specific Primary Lesions. William F. Breakey.
90.—*X-Ray as an Aid to Diagnosis. P. M. Campbell.
91.—*A Few Words About Fractures. William A. Spitzley.
92.— Some General Thoughts Based on the Term "Paralysis" in Particular. Hiram A. Wright.
93.— Relation of Meningeal Traumas to Mental Disturbances. Samuel Bell.

Indiana Medical Journal (Indianapolis), March.

94.—*Treatment of Pneumonia. E. H. Hadley.
95.—*Physiologic and Medical Treatment of Insomnia. John V. Shoemaker.
96.— Proteolytic Enzyme of Yeast. Catherine Golden.
97.— Report of Case of Gastrostomy, the Patient Being Up and Around on Fourth Day After Laparotomy. Nelson D. Brayton.
98.— Acetanilid Idiosyncrasy. O. R. Summers.
99.— Parovarian Cyst, Extra-Uterine Pregnancy and Chronic Appendicitis. L. H. Dunning.

Seaboard Medical and Surgical Journal (Norfolk, Va.), March.

100.— Some Remarks on Ethics. Israel Brown.
101.— Progressive Procedure in Bone Surgery. James N. Ellis.

Medical and Surgical Bulletin (Nashville, Tenn.), February.

102.—*Eclampsia: Cause, Primary Symptoms and Treatment. J. Preston Miller.

Oklahoma Medical Journal (Guthrie), March.

103.— The Don'ts in Pathologic Conditions of Eye and Ear: A Word to the General Practitioner. L. Haynes Buxton.

AMERICAN.

1. **Sheldon Murder Trial.**—This paper is largely a reply to a recent one by Phelps, in regard to the expert testimony of the trial in New York State.

2. **Tinea Favosa.**—Kinch thinks that the spread of this disorder is largely through domestic animals. Mice are especially subject to it, and cases of direct contagion from them to man have been reported. Cats, dogs and domestic fowls are also susceptible to the disease. Predisposing conditions appear to be necessary for the implantation of the parasites in man, e. g., youth, scrofula, impaired health, malnutrition, idiosyncrasy in the skin, and the author thinks slight traumatism should also be included. He believes that it is increasing in this country. The symptoms are described at length. For its treatment there is nothing better than persistent and repeated epilation, with brisk rubbing of a watery solution of corrosive sublimate (.005 to .008) into the diseased surface. This should not be entrusted to the patient, who will either underdo or overdo it, but he may apply some parasiticide ointment or an antipruritic. Of the former may be mentioned dilutions of various mercurial and sulphur ointments, among the latter those containing tar, carbolic acid, etc. Oily preparations are favorable to the growth of hair. Formalin would seem to be a good application in proper dilution. The cure of the disease is easy if confined to the epidermis or the nails, but in the case of scalp disease it is liable to be protracted and require prolonged treatment.

3. **Shock.**—Rishmiller completes his paper, in this issue, and sums up as follows: 1. Sensory-nerve irritation sufficiently powerful to produce exhaustion of the vasomotor center causes a reflex paralysis and consequently a dilatation of the vascular mechanism. 2. Children and aged people with lax fibers, and those addicted to alcohol, bear a peculiar susceptibility to shock. 3. Hemorrhage is the most pronounced cause, particularly if venous, as then the equilibrium of the vasomotor mechanism is too suddenly deranged. 4. Two distinct types are recognized; prostration with indifference, and prostration with excitement. 5. Peritoneal absorption of septic material invariably terminates fatally through shock before evident manifestations of peritonitis have developed. 6. A subnormal temperature, irregular pulse, superficial respiration, cold and anemic extremities, and clammy perspiration contraindicate an operation. 7. The severity of operative shock largely depends on the length of time in the performance of the operation, and the duration and degree of the anesthesia. 8. Shock may to a large degree be prevented by any counterirritation applied to the extremities. 9. Brandy *per os* and morphin subcutaneously before operating are imperative precautions toward prophylxais. 10. The main treatment consists in stimulating the vascular system and preserving the summer heat and supplying artificial heat to the body. 11. In acute hemorrhage or other excessive anemia an infusion of normal saline solution is prudently indicated.

5. **Apomorphin as a Hypnotic.**—The hypnotic effects of apomorphin are considered by Douglas, who calls attention to the contradictory statement in Potter's Materia Medica, as evidence of how the profession has overlooked the most valuable property of the drug; 1/30 gr. hypodermically is the average hypnotic dose, though it varies somewhat according to susceptibility. In many cases still smaller doses will do. Under ordinary circumstances it should be administered when the patient is ready for bed; if it is taken before he may go to sleep while undressing. In delirium this is not necessary. The direct hypnotic action apparently lasts from one to two hours, but often starts the patient to a good night's sleep. There is no possibility of the drug habit being formed, as the drug becomes a vigorous emetic if the dose is increased to 1/10 grain.

7. **So-Called X-Ray Burn.**—According to Rudis-Jicinsky, the X-ray burn is nothing more than acute, subacute or chronic mortification or necrobiosis. The irritation of the peripheral extremities of the sensory nerves causes a paralysis of the vasomotors of the vascular areas affected. The spasmodic contraction of the arterioles follows, and nutrition of the cells is impaired. Death of tissue is caused by permanent stasis in the blood-vessels.

8. **Varicose Spinal Veins.**—Coon reports the case of a man who had suffered from severe shooting pain in the limbs for years, and herpes zoster, together with other symptoms. He finally died of tuberculosis, and on post-mortem there was found a varicose condition of the posterior spinal vein and one or two others pressing on the posterior spinal nerves. He thinks this condition caused the shooting pains. He has found nothing similar in the literature, and quotes Hirt as to the absence of literature on the disease of blood-vessels of the spinal cord.

9. **Diseases of Arteries.**—This lecture by Allbutt covers the subjects of aneurysm, atheroma, relation of renal diseases to arterial disorders, syphilis, tuberculosis, etc.

10.—See abstract in THE JOURNAL of March 3, p. 560.

11. **Senile Cataract.**—Pyle discusses the general subject of disappearance of senile cataract, and gives a digest of the literature. He classifies such occurrences as: Cases in which there was absorption after spontaneous rupture of the anterior or posterior capsule; in which there was spontaneous dislocation of the cataractous lens; in which there was intracapsular resorption of the opaque cortex and sinking of the nucleus below the axis of vision, after degenerative changes in Morganian cataract, without rupture of capsule or dislocation of the lens; where there was complete spontaneous resorption of both nucleus and cortex without reported history of ruptured capsule, dislocation or degenerative changes of the Morganian type; in spontaneous disappearance of incipient cataract without degenerative changes or marked difference in the refraction. He describes a case which comes under the first division, and notices the plans and treatment for incipient cataract, suggested by Hogg and Kalish.

13. **Connective-Tissue Tumors of Abdominal Wall.**—The subject of Stavely's article is fibroid tumors of the abdominal wall, which he distinguishes from those other varieties growing in a similar situation, such as mole, keloid, the painful subcutaneous tubercle and the multiple subcutaneous fibroma. Muscular tumors—myomas—never exist in the abdominal wall. The dangers of these fibroids are their tendency to take on sudden and unexpected growth, to undergo degenerative metamorphoses or malignant transformations, and the possibility (always) of their being sarcomas. There is only one treatment, extirpation.

17. **Earache in Children.**—In accordance with Halsted's views, earache in children is rather an important disorder. The special glandular development of the Eustachian tube favors its involvement in inflammations, and they are more common than is generally expected. His conclusions are: 1. Earache in children is generally caused by acute inflammation of the middle ear, suppurative or catarrhal. 2. Infants and young children may have suppuration in the middle ear without giving satisfactory evidence of pain, or without rupture of the drum-membrane. 3. In the absence of other known cause of pain, from which a child is evidently suffering, the first cause to be thought of should be acute otitis media, and this calls for an examination of the drum-membrane. 4. It has been shown by examination of the middle ear during life and post-mortem, that purulent otitis media is nearly always present in acute infectious diseases of the gastrointestinal and respiratory tracts in young children, especially in gastroenteritis and bronchopneumonia, to which diseases it probably stands in a causative relation. 5. The cause of death in many acute and chronic infectious diseases, in meningitis and in the exanthemata is the result of unrecognized and untreated abscess of the middle ear. 6. Repeated earaches in children are ordinarily but a sign of acute exacerbations of a chronic otitis media resulting from adenoids. 7. In adult life, so-called catarrhal or progressive deafness is often but a final stage of the otitis media which had its beginning in early childhood when it was due to adenoids and practically curable.

18.—This article appeared before and was abstracted in THE JOURNAL of February 24, ¶ 56, p. 486.

19. **Fracture Disorders.**—Eisendrath recommends and illustrates hinged splints for fractures. He thinks they are better as favoring the active motion of the patient at the stage when motility must be provided for.

20. **Gastric and Intestinal Instruments.** Lincoln de-

scribes the various instruments invented by Turck, Einhorn and others and their uses.

22. **Therapeutics of Heart Disease.**—The majority of acute cardiac disorders are inflammatory, but it is a mistake to suppose all of them so. In acute inflammation the condition is one of great excitement of the viscus, which is the chief complication; it is impossible to keep the heart at rest. The treatment should be leeches applied to the precordium, followed by flaxseed poultices smeared with extract of hamamelis, with belladonna poured on as it is applied, covered with oil silk and the part kept from exposure day and night. Thomson lays special stress on the bad effects following exposure. Chills should be expecially avoided. One drug takes the lead of all others in acute cardiac inflammation, i. e., aconite. When, however, the condition is one of acute parenchymatous degeneration, as from the effects of diphtheria toxin, the condition is altogether different and we should not use digitalis, which would be indicated were the muscle fibers normal, but should push the administration of alcohol to its utmost limits, with strychnin, caffein, and, above all, hypodermic injection of camphor in sterilized oil, 8 grains to 20 m., repeated *pro re nata.* These remedies are also indicated in rheumatic disease where the heart is beginning to fail. The indications to stop aconite and the use of the other stimulants are: when the heart is beating feebly instead of strongly, and when the feet are not hot but cold. It would be greatly to the patient's advantage to be kept in bed for two months after a serious rheumatic attack, especially if a child. Prolonged rest and the use of aconite are the best defenses against damaged heart. The greatest contrasts in cardiac treatment, however, are met with in chronic diseases beginning later in life. Thomson's experience is that mild cardiac degeneration is one of the most common causes of failure of compensation in heart disease after middle life, and that it produces valvular incompetency in a large proportion. In this case we should look out for the general nutrition: the heart must not be considered alone. Gastric and intestinal nephritis, with or without ascites, greatly embarrass the heart, and 10 grains of sodium benzoate t. i. d. is very helpful. Sodium phosphate, 3ii in a tumberful of hot water and sipped slowly, should be taken every morning. A blue pill, one every four nights, with half an ounce of [illegible] phosphate the next morning, is a remedy he approves in such cases, and kept up for months together with the most striking benefit. When the kidneys are sluggish, whether albuminuria be present or not, there is no diuretic which will equal daily flushing of the bowels with three or four gallons of decinormal saline solution, at 110 F., by means of Kemp's rectal irrigator. It is now that digitalis is of such inestimable service in cases of dilatation subsequent to hypertrophy, with mitral regurgitation, ascites, hydrothorax, etc., he says, and no clinical fact is better established than that in these conditions mercurial laxatives are the most effective adjuvants to this drug. In a new case he begins with full doses of a half ounce of the infusion of digitalis every three or four hours for the first two or three days, and then substitutes thirty drops of a mixture of equal parts of the tinctures of digitalis, strophanthus, and nux vomica. With each dose of digitalis nitroglycerin is given to obviate the arterial constriction which digitalis causes, and as soon as the latter begins to disagree with the stomach its administration is to be promptly intermitted. When neither digitalis nor strophanthus is well borne, a very good pill may be given instead, of spartein sulphate, gr. i, powdered squills, gr. ss, caffein citrate, gr. iss, and strychnin, gr. 1/30. In quite a number of these cases, which at first sight might seem to indicate clearly the administration of digitalis, this drug fails altogether, or, after being apparently useful for a while, it loses its effect and causes much gastric disturbance instead. In such instances the [illegible] has advanced too far for digitalis to be of any service, but there are other things. We must not forget that all nervine medicines, such as digitalis, nitroglycerin, strychnin, etc., are temporary makeshifts, and only relieve the symptoms for a time. Of the other agents which restore nutrition, the first is fresh air, and among drugs Thomson never fails to give iron as soon as he can, keeping it up continuously. Mercury, the iodids and arsenic are also often of great service in chronic cardiac disease. Finally we have the most complete contrast to the recommendations of rest in bed and sedatives in acute carditis, in the various forms of resistant muscular exercise, massage and Schott's saline and carbonic bath courses, which are all excellent in principle, frequently in effect, but may be fatal in cases not adapted to them. A diseased aorta or rigid arteries throughout the body can not be safely submitted to the strain of these measures.

23. **Inoculation Wound of Lues.**—Allen mentions several cases of chancre caused by bites, etc. In less than 400 successive records there were not less than 46 congenital inoculations. He thinks this may be a larger proportion than will often be met with, but he offers the record to call attention to prevalence of non-licentious inoculation of lues.

24. **Chorion Epithelium and Decidua in Tubal Gestation.** Talmey reports the findings in a case of full time tubal gestation, which offer the following points of interest: 1. The hyperplasia of the Fallopian tube in tubal gestation consists only of a proliferation of the connective tissue and not of the hypertrophic muscular coat. The muscular part, on the contrary, had almost entirely disappeared by the direct destructive action of the growing connective tissue. 2. The tube, at the placental site was thinner than normal, consisting only of thickened serosa and a layer of fibrin without any muscular elements. The growing placenta had the same effect on the tube as a malignant growth. 3. Decidual cells were entirely absent. 4. The stroma of the chorionic villi, as well as their covering, has entirely lost the cellular elements. He discusses these conditions in relation to the origin of the chorionic epithelium.

25. **Whooping Cough.**—This article is an analysis of 261 cases of this affection, occurring in a service of more than six years in the New York Dispensary. The author especially mentions three cases of pulmonary complications, and notices the rarity of these in this disease. Cardiac complications are also infrequent. Belladonna is the favorite drug. In addition to this a supporting treatment of cod-liver oil and malt preparation was used. Antipyrin was not effective where tried.

27. **Shoulder Injuries at Birth.**—Stone points out the methods in which obstetric injuries may occur, and the type of paralysis associated with them. The vast majority of cases of infantile shoulder dislocation must be regarded as paralytic, the paralytic cause at birth giving rise to the dislocation, which is due to a gradual yielding of the ligaments under the strain of the opposed muscle pulling in one direction. Traction is the cause of obstetric paralysis and therefore, so far as possible, direct traction on the shoulder should be avoided. After the injury is done, support for the arm is essential. Dragging on the stretched nerves must be prevented and the muscles given a chance to regain their tone. Later, massage and electricity have their values. It is a question whether in certain cases the injury can not be repaired by surgery, and the possible methods are noted. In conclusion he wishes to emphasize the following points: True congenital dislocation of the shoulder, and true traumatic dislocation of the shoulder at birth are of extremely rare occurrence. Obstetrical paralysis, which is of Erb's type, is due probably almost invariably to a stretching and in some cases a rupture of the two upper roots of the brachial plexus, as is proved by anatomical study.

28. **Steam in Uterine Therapeutics.**—After giving a description of the methods and the experience of others, Johnson describes his method, which consists in using, under asepsis, a hard rubber tube introduced through a small-sized uterine speculum connected with an ordinary steam throat atomizer. The steam is applied for thirty seconds, then removed; the cervical and uterine cavities should be dried with gauze and steam applied for thirty seconds. The patient is kept in bed from four to six days. Short douches are given night and morning. The steam, when it leaves the boiler, is at 212 F. but in the uterus it varies from 192 to 212 F. He does not consider it best, unless he wishes to obliterate the uterus, to use it more than one minute. He appends the report of Dr. W. F. Whitney as to the effects of steam on the endometritis, which shows that the destruction does not go down to the muscular tissues. He mentions thirty-one cases in which this treatment was used.

29. **Tuberculosis.**—Spiers questions the efficiency of the

tuberculin test for diagnostic purposes, and holds that it is somewhat dangerous. He claims that the precedent state in the first stage of tuberculosis is caused by "suspension of atmospheric influences," and offers the following questions: 1. Does suspension of atmospheric influence cause a condition of system that allows the tubercle bacilli a natural entrance and growth? 2. Is there more than one method of suspension? 3. Is there an anatomic difference in the lung tissue of health and of heredity or of acquired influence? 4. Is there a test, chemical, microscopic or otherwise, which will determine the difference in the blood of health and that of suspension of atmospheric influence? Has science a delicate test?

30. **Supravaginal Hystero-myomectomy.**—Stone reports and discusses a dozen cases of supravaginal hystero-myomectomy and advocates conservative operation. He is opposed to excessive traumatism of the uterus. In these cases the operation was generally a partial hystero-myomectomy.

31. **Intra-abdominal Adhesions.**—The general subject of intra-abdominal adhesions and their dangers and inconveniences are discussed by Beahan. He advocates drainage as a means of avoiding their formation, though he thinks the satisfactory method for so doing is not yet reached. Adhesions should not be meddled with unless they give evidence of trouble, and the author believes that the practice of suspending an organ by carefully planned adhesions is unsatisfactory and dangerous. It is possible, he says, in conclusion, that the "abdominal adhesions from whatever source bear close relations as a factor in the production of malignant disease."

32. **Meddlesome Gynecology.**—Hayd enumerates the various conditions that lead to over-interference, such as endometritis and cervical catarrh, which have been the subject of topical interference to a dangerous extent. Curetting also is an overdone operation, and he condemns the practice of doing it in the office. Cervical and perineal lacerations are also dangerously trifled with by routine methods. Ureteritis and ovarian pains have been made the subject of meddlesome treatment. The uterine sound, the galvanic electrode and pessary have been useful implements in the hands of competent men, yet they are two-edged swords and liable to give trouble. He thinks that while the cry, "there is too much operation," is in some respects just, there is too much incomplete surgery also.

33. **Oophorectomy.**—Brockman believes that there are many cases where oöphorectomy can be profitably performed for menstrual disturbances, especially when accompanied by serious nerve symptoms, like epilepsy and insanity. The earlier the operation is done the better the chance of cure; if the diseased condition has lasted long the prospects are not good. He reports four cases which he thinks indicate the value of this procedure, 1 cured, and 2 much improved.

37. **Trigeminal Neuralgias and Migraine.**—Putnam holds that there is a class of cases which stand in relation both to the condition known as migraine and simple neuralgias. He asks what has been gained by putting the vast shifting collection of symptoms which we call migraine in a group by themselves, or is there any feature that justifies the assumption of a pathology different from that of "neuralgias."

38. **Lesions of Optic Chiasms.**—Leszynsky reports three cases of chiasmic lesions and discusses their nature. He classes all such lesions as follows: 1. Associated with intracranial growths and their concomitant symptomatology. 2. From enlargement of the pre-hypophysis cerebri, as occurring in acromegaly. 3. In syphilitic basal meningitis. 4. From a circumscribed pathologic process, which gradually produces complete atrophy of both optic nerves, without any cerebral symptoms whatever.

40. **Infant Mortality.**—This concluding instalment of Wende's paper is devoted to milk inspection and regulation of milk-supplies in cities.

41.—See abstract in THE JOURNAL of January 6, p. 41

42. **Rickets.**—Tuttle defines rickets as a constitutional malady acquired through mal-assimilation characterized by impaired nutrition in the growing bones, and terminating spontaneously after an indefinite period. He discusses the symptoms and course of the disease, and the theories, of which the inflammatory one is to him the most plausible. The prognosis is generally good. The treatment is largely preventive, including proper feeding and care of the child after birth, as well as attention to the mother's health during pregnancy. If the child is to be fed by hand, he believes cow's milk properly prepared is the best diet. The hygienic care of the child consists in daily baths in tepid saline water, with vigorous rubbing, warm light woolen clothing, plenty of high, dry, out-of-door air, and good sanitary home conditions. For drugs, he advises cod-liver oil, oleum phosphoratum as recommended by Jacobi, and syrup of iodid of iron. In some cases he has used Fowler's solution for a short period.

43. **Vaccination.**—Guest compares the advantages and disadvantages of points with glycerinized-lymph tubes. The former are more convenient and cause less general disturbance, but the latter are more reliable, can be kept much longer, and there is less danger of impurities.

45. **Tetanus Antitoxin.**—Abbe reports nine cases of the intracerebral use of tetanus antitoxin with four recoveries. He believes that the use of this method is a valuable adjuvant in the treatment of this disease, and cerebral injection is an advance over the subcutaneous method and worthy of extended trial and study.

46. **New Method of Suture.**—Freeman describes the method of suturing in operation for inguinal and other forms of hernia, by prepared wires along the internal incision, over which the sutures are carried, thus approximating the cut surface; they are next bent upward at one end so as to pass out of the incision, allowing them to be removed after union has taken place, which is in from ten days to two weeks. He claims the advantages of this method are that it overcomes tension more easily, prevents the cutting through of the sutures, allowing a large amount of muscle to be bunched against Poupart's ligament, and allows the easy removal of the sutures. He has employed it three times with marked success.

47. **Fracture of Neck of Humerus.**—The conclusions deduced by Curtis from his experience in several cases are as follows: 1. In fracture of the upper end of the humerus with displacement of the upper fragment from the glenoid cavity, when proper attempts at simple reduction under general anesthesia have failed, operative measures should be resorted to unless shock, other injuries, or extensive damage to the soft parts about the shoulder justify delay. A delay of from one to four weeks will not impair the result. 2. Anterior displacements require a posterior incision, preferably by Kocher's method. 3. The head should be restored to its place, if possible, and resection resorted to only when reduction is impossible or would require such extensive damage to the parts, or such prolongation of the operation, as to increase the danger of wound infection or of shock. 4. Resection will probably give a better result in fracture of the anatomic neck than in that of the surgical, but reduction is to be preferred in both cases. 5. Asepsis is an indispensable requirement for a good functional result, and these operations must not be undertaken except under aseptic conditions. 6. Motions should be begun in the joint as soon as the wound is healed, in ten to fourteen days after the operation.

48.—See abstract in THE JOURNAL of February 3, ¶ 103, p. 288.

51.—See abstract in THE JOURNAL of Oct. 7, 1899, p. 912.

52. **Gastrectomy.**—Harvie reports another case of extirpation of the stomach for carcinoma. The patient was a woman aged 46, and the stomach was taken out with the exception of a very small portion near the cardia, together with several centimeters of the duodenum. The recovery was apparently perfect.

57. **Tuberculous Infection.**—Baldwin first notices the extreme ideas that have been and are being held in regard to the infection of tuberculosis. He says that the very fact that the relative importance of the different sources of tuberculosis is more or less unsettled should make one cautious in giving positive opinions. We certainly find that a large proportion of the patients with a history of pulmonary tuberculosis have a direct inheritance or predisposition, and we must believe in inherited susceptibility combined with prolonged exposure to infection as giving rise to this disease, but long exposure is not alone sufficient. He asks how any one in a civilized coun-

ers, particularly in cities, can hope to escape inhalation of the tubercle bacilli. It is hopeless to attempt to trace the bacilli. As regards the danger of contact with tuberculous patients under proper precautions he quotes the experience of the Adirondack Sanitarium. In its whole history, extending over fifteen years, there has been no instance of tuberculosis among employees, although many appeared to be good subjects when entering its service. The simple rules enforced there, obliging patients to use cheap paper cuspidors and Japanese napkins, appear to be sufficient in insuring against infection. He also examined the residents of Saranac Lake and found not over twenty cases of pulmonary or meningeal tuberculosis each, in a population of 2000, during fourteen years. He thinks our sanitary rules against expectoration have a greater moral effect than many suppose. Cattle seem to be seldom infected from human beings, as at Saranac Lake there are 250 dairy cows which were examined for tuberculosis and not a single case was found among them. He does not, however, think we should relax our public health measures to control tuberculosis, for the reason that it is not such a deadly contagion, and he speaks especially of mouth breathing in increasing the disease. Room disinfection with formalin, next to sunshine and air, will render it perfectly safe after the presence of the disease.

58. **Fracture Into Elbow-Joint.**—Carleton describes the acute flexion method of treatment of this fracture, the character and nature of which he discusses. The method of procedure is as follows: The surgeon grasps the forearm with one hand and the elbow with the other, the fingers being placed on the internal condyle. The arm is strongly extended to reduce any dislocation, and while extension is kept up the forearm is flexed on the arm. During this procedure the fingers and thumb of the hand which grasp the joint mold the fragments into position, generally by simply pushing the internal condyle forward and pulling the internal backward at the same time. The flexion is carried up to an angle of 45 to 95 degrees, then the two elbows are compared as to contour, and the distance between condyles over olecranon is measured. If there is over one-eighth of an inch difference, the reduction is repeated until the relations of the injured joint correspond to the normal, or nearly so. When the surgeon is satisfied with the condition of the joint the forearm is semipronated, and a strip of surgeon's plaster is passed around the wrist and then around the arm just below the axilla, to retain the arm in its flexed position. If the skin of the anterior surface of the joint is excoriated or bruised, a piece of gauze is passed into the bend of the elbow to keep the two surfaces apart. The elbow is protected by cotton and the hand tied to the neck by a bandage fastened to the wrist. Then the whole arm is bound to the body by a bandage. After three or four days the bandages are removed and a triangle-shaped bag or sling is made, which holds the arm by straps passed over the shoulder, keeping the arm in the same position as the more cumbersome bandage. Passive motion is commenced in children in from the seventh to tenth day and, generally at the end of the fourth week, perfect extension and flexion to the angle of the arm at which it was first fixed are restored. The *rationale* of the treatment is discussed. The paper is based on thirty-five cases thus treated with excellent results.

59. **General Theory of Sensation.**—Moore's paper discusses the theory of the different sensations being due to the different changes of vibrations.

62. **Diffuse Infective Peritonitis.**—From an analysis of twenty-eight cases due to various causes, seven of which recovered, and several were moribund when received, Goodrich concludes that the majority of these and a large proportion of all cases of diffuse peritonitis are due to previous disease of the appendix. The majority of fatalities were caused by unduly prolonged medical treatment. He also finds that pancreatitis is too often overlooked, and concludes that the appendix should be removed whenever the abdomen is opened for inflammatory conditions. He questions the wisdom of artificial drainage if no necrotic abscess wall exists. There are many special niceties in the technique of the operation, which may be important in any case, and he says no measure for prevention of infection can be too extreme. However, scientific thorough mopping of the serous coat of the intestine may seem, the important element of shock must not be forgotten.

68. **Morphinism.**—Stockard believes in sudden withdrawal of morphin, and says that by the use of strychnin and mydriatics the worst is passed without serious suffering. Much depends on the after treatment and the building up of the system and in preventing relapses. In a few cases he does not use the sudden method, but where the general conditions are fairly good he prefers it. Several cases are reported.

70. **Guild of Mercy.**—An account of this organization may be found in The Journal of July 22, 1899, p. 213.

71. **Blisters.**—Hurt argues for the value of blisters in various conditions. He thinks their dangers have been overestimated. The preparation he recommends is cerate of the extract of cantharides, U. S. P.

78. **Ether Narcosis by the Rectum.**—The method of etherization by the rectum for surgical narcosis is an old one, having been proposed by Pirigoff in 1847, but with the rise of chloroform it has been neglected. Calderon revives it and considers it safer and offering special conveniences in operations on the head, face and neck where free access to those parts is necessary without the interference of the mask or inhaler. In operations on the lower extremities it is not so convenient, and in laparotomies the bowel distension would interfere. The apparatus he usually uses consists in an ether flask enclosed in a larger vessel and connected with a rubber tube and rectal nozzle. The ether vapor is produced by pouring warm water in the larger vessel, through a funnel arrangement. The evening before the operation the patient requires a physic and enema, which should be repeated one or two hours before operation. These are essential for successful narcosis. The length of the time required for narcosis depends on the individual. The method is counterindicated in cases of disease of the intestine or imperfection of the sphincter. He reports a case of operation for mastoiditis in a child; it took just five minutes to produce the narcosis, which passed off in an hour without any disagreeable effects.

83. **Neurosis of Induced Menopause.**—The chief facts in McCowen's article are that removal of the ovaries does not bring on the natural menopause and that many, after recovery from the operation, will have to go through the regular change of life before recovery of health.

89. **Treatment of Suspected Specific Lesions.**—In cases of suspected primary lesions it is not necessary to at once enter upon specific treatment, acording to Breakey. He believes that at the time they appear the system is already fairly infected and there will be no special advantage therefore in beginning treatment before we are sure of the diagnosis. He thinks that free and pronounced eruption, occurring at the average period, is a favorable sign, and active treatment can be begun when this is well developed.

90. **X-Ray in Diagnosis.**—The value of the X-ray is insisted on by Campbell, who prefers the static machine. He illustrates several cases and points out the advantages as an aid to the surgeon when properly used.

91. **Fractures.**—Spitzley criticises the text-book method in describing fractures, and the importance laid on the distinction of simple and compound, protesting also against the term "ununited" and "spontaneous" as ordinarily used. Multiple fracture is also a term which he thinks confuses the student. The important point in regard to the treatment is the proper replacing and retaining in position, allowing for the muscular traction. The student should note the anatomy and contour of the bones so that they may serve as definite landmarks. He also criticizes the popular fixed dressings; their real value is entirely in the rest which they secure for the part.

94. **Pneumonia.**—First noticing the views as regards the treatment of pneumonia, given in various text-books, and the general tendency toward therapeutic nihilism in this disease, Hadley expresses his belief that pneumonia can be successfully treated and aborted in its earlier stages. The agents of which he speaks are venesection, which he thinks would be beneficial if we had the courage to often practice it in sthenic cases, the hot jacket poultice, carbonate of ammonia for the relief of asthenic or passive congestions and the use of morphin for the relief of pain. Digitalis, strychnin and ergot are mentioned, but not especially approved. Coal-tar preparations are depressants and may be of value in sthenic cases. Oxygen inhalation is at least palliative in the second stage, and may

prove a saving remedy. The serum treatment is hopeful. He condemns blisters.

95.—See abstract in The Journal of July 8, 1899, p. 101.

102. **Eclampsia.**—Miller considers albumin in the urine of less importance than is usually thought, as he has had four successive cases which failed to show any such reaction. The points which he especially desires to impress are: 1. Early recognition of the primary symptom of eclampsia—headache, high arterial tension, physical and mental lassitude, constipation and impaired digestion. 2. Early adoption of preventive measures which have for their object the prevention of the formation of toxins and their elimination when formed. When the fit is on, the mischief is done, and we can but limit its consequences.

FOREIGN.

British Medical Journal, March 10.

Lettsomian Lectures Being Practical Observation on Cancer of the Breast. Sir William Banks.—After some general remarks on the value of statistics and their possible errors, Banks gives his views as to the increase of cancer, which he thinks is real. He also quotes the conclusions of Haviland as to the local distribution ,and those of Williams, which seem to point to its being most common in low-lying seasonally flooded districts. As the cause, he discusses the various theories and facts as far as known, and is inclined to believe that over-nutrition has much to do with it. Richer and more abundant food in modern conditions, together with the fact that cancer has always been more prevalent amongst the well-nourished and vigorous, he thinks, point to the possible reason for the increasing frequency. The importance of early diagnosis is considered, and he remarks on the old idea that cancer is entirely a constitutional disorder. There is something in predisposition and susceptibility. Figures seem to show that the hereditary infectivity of cancer is not strong, and most likely dies out at the end of a couple of generations. As regards the influence of traumatism, Banks is inclined to credit it, in spite of the opposite opinion expressed by Roswell Park.

Surgery of the Stomach. A. W. Mayo Robson.—The author urges the following conclusions concerning the surgical treatment of gastric ulcer: 1. In all cases, except in those of perforation, medical treatment should be first tried. 2. Where ulceration persists, or the symptoms recur or prove intractable to medical treatment, gastro-enterostomy should be performed, so as not only to give rest to the stomach but to relieve the hyperacidity of the gastric juice. 3. As a rule, direct treatment of the ulcers by excision is unnecessary. 4. Complications such as adhesions, pyloric contraction, dilatation and hour-glass contraction, leading to loss of flesh and impairment of health, should be treated surgically. 5. In chronic hemorrhage surgical treatment is advisable, as it is in some cases of recurrent acute hemorrhage, but, as a rule, acute hemorrhages should be treated medically. As regards gastric hemorrhages, after careful study of reported cases, as well as from personal experience, he feels that operative treatment in acute hemorrhages gives such a high rate of mortality—64.2 per cent. as compared with from 5 to 10 per cent. in cases treated medically—that it is better in such cases to rely solely on medical means. But in the repeated chronic ones responsible for quite half the total deaths from hematemesis, gastro-enterostomy affords a reliable treatment, since it at the same time gives rest to the stomach, and removes the hyperacidity of the gastric juice, by an operation that can be done with rapidity and comparative safety; moreover, when the ulceration is at the pylorus, where it so frequently leads to hypertrophy and stenosis, the operation not only relieves the symptoms for which it was undertaken, but proves curative.

Causes and Treatment of Movable Kidney. C. Mansell Moullin.—The author, after describing the anatomic relations of the kidney, says, as his theory of the origin of movable kidney, that it is one of the penalties of the erect position. In quadrupeds the kidneys are buried deep in narrow recesses protected by the ribs and rest on the horizontal sheet of fascia which in its turn rests on the peritoneal viscera. The slight degree of backward and forward movement, which is necessitated by the action of the diaphragm, takes place without the least risk in animals with the horizontal spinal column, but in man this forward and backward movement is changed to an up and down one, and the peritoneal viscera lie in front and not below, while the lumbar recesses, instead of being deep and narrow become broad. The pelvis, especially in the female, is wider, and the development of right-handedness causes the transverse processes of the lumbar vertebræ to rotate. From a position of the greatest safety the kidneys are placed in a very unsafe one, and it is not remarkable that they may become displaced from comparatively trivial causes; the wonder is not that movable kidney occurs, but that it does not occur oftener. As regards the treatment, the choice lies, he says, between wearing an abdominal belt and nephrorrhaphy. The former succeeds only in mild cases and must be combined with massage and judicious exercise to strengthen the organs. In those where there is a manifest deformity of the lumbar region with movable kidney, or in which there is a real distress he never hesitates to recommend nephrorrhaphy.

The Lancet, March 10.

Suggestion for a Method of Opening the Pericardial Sac, Founded on a Case of Purulent Pericarditis. Cyril Ogle and Herbert Allingham.—The authors recommend the following method of opening the pericardium, which they have repeatedly tried on cadavers and believe would be perfectly easy to acomplish in the living subject and has advantages over other methods: 1. An incision of about three inches in length, with its upper end at the costo-xiphoid angle, is made along the lower edge of the seventh left costal cartilage; the latter is then exposed by separating the abdominal muscles from it; the cartilage can then be pulled somewhat outward and upward, when the fibers of the diaphragm become visible, together with the cellular interval between its attachment to the cartilage and to the xiphoid appendix. 2. This cellular interval is enlarged by cutting or tearing through the muscle of the diaphragm as far as may be necessary, when a mass of fat is usually seen just above the diaphragm, in the space between the pericardium behind, the sternum in front, and the diaphragm below. 3. This fat, together with the diaphragm, is pulled downward, when the pericardium presents itself and can be incised or opened up with forceps at its lowest part in front, and a large hole being made, an inserted finger can explore the heart over its whole extent, back and front, nearly as far as its extreme base. During the operation the pericardium may be exposed to a slight extent, as it sweeps downward from the under surface of the diaphragm. It is pushed aside, as is done in performing a suprapubic cystotomy. The superior epigastric artery can be kept well inside, toward the middle line, on separating the tissues after cutting through the attachment of the abdominal muscles to the seventh cartilage. The advantages of this method of opening the pericardium from below appear to be: 1. The absence of danger or injury to the pleural cavity. 2. Drainage is from the most dependent part of the sac, when the patient is half propped up and greater ease is afforded for the exploration and cleansing of the heart surfaces to its extreme limits.

The Practitioner (London), March.

Treatment of Pneumonia. Julius Dreschfeld.—The author, first speaking of the possible specific treatment, is noncommital as to the value of serum treatment, and other methods that have been proposed. He mentions venesection, formerly almost universally used but now reserved for special cases, tartar emetic, mercury, digitalis, which has found some supporters, and pilocarpin, the depressing effect of which he thinks would counteract any of its good results. In all cases of pneumonia the patient should go to bed, be kept as quiet as possible, and should be sponged at least once daily, never left alone, and the feeding should be the ordinary fever diet, but not too much liquid food. The diet should be continued some days after the crisis. In most cases he gives two doses of 5 to 10 grains of quinin in twenty-four hours. He uses ice-bags to the chest, excepting in old people or those suffering from chronic bronchitis, and uses them intermittently in weakly patients. If there is much trouble in breathing, and in all cases of influenza pneumonia, he gives digitalis early with tincture of nux vomica, carbonate of ammonia, and sometimes the inhalation of oxygen and mild aperients if there is constipation. For pleuritic pain he recommends mustard poultices or leeches and, if this fails, injection of morphin and atropin can be safely given in the early stage. If the fever does not reach 103 F. in adults and 104 in children, antipyretics are not needed, but if it exceeds that he reduces it with cold baths. Antipyretic drugs had better not be given, excepting quinin and possibly phenacetin, and for the circulatory system, digitalis and alcoholic stimulants, not to exceed 6 to 8 ounces of brandy in twenty-four hours. Subcutaneous injections of strychnia may also be given, and he has found turpentin of value as a cardiac stimulant. The special symptoms of cough and dyspnea are noted, and insomnia, which is generally troublesome, is relieved by morphin in the first stages and later he would give paraldehyde or possibly chloral. He thinks the fear of giving morphin, however, is exaggerated. In one or two cases lately he has given very small doses of hyoscin, which was well borne and had good effect. The other symptoms mentioned are delirium, which is treated like the fever, digestive disorders, most troublesome in children, diarrhea, which should be checked early, and urinary albuminuria, which he considers as contraindicating cold baths or alcohol, only in cases of Bright's disease. During the crisis the patient should be stimulated by heat and, if necessary by strychnia; digitalis should be stopped. During convalescence the patient should be carefully looked after, not get up too soon, have light diet and change of air if possible. Special types of pneumonia in children, in the aged, and in alcoholic cases are mentioned. In the latter class we should use stimulating treatment generally. Apex pneumonia should be carefully watched during convalescence lest it be followed by phthisis. The prophylaxis should not be neglected. Three types of pneumonia may occur in connection with influenza, one a serious form of croupous pneumonia, one due to the influenza bacillus, and the third a sort of septic form due to a streptococcus. Ammoniated tincture of quinin, cold sponging, stimulants, inhalation of oxygen, and the early use of strychnin subcutaneously are mentioned as chief items of treatment. Typhoid or septic pneumonia requires quinin in large doses, and free stimulation. Of the complications, one that requires mention is pleural effusion, but this can be left alone until primary disease has subsided if the effusion is serious.

Treatment of Acute Pneumonia. R. W. Philip.—This writer anticipates rather more from the serum treatment than Dreschfeld seems to, but he does not consider the method sufficiently mature to warrant full recommendation. He says the principal indications are to give the patient plenty of fresh air and to husband the strength. Alcoholic stimulants may be required, though they will generally be found helpful after three or four days. When the circulation shows signs of embarrassment, cardiac tonics will do good. The patient must be relieved, and warm poultices are of advantage, though morphin may be required. Insomnia and restlessness may be benefited by the cold sponge-bath, also by the wet pack. Unusual symptoms may be met as they occur. When convalescence is established, it is an error to keep the patient confined to bed too long. As regards prophylaxis, he recommends that the same lines should be followed as have long [illegible] in the case of more generally recognized specific fevers.

Pathology of Pneumonia and Pneumococcal Infection. J. W. Washbourn.—The author calls attention to the necessity of distinguishing pneumonias from one another by the causes. He believes that we have quite a number of types due [illegible] due to other causes, such as Friedlander's pneumobacillus and the influenza bacillus. In mild cases the distribution of the cocci is limited to the lungs, but in serious ones they range throughout the system, in the circulation, and we should look on pneumonia as a septicemia, the lung disease being simply a local attempt to confine the germs. The presence of cocci occurs in complications such as pleurisy, which may be primary, otitis, endocarditis, peritonitis and acute septicemia. He [illegible] septicemia and other symptoms in rabbits, and we also know that in man the disease is especially fatal during certain epidemics, indicating the increase of virulence in the cause. Washbourn shows how the virulent pneumonia may be transformed to nonvirulent, and again changed to the virulent type. Virulent pneumococci are frequently present, and no doubt multiply in the mouths of healthy individuals; he found them in two of the eleven individuals examined. They may retain their virulence in dried sputum for many weeks, thus explaining the frequency and to some extent the epidemiology of the disease.

So Called "Ether Pneumonia." J. Frederick Silk.—His conclusions on "ether pneumonia" are summed up by Silk, as follows: 1. Ether inhalation is only one of the lesser exciting causes of croupous pneumonia. The stimulating properties of the vapor may even help to ward off an attack. 2. Catarrhal conditions of the mucous membrane of the air-passages are universal under ether, and their tendency is to subside on withdrawing the vapor. In a small proportion of cases, however, an inflammatory condition is produced, and the patient's life is in jeopardy. Other concomitant causes will then generally be found at work, e. g., cold and exposure. 3. To limit this tendency, careful precautions will usually suffice, especially in the direction of avoiding exposure, cold and draughts.

Bulletin de l'Academie de Medecine (Paris), February 27.

Gout. D. Critzmann.—The kidney is the keystone of the pathogenic edifice of gout, according to Critzmann, and the uric acid is the mortar. The intensity of the morbid process is proportional to the extent of the anatomic lesion of the kidney, which is usually due to some hereditary predisposition. This conception of the etiology of gout affords a guide to therapeutics, and suggests that the only factor which affects the formation of uric acid is the absorbable nuclein existing in the food; the albumin and salts in the food have but secondary importance. The only factor which affects the excretion of uric acid is the condition of the epithelial cells lining the convoluted tubules of the kidney.

Treatment of Erectile Tumors with Coagulating Injections. T. Anger.—Nearly forty cases have been treated by Anger, with injections of Piazza's solution: Perchlorid of iron at 30 degrees, 25 grams; sodium chlorid 15; water 60: amount injected, 2 to 10 drops for small angiomata, and 20 to 40 for large. The tumor is constricted to arrest the circulation for at least fifteen minutes. In most cases a single injection is sufficient, but it is repeated in three months to a year if needed. If extirpation is impossible and electrolysis for any reason not practicable, Anger's success certainly warrants trying this measure.

Restoration of Nose Over a Metal Frame Between Two Layers of Flaps. P. Berger.—The nose had been entirely destroyed, leaving nothing but a hole in the center of the face. A flap was cut on each side, the base corresponding to the side of the nose hole. These flaps were turned over, skin side down, and sutured together along the median line. The platinum nose frame or support was then placed on the foundation afforded by these flaps and fastened to the bone. Another large flap was then cut in the forehead and brought down over the metal frame and over the defects where the other flaps had been cut out of the cheeks, and sutured to the outer edges of these defects. The wound healed by first intention and the nose is quite satisfactory.

Attenuated Forms of La Grippe and Principles of Treatment. H. Huchard.—The mild or masked forms of la grippe, with or without fever, are as dangerous as the pronounced cases, if not more so, as the subjects do not realize that they are ill, and consequently continue their daily life, exposing themselves constantly to the secondary infections which constitute the most serious factor in the morbid process. La grippe is essentially a hyperemic congestive disease, usually lowering the arterial pressure, sometimes to a remarkable extent, and inducing most pronounced nervous asthenia. Certain congestive conditions of the lungs in la grippe are evidently due to a paretic condition of the vagus and diminished elasticity of the pulmonary vesicles. The moral, physical and intellectual depression of la grippe may exist without any other symptoms. The la grippe bacillus alone produces a comparatively mild infection, but it lowers the resisting powers of the organism and seems to exalt the virulence of ordinarily harmless bacteria in the body. We have no means of combating the primary infection. but it is within our power to prevent and cure the secondary complications, prevent the infection of persons in health and guard those already affected with the mild, latent or masked forms of la grippe. This Huchard accomplishes with rigorous asepsis and antisepsis of the mouth. nose and throat, careful dietary hygiene, a milk or vegetable diet: "Cherish the stomach with pious care in an epidemic of la grippe." At the first indication of the disease he orders 1 to 1½ grams of quinin hydrobromate in the course of a single day or of two or three days, according to indications. The quinin seems to render the soil less favorable for invasion by other germs. At this dose and this alone, it acts as an anticongestive, tonic, vaso-constrictive and tends to raise the blood-pressure, thus answering the indications. He sometimes enhances this effect by combining ergot with the quinin; 10 cg. of an aqueous extract of ergot with 10 cg. of quinin sulphate in one pill, ordering six to ten pills a day. Glycerophosphates or strychnin may be indicated if the nervous system is very much depressed. He considers isolation ineffectual in a pandemic of la grippe. The only means to check its ravages is with antisepsis, dietary hygiene and quinin. Antipyrin may be useful with much pain. For the buccal antisepsis he recommends one or two tablespoonfuls of Van Swieten's solution in half a glass of water; or 5 per thousand phenic acid or one-half per thousand formol. Laborde uses a solution of phenic acid, very hot.

Bulletin de la Soc. Med. des Hop. de Paris, March 8.

Milky and Opalescent Ascites in Two Children with Chronic Nephritis. G. Variot.—Both children had been on a milk diet for a long time, on account of their chronic nephritis. The ascitic fluid contained 1.20 gram of fatty substances to the liter in one case, with 20 cg. in the urine, and the blood serum was also milky in appearance.

Cacodylic Medication. F. Widal and P. Merklen.—The Journal reviewed Gautier's announcement of the benefits of cacodylic acid and sodium cacodylate in anemia, July 8, 1899, p. 99. Further experiences have confirmed the value of the subcutaneous administration of arsenic in this form, which can be continued for years without ill effects of any kind or becoming accustomed to the drug. It increases the appetite and improves the general health to a remarkable extent, and the writers of this communication have established that the number of red corpuscles in the blood is materially increased, both in man and in animals. This increase, in blood drawn from the pulp of the finger, varied with different subjects, and was most marked the more pronounced the anemia. It was evident in some cases in half an hour after the first injection. In one of chlorosis the reds increased from 1,178,000 to 2,821,000 forty-five minutes after an injection of 5 cg. of cacodylate. In a case of leucocythemia the reds fell from 1,310,000 to 1,147,000 in half an hour; then rose gradually to 2,630,000 by the end of six hours. In one of tuberculosis of the first degree, the reds increased nearly three millions in three hours, falling then below the number at the first injection, but gradually increasing with two other injections, until a constant value of nearly a million higher than at first was maintained. The only case out of the large number tested in which the reds were not materially increased was an observation of diabetes complicated with pulmonary tuberculosis. The whites do not seem to be affected by the medication. Gautier has established that arsenic thus administered is eliminated very slowly by the kidneys, but that a small proportion remains in the organism to supply the physiologic demand for arsenic in the thyroid, etc., which he has recently announced. He finds it always physiologically associated with iodin, and consequently recommends a small amount of potassium iodid in combination with the subcutaneous cacodylic medication. The gastric and rectal routes are dangerous owing to chemical changes in the cacodylate.

Journal des Sciences Med. de Lille, March 8.

Fibroma of Uterus in Relation to Epithelial Cancer. E. Verstraete.—The generally accepted benignity of uterine fibromyomata is denied by Verstraete, who has compiled a tabulated statement of the observations, in the literature, of a fibroma and coexisting epithelial cancer. He says the complications of uterine fibromyomata are numerous and frequently dangerous: most to be dreaded is the coexistence of an epithelioma, for which the disturbances in the circulation, etc., caused by the fibroma, afford a favorable soil. Their coexistence has been considered a rare occurrence, but since attention has been called to it the number of observations is constantly increasing. Verstraete concludes from his investigations that this coincidence can not possibly be ascribed to mere chance: the fibroma is invariably the oldest.

Presse Medicale (Paris), February 28, March 3 and 7.

Hepatic Variety of Typhoid Fever. H. Roger.—The temperature-curve in the two observations reported was a gradual decline from 40.4 C. to 37 in seven days, with a slight rise of half a degree the third day. This peculiar curve was accompanied by pronounced gastro-intestinal disturbances, bilious vomiting, bilious diarrhea and hiccough, but the arterial pressure was not lowered; pulse strong and 100. Death was preceded in each case by dyspnea, semicoma and delirium. At the autopsy the intestinal lesions were slight; no perforation, but the liver was found completely degenerated, transformed into a bloodless, uniform homogeneous mass. Roger attributes the respiratory and nervous troubles to the hepatic insufficiency, similar to the syndrome observed with renal insufficiency, from retention of poison by suppression of the organ charged with the task of destroying or neutralizing them. He also ascribes the hypothermia to the hepatic insufficiency. Clinical experience and experimentation have shown an unmistakable connection between renal insufficiency and hypothermia, and Roger now establishes the same in respect to the liver, by the results of destroying the liver cells by injecting diluted acetic acid into the biliary passages of rabbits. The temperature falls at once and progressively to the exitus. This hypothermic action is probably not direct, but is merely due to the modification of the general metabolism of the economy by the functional suppression of either of these two important organs, kidneys or liver, which interferes with the nutritional interchanges: the true source of animal heat. The hypothermia in severe icterus is probably due to the same cause.

Simplified Method of Staining the Tubercle Bacillus. H. Lafforgue.—The advantages of the method proposed are that even a novice can not fail to obtain good results, as it is difficult to under-stain or over-color. First apply Ziehl's fuchsin hot, for an average of thirty seconds, then allow it to flow off by tilting the slide, and apply a 10 per cent. solution of tartaric or citric acid until the preparation is slightly pink. Then rinse once rapidly in alcohol and then in water, and restain with weak aqueous or carbolized solution of methylene blue. In staining sections the solution of tartaric or citric acid should be twice this strength.

Contusive Pneumonia. A. Souques.—Traumatism, and especially traumatism of the thorax, may induce and localize acute, fibrinous lobar pneumonia, from the mere contusion. This fact has been established both experimentally and clinically. Souques relates another instance, and explains the mechanism as a reflex action. The reflex starts at the point of injury, reaches the bulbar centers, is reflected and returns to the lungs by way of the vagus. The consequence is a paralytic vasodilation of the pulmonary apparatus; the blood-pressure is lowered throughout the entire lung, thus offering a favorable soil for the pneumococcus, which is so frequently present even in healthy lungs.

Histologic Diagnosis of Rabies. Van Gehuchten.—The method of diagnosing rabies in a few hours, as described by Van Gehuchten in the communication summarized in The Journal of March 3, p. 550, consists in the histologic examination of one of the cerebrospinal ganglia. The alterations described are specific for rabies, and can be determined in less than an hour if frozen sections are taken, or in less than twenty-four hours if the ganglion is mounted in paraffin. For the latter process the ganglion is hardened in absolute alcohol, in which it is left for twelve hours, changing the alcohol once. It is then transferred for an hour to a mixture of alcohol and chloroform, then for an hour to pure chloroform, and then placed for an hour in a mixture of chloroform and paraffin, and lastly in pure paraffin. The sections are then mounted on the slide and heated in the oven for a few minutes, and then passed through xylol, absolute alcohol and alcohol at 90°. They are then stained for five minutes with Nissl's methylene blue, differentiated in alcohol at 90°, dehydrated in absolute alcohol, then treated with essence of cajeput and xylol. Frozen sections are taken directly from the razor on the slide and dipped a few minutes in alcohol at 90 or 94°, and then stained as above. Van Gehuchten considers that the facts he has established in respect to the cerebrospinal ganglia revolutionize completely all our conceptions of the pathologic anatomy and physiology of rabies, as these lesions in the peripheral nerve ganglia explain, with amazing simplicity, the principal symptoms of this infection. The illustrations show the disappearance of the nerve-cells and their substitution by collections of small round cells forming cellular nodules, more or less distinctly separated from the adjacent parts. If the lesion is so pronounced that all the nerve-cells have vanished, the divisions between the rabic nodules also disappear and the entire ganglion seems to be formed of a new tissue consisting of small, closely packed cells, with traces of the atrophied ones.

Determination of Microbian Localizations. F. BEZANCON AND M. LABBE.—In a number of experiments a staphylococcus derived from a suppurative human arthritis, in spite of numerous inoculations, always retained its property of locating in the articulations. On the other hand, a staphylococcus which was passed through the heart in the second rabbit, lost this property and produced thereafter merely suppurative visceral lesions or septicemia. It seems probable that in growing in and inducing a lesion in certain organs the microbe acquires special properties of defense against the phagocytes and humors of this organ, and settles there by preference. The affinity of Eberth's bacillus for the intestinal tract, of the plague bacillus for the lymphatic system, of the pneumococcus for the lung, may be due to specific properties acquired by inherited phenomena of becoming accustomed to certain systems or tissues.

Revue de Medicine (Paris), February 10.

Toxicity of Urine and Blood Serum. L. BERNARD.—By adopting the following formula a standard for comparison is obtained: collect the fluid, urine or blood serum and inject it into the marginal vein of the ear of the animal, previously weighed. P=weight of animal; N=amount of fluid required to kill it; then $N \times 1000 \div P$=amount of fluid required to kill one kilogram = unit of toxicity. Rate = 5 c.c. a minute.

Etiology of General Paralysis. P. SERIEUX.—In 58 cases investigated syphilis was evident in 80 per cent., and sole factor in 31 per cent. The writer considers heredity the indispensable soil for the development of general paralysis. On this soil syphilis, lead or alcohol poisoning, vegetable poisons, rotten corn, microbian toxins and possibly the agents of auto-intoxication, may originate the disease in the predisposed. General paralysis should therefore be called not a parasyphilitic nor parainfectious, but, in more general terms, a paratoxic affection.

Lymphatic Ganglia with Epithelial Cancer. M. SOUPAULT AND M. LABBE.—Cancerous adenopathy is a reaction of defense. The ganglion struggles against the invasion of the neoplasm for a time, but once succumbing, it may become itself a center of dissemination. In a study of 34 cases of epithelial cancer, the ganglia directly connected with the cancerous territory were found intact in 16. Neither size, aspect nor consistency are any evidence of cancerous invasion, which histologic investigation alone can decide. Adenopathies at a distance have not the significance usually attributed to them in the diagnosis of cancer. Cancerous supraclavicular adenopathy in the course of a sub-diaphragmatic cancer is very rare. It was only noted once in 6 cases, and in this there was general metastasis. In 2 it was tuberculous. In most cases the ganglion has merely undergone sclerous transformation, or it may be due to syphilitic or some ordinary infection. Cancerous inguinal adenopathy with an abdominal tumor was noted once in 10 cases. The hypertrophy in the rest was due to sclerosis or tuberculosis. Inguinal adenopathy has no value in the diagnosis of cancer, owing to the frequency of ordinary causes and impossibility of differentiating it by clinical examination.

Semaine Medicale (Paris), February 28.

Gait in Organic Paraplegia. G. MARINESCO.—Another series of kinematograph views of the gait of normal and paraplegic subjects, similar to those mentiond in THE JOURNAL of July 29, 1899, p. 279, demonstrates that there are three kinds of paraplegia. In the first all the muscles of the lower members are in a condition of contraction or generalized hypertonia. There is no exaggeration of the reflexes, as the antagonist muscles, very much contracted, oppose the production of the reflexes. In the second variety of paraplegia the contraction is predominant in one set of muscles, although the antagonists are also contracted. These cases are accompanied by an exaggeration of the reflexes, the intensity varying with the amount of contraction of the antagonists. In the third variety the flexor muscles of the leg are hypotonic while the extensors are hypertonic. In these conditions the reflexes are much exaggerated. Marinesco is inclined to believe that the difference in the contraction corresponds to a difference in the localization of the lesion. The nerve routes of the flexor and extensor function probably pass separately into the spinal cord. A mechanism of stimulation and another of inhibition become evident in studying the gait. The hypotony of the flexor muscles is explained by the suppression of the stimulation from the brain, while retention of motility of the extensors with hypertony depends on the retention intact of the stimulating fibers. One of the practical conclusions of this study is that the third variety of paraplegia, mentioned above, is not due to compression but to an intrinsic lesion of the spinal cord, and consequently surgical intervention is useless.

Berliner Klinische Wochenschrift, February 19.

New Method of Caring for Umbilicus Neonatorum. A. MARTIN.—A wet compress is first placed over the umbilicus, and then, when convenient, the cord is tied tight on a level with the skin, with a sterile silk thread, and 1 to 1½ cm. below this the cord is seized and cut with a pair of ordinary curling tongs, heated red-hot. The spot is covered with gauze and dressed as usual. There is no hemorrhage and by the second day the umbilicus subsides to the level o fthe skin. By the fourth to fifth the cord and ligature drop off and the skin closes over the umbilicus to a pinhead point. Results in thirty children thus treated have confirmed the advantages of this procedure. All danger of infection is obviated even in the most inexperienced hands, and the curling tongs can be easily procured. Martin pleads for the general adoption of this method.

Clinical Significance and Experimental Production of Granular Degeneration in the Red Corpuscles. E. GRAWITZ.—In the course of this research over 200 patients were examined and innumerable healthy persons. The results establish that the basophilous granulations noted occasionally in the red corpuscles, are exclusively a degenerative change which may be due to various causes, and is nothing specific, but merely a symptom. The granulated cells are particularly numerous in pernicious anemia, with cancer from which there is absorption of toxic substances, in advanced leukemia and with lead poisoning. They were entirely absent in uncomplicated chlorosis—12 cases—in syphilis—21 cases—in advanced afebrile pulmonary tuberculosis without cavities—13 cases; and were never found with parenchymatous nephritis, contracted kidney nor cirrhosis of the liver. They evidently occur as phenomena of degeneration in diseases in which the action of substances poisonous to the blood is manifested in other ways, and they increase and diminish parallel with the intensity of the disease process. They are not found in the erythroblasts in the bone marrow, but first appear in the circulation, and although all the cells containing them do not necessarily die, yet the process indicates some injury to the cell which frequently terminates in its destruction. The granulations may appear in the cells before any morphologic changes are evident in the blood, and are thus an early means of diagnosing incipient anemia, or suggesting lead poisoning or cancer. Plehn has described similar basophilous granulations in the blood of Europeans recently arriving in equatorial Africa, which he believes to be immature forms of the malarial parasite as the subjects all had pronounced anemia, although with no other manifestations of malaria or dysentery. Grawitz announces that he has succeeded in producing these same granulations in mice by submitting them to the action of heat—eight days at 37 to 40 C.—an dthat the granulations in Plehn's cases are probably degenerative changes in the blood produced by the high temperature. He appeals to all physicians in tropical countries to look for these granular degenerations in the blood. The technique is simple: fixation of the dry preparation and brief staining with methylene blue. He also begs that the deposits of iron in the liver in Europeans succumbing to anemia without evidences of parasitic infection, be made a special subject of investigation, to determine further details in respect to the degenerative changes in the reds.

Can Brushes Be Sterilized? A. Winternitz.—Tests with a large number of brushes showed that boiling them for ten minutes in a 1 per cent. solution of soda, and keeping them afterward in a 1 per 1000 solution of sublimate, sterilized them in respect to the pathogenic germs usually encountered, with complete success and without injury to the brush. Unusually resistant spores were not destroyed.

Sunshine and Influenza. J. Ruhemann.—There were but nine and a fraction hours of sunshine in Berlin during January, and Ruhemann endeavors to establish a connection between this fact and the epidemic of influenza.

Mittheilungen A. D. Grenzgebieten (Jena), v. 4 and 5.

Hematuria from Normal Kidneys and with Nephritis. B. Naunyn.—An observation is described in which excessive, intermittent hematuria in a healthy woman, 30 years old, ceased after the application of a bandage applied as for wandering kidney, and the kidneys have remained normal, the subject in health during the twenty-five years since. This case shows that hematuria from a normal kidney is possible, and Naunyn adds that nephritis may recover spontaneously. Nevertheless, he considers Israel's proposed nephrotomy for nephritis a great progress, and that it opens a prospect for the treatment of Bright's disease by nephrotomy also. In fact, Harrison has reported three cases of Bright's disease favorably influenced by incising the kidney to relieve the tension and congestion.

Monatsschrift f. Geb. u. Gynaekologie (Vienna), January.

Anatomic Evidence of Accomplished Defloration. A. Haberda.—Long medicolegal experience and examination of many cadavers have convinced Haberda that in many instances it is impossible to state positively whether coitus has or has not occurred. The size and elasticity of the hymen vary in wide limits, and a lesion does not necessarily accompany the first coitus. The natural notches in the hymen may deceptively simulate healed traumatic lacerations. An absolute space in the edge of the hymen at one or more points is the only reliable indication, the edges of the notch forming an evident diastasis and the wall of the vagina exposed at the bottom for even a minimal extent. In his experiments on cadavers he found one hymen that would allow the passage of a glass tube 4.4 cm. in diameter and 14.8 in circumference, and then contract to its original size without a trace of injury.

Pelvigraph and Kliseometer. J. Neumann and H. Ehrenfest.—Two simple instruments are described and illustrated by which, with a pencil in one arm of the instrument and a spirit level, it is possible to draw a diagram of the pelvis, giving the various measurements with mathematical exactness. They have been tested repeatedly at Schauta's clinic with gratifying results.

Treatment of Retroversio Flexio Uteri. J. Halban.—This bulky number of the *Monatsschrift* is a *Festschrift* in honor of Schauta's twenty-fifth professional anniversary, and reviews the work accomplished in his clinic in various lines. Halban studies the remote results in 83 cases of retroversio-flexio uteri operated on for this alone, and 64 for this with other complications, out of 4000 treated during 1892 to 1898. The retroversio is frequently corrected by a colpeurynter filled with mercury, inserted in the vagina, the pelvis elevated. If this, combined with manipulations and a suitable pessary, does not overcome the retroversio, then surgical intervention follows, and through the vagina if there are no complications. If laparotomy is indicated on other accounts, then ventrofixation is done. If the vaginal route is followed, the ligaments are shortened in case conception is still possible; if not, Duehrssen's intraperitoneal fixation is done. The Alexander-Adams method is reserved for cases of uncomplicated retroversio in a virgin, or when inguinal hernia is to be operated on at the same time. A number of the women have borne children since; one has had three pregnancies.

Treatment of Extrauterine Pregnancy. O. T. Lindenthal.—In the 251 cases observed in nine years, 118 were treated by celiotomy, carefully removing all the products of the pregnancy. Schauta considers operation indicated in all cases of uninterrupted pregnancy, with hemorrhage or septic accidents. In 123 repose, compresses, dieting and purging relieved the symptoms, and the patients were dismissed with instructions to return at the slightest indication of trouble.

Allgem. Medicinische Central Zeitung (Berlin), February 21.

Cumol Catgut or Hemp for Sutures. Sticher.—The technique of preparing this suture material is to gradually warm and dry the catgut, in rings, at 70 C. for two hours. It is then put in a perforated porcelain vessel and this vessel placed in cumol for an hour, the vessel containing the cumol standing in a sand bath kept at 155 to 166 C. A wire netting in two parts forms a cover over the cumol to prevent it from igniting, and holds the thermometer upright between the two halves. The porcelain vessel containing the cumol is then transferred with platinum hooks to petroleum benzin and left for three hours, when the benzin is evaporated. The porcelain vessel is then placed in alcohol, in which it is kept till required for use. Hemp prepared the same way is used for ligatures and fixations.

Muenchener Medicinische Wochenschrift, February 27.

Alexins and Specific Bactericidal and Hemolytic Action. H. Buchner.—The unstable, non-heat-resisting alexins have no specific character. The heat-resisting antibodies are the specific elements, Buchner now asserts. He ascribes the specific action of the antibodies, and therefore all specific immunity to the specific attraction and the resulting combination between the "reaction bearers" and the specific antibodies. This mutual specific affinity and the resulting combination is not a mere chemical combination, but seems to be a special phenomenon, possibly more of the nature of a crystallization. He refers to Metschnikoff's recent work summarized in an editorial in The Journal of March 10, in which "antispermotoxin" was produced in the body of an animal which had been deprived of its internal sexual organs, and hence, of all sperm cells, observing that these experiments show that it is not the specific cells which are stimulated by the spermotoxin that produce the antibodies. The latest research, he continues, has established that specific immunization against erythrocytes, ciliated epithelium, against spermatozoa, leucocytes, etc., occurs much more readily than heretofore supposed. The solution of the problem of the specific nature of the antibodies is not to be sought along the line of preëxistent molecular groupings in the body—Ehrlich's "Seitenketten"—assumed to be formed in excess in consequence of the specific irritation, and then performing the office of antibodies. It is more probable that the individual specific elements of the foreign erythrocytes, bacterial cells, toxins, etc., introduced into the body, are transformed into a non-toxic, no longer a foreign substance. This may occur by the accumulation on the element of certain groups of molecules to which it serves as the nucleus. The attraction of the antibody for the specific substance—on which all specific and immunity phenomena depend—would then be explained by the chemical homogeneity between the antibody and the specific substance. It would not be a chemical antagonism, as between an acid and a base, but an attraction of like to like, such as we observe in polymerization, in crystallization, in the construction of starch grains and probably also in many or most cases of organic growth.

Treatment of Pulmonary Tuberculosis with Subcutaneous Injections of Ol. Camphor. Officin. Pharm. Germ. B Alexander.—The injections are made once a day: 1 to 3 cg. each in febrile cases, and in afebrile the same, or 1 cg. every day for four days and then suspended for eight. There are no counterindications, and the treatment can be kept up for weeks and months. An experience of eleven years has only confirmed. Alexander [illegible] and [illegible] on the remarkable benefits to be derived from this treatment. He relates a number of convincing observations, all in advanced stages, the improvement evident after a couple of injections, the subjects restored to their business.

Cure and Prevention of Backward Displacements of Uterus During Puerperium. RISSMANN.—The chief points urged in this communication are that the lying-in patient should recline on the side and occasionally lie with face down; also that she should be examined soon after she gets up, and earlier than this in case of abortion. Women who have had backward displacement of the uterus previous to the puerperium should begin to wear a pessary the [illegible] day.

Tuberculosis of the Stomach. M. SIMMONDS.—In 2000 autopsies of tuberculous subjects in the last ten years, Simmonds, prosector at Hamburg, only found secondary tuberculous ulcus ventriculi in eight. Hematogenic miliary tubercles in the stomach walls are, on the other hand, quite frequent, and they are found in the three coats indiscriminately.

Prager Medicinische Wochenschrift (Leipsic), February 15.

Alcohol Therapeutics of Local Tuberculosis. L. NEUSTADL.—A young man, with tendovaginitis and osteitis tuberculosa of the left hand, had been advised by Woelfler, Maydl and the writer to have the hand amputated, on account of the extent and progressive character of the lesion when Bier's communication in respect to the therapeutic action of alcohol, confirming Salzwedel's experience, suggested alcohol treatment as a last resort, and the hand was dressed daily with compresses wet with alcohol. The swelling and pain promptly subsided; the fistulæ healed, and the secretions dried up almost completely, while the lost functions of the hand were restored. In six weeks the cure was practically complete. The shrivelling of the skin and a slight smarting at first were the only drawbacks Angerer has also reported ten cases of local tuberculosis thus treated, with three cured and the rest remarkably improved.

Centralblatt f. Innere Medicin (Leipsic), January 13.

Origin of Hemoglobin and of Red Corpuscles. F. [illegible].—The question of intravenous injections of iron and arsenic has been the subject of special study at the Parma Medical Clinic during the past four years. This communication reports, as the result of this clinical and experimental research, that there is an evident independence between the formation of hemoglobin and of the red corpuscles; also that certain substances stimulate the formation of red corpuscles, and chief among these is arsenic, while others have a decided influence on the formation of hemoglobin. Iron is the most effective in this respect.

Wiener Klinische Wochenschrift, Feb. 15, 22 and March 1.

Alimentary Glycosuria. E. RAIMANN.—This communication first establishes the paradoxical fact that the more sensitive the tests that have been used to detect glycosuria, the more inexact the results, as the existing physiologic glycosuria has not been taken into account, while this varies with different individuals, and interferes with the interpretation of the reaction. Raimann therefore urges that zero be established at the point where the existing physiologic glycosuria first gives an unmistakable reaction to the test. Starting from zero at this point the information derived is mathematically correct and can be used for comparison of the "diabetic predisposition" in individuals, as alimentary glycosuria is a direct test of the general function. It indicates a permanent, constitutional lowering of the limits of assimilation and can be accepted as an indication of degeneration in the chemical sense.

Landry's Paralysis. J. KAPPER.—A typical case of [illegible], and the central nervous system and peripheral nerves studied in respect to their pathology and histology, four hours after death, with entirely negative results in each case. Paralysis of the larynx had been noted, internus and transversus, such as we are accustomed to associate with hysteria. The etiology seems to be an intestinal autointoxication due to exaggerated putrefactive processes. The evidence of products of putrefaction in the urine and the transient improvement that followed copious evacuation of the bowels, confirmed the theory of autointoxication, and also the negative findings with such fulminating clinical symptoms. Measures to combat intestinal putrefaction are therefore indicated in this disease.

Suture of Bladder with Sectio Alta. G. LOTHEISSEN.—The general impression now seems to favor suturing the bladder, especially in operations for removal of foreign bodies and calculi, in young subjects with normal urine. Convalescence is materially shortened by it. Bierstein noted thirty-one days as average of convalescence without suture, and eleven to thirteen with. In the three cases described, convalescence lasted fourteen to eighteen days. The dangers of intervention are not increased by the suture. Angerer always sutures the bladder in these cases and has not lost a patient as a direct result of operation. Radumowsky has reported 43 cases, all sutured, with first intention in 40. In 137 observations reported in recent literature, first intention is recorded in 96. The mucous membrane should not be included in the suture.

Traumatic Aneurysm of Brachial Artery and Division of Median Nerve: Extirpation of Artery and Suture of Nerve: Recovery. K. SINNREICH.—Compression is indicated as a preliminary measure unless the trauma is so recent that an after-hemorrhage may be induced or rupture of the sac is imminent. Compression alone may cure the aneurysm in favorable circumstances. Besides the personal observation described in full, thirty-four are tabulated from the literature. They emphasize the benefits of extirpation, especially for aneurysms of the upper arm, also for those with gangrene or coexisting injury of the median nerve. In Gripal's case failure to extirpate led to gangrene requiring amputation. In several cases extirpation of the aneurysm resulted in the retrogression of tumors or gangrene of the member below. Philagrius announces the following counterindications to operation: 1. Fresh traumatic aneurysm, arterial hematoma, as a wall for the sac has not yet been formed. 2. Severe infection of the wound which caused the aneurysm, as the danger of the spread of the wound infection is enhanced by every complicated intervention. 3. Subcutaneous rupture of the sac.

Societies.

COMING MEETINGS.

AMERICAN MEDICAL ASSOCIATION, Atlantic City, N. J., June 5-8.

Medical Association of the District of Columbia, Washington, April 5.

Western Ophthalmologic and Otolaryngologic Association, St. Louis, April 5-7.

Tennessee State Medical Society, Knoxville, April 10.

Florida State Medical Society, Orlando, April 11.

Mississippi State Medical Association, Meridian, April 11-13.

Medical Society of California, San Francisco, April 14-16.

Medical Association of Alabama, Montgomery, April 17.

South Carolina Medical Association, Charleston, April 18.

Louisiana State Medical Association, New Orleans, April 19-21.

Medical Association of Georgia, Atlanta, April 18.

Medical and Chirurgical Faculty of Maryland, Baltimore, April 24.

Texas Medical Association, Waco, April 24.

American Proctologic Society, Washington, D. C., May 2 and 3.

Illinois State Medical Society, Springfield, Ill., May 15-17.

Association of Military Surgeons of the United States, New York City, May 31 to June 2.

Berks County Medical Society.—This Pennsylvania Society held a meeting at Reading, March 13, and the committee on legislation presented a report denouncing the provisions of the vivisection bill now pending before Congress, which was unanimously passed.

Congress Against Tuberculosis.—This congress will meet at Naples, Italy, April 25-28, 1900, under the presidency of his Excellency Minister Baccelli. There are sections on etiology and prophylaxis, clinical pathology, therapeutics and sanatoria. Physicians, naturalists, engineers, as well as representatives of the social and philanthropic sciences are entitled to take part.

California Academy of Medicine.

February Meeting, San Francisco.

ZOSTER OPHTHALMICUS, WITH PARESIS OF FACIALIS.

Dr. Douglas W. Montgomery presented a patient with this condition, which has lately received considerable attention from Brissaud and Klippel and Aynaud. The patient said he first became ill on Dec. 24, 1899, with shooting pains in the upper orbital region, and for a couple of days he was very feverish. On the morning of the 25th a vesicular rash appeared, at first at the inner canthus of the right eye, then on the outer surface of the upper eyelid; it then broke out on the forehead and scalp as high up as the crown of the head. When he came to the University of California Clinic, Jan. 26, 1900, the skin of the upper part of the right side of the face was red, smooth and glossy; there was a scattered eruption on the scalp, also limited to the right side, and extending from the forehead back nearly to the whorl, and consisting of smooth, vesicular, brown crusts such as are left after drying herpes. In the center of the forehead there was a small, deep ulcer, which would probably heal without scarring. The whole area of the eruption was fan-shaped, extending upward from the right eye; there was no demonstrable adenopathy. The history of the sudden onset of the affection, with its severe pain and fever, its unilaterality, its situation, the fan-shape of the eruption, spreading upward from the orbit, the circular crusts of the scalp, looking like dried vesicles, and the involvement of the eye, all pointed to a diagnosis of herpes zoster. The small, deep ulcer must also be mentioned as somewhat strengthening the diagnosis of zoster. It was noticed that the right side of the forehead was smooth, a smoothness which was not accounted for by the swelling, and that the left side had the usual wrinkles, while the patient, when asked to elevate the eyebrows, was able to do so very imperfectly, on the right side. No other muscles supplied by the seventh nerve were affected. Previous to his present illness he said he had never noticed any difference in the wrinkling of the two sides of the forehead.

He was sent to Dr. Von Adelung for a more detailed neurologic examination. The Doctor found that touch was abolished in an area bounded by a line commencing at the external canthus of the eye, running backward toward the ear within the hair line, then up well within the hair line to the median line of the forehead to the internal canthus, and then backward to the point of commencement, including the upper but not the lower lid. Pressure sense was retained imperfectly in this area; analgesia was present and a pin could be pushed to the bone without giving pain; temperature sense was abolished; there was motor paresis of the right frontalis; variable contraction to the faradic current, and galvanic contraction was also visible; K.C.C. greater than A.C.C.; during forcible contraction of the orbicularis palpebrarum the right upper lid trembled; the levator palpebrarum was normal. Dr. George W. Merritt examined the eye and found that the corneal reflex was normal, that the motions of the eye were unimpaired, and that vision was 20/200 in the affected eye. The impairment of vision was due to a blue hazy spot in the cornea, over the center of the pupil, which afterward cleared up rapidly; with the clearing up of the spot, the sight continued to improve.

According to Eberstein, paralysis of the facial nerve is most frequently observed in zoster occipito-collaris, and he mentions paralysis of the facial as occurring rarely in zoster ophthalmicus. Klippel and Aynaud have gathered seventeen observations of paralysis of the facial in zoster ophthalmicus. They eliminated all those cases of zona occurring in lesions of the petrous bone, or other lesions essentially apt to give rise to facial paralysis, and included only true herpes zoster. According to the observations, facial paralysis usually occurs during the first days of the eruption, it is unilateral and is situated on the same side as the zona, and there is rarely any other paralysis. It is their opinion that facial paralysis is due to the same infection that causes the neuralgia and the eruption, and they think that the neuralgia, the zona and the facial paralysis form three symptoms of the same disease.

Dr. Guido Caglieri referred to a patient with what he supposed was zoster at the region of the anterior superior spine. There was neuralgic pain shortly followed by the eruption. The patient had had sugar in his urine for some years, but whether that had anything to do with it or not he could not say.

Dr. J. F. McCone asked whether, when adenopathy occurred, it was found to be in those glands which would naturally drain the lymph from the affected area.

Dr. D. W. Montgomery said that the theory that the adenopathy was a subsequent affection to the nerve and skin affection was formerly held, but of recent years has been greatly changed. Many observers have noticed the adenopathy occurring simultaneously with the neuralgia and before or with the appearance of the eruption.

Dr. Harold Brunn asked whether the infection might not be first in the nerves.

Dr. Montgomery said that Dr. Hay collected considerable material on this subject, some time ago, and it was his opinion that the infecting germ occurred very early in the nerves. At least one case was noted in which the paralysis was the first symptom, though it may be that the germs are first to be found in the glands, and that from there the infection goes to the nerves and the skin. The older theories are being almost reversed.

Dr. H. J. Hunkin recently saw a patient who came complaining of severe pain in the breast. The glands of the axilla were enormously enlarged. He could not satisfy himself that the nipple was retracted, but the picture was fairly good of cancer, until a few days later the eruption appeared.

Dr. Wallace I. Terry asked what the treatment was in this case.

Dr. Montgomery said he used simply a protective dressing of yellow oxid of mercury ointment. Collodion is recommended, but he thinks that if we are right in supposing this to be an infectious disease, painting the skin with collodion would not be proper. Blisters, freezing, etc., have been used as applications to the spine, and it is possible that they may have some good effect; however, he thinks they simply fill in the time which elapses between the onset of the disease and its natural ending.

TUBERCULAR KIDNEY.

Dr. Dudley Tait presented a patient on whom he had operated for this condition, removing the kidney and the entire ureter. The history of the case will appear in full in The Journal.

Dr. Philip King Brown showed characteristic tuberculous lesions.

He detailed the operation and subsequent history, the points of history in the case being the perirenal tuberculous infiltration, a rare and troublesome condition, complicating both the operation and the subsequent treatment; the absence of vesical lesions. The latter throws some light on the much discussed cause of certain symptoms of renal tuberculosis: cystalgia, painful spasms of the body and neck of the bladder, pollakiuria, frequent, uncontrollable, and painful micturition. Guyon ascribes the foregoing condition to coexisting infiltration of the vesical mucosa by Koch's bacillus. Le Dentu and most of the English authors—Newman, Roberts, Morris—explain all the symptoms by a renovesical reflex. The case reported was strong evidence in favor of the reflex theory.

Philadelphia County Medical Society.

Feb. 28, 1900.

SIPHONAGE OF PARTITIONED BLADDER.

Dr. A. J. Downes read a paper on this subject, and demonstrated a new instrument—the separate urine siphon. In many doubtful cases it is important to obtain the urine from separate kidneys. For this purpose the Harris urine segregator has been most employed. Many years ago he resorted to this instrument to determine the diagnosis, with positive results, in a tuberculous kidney which was removed, beneficial effects following. On further use of the instrument he decided that the suction apparatus was not altogether necessary, and has devised an instrument somewhat like the Harris. It consists of two parts, or two separate catheters curved very much like the rectal catheter; they can be rotated after introduction into the bladder in all directions. At the end of each part an opening is made so as to facilitate introducing the beak near the orifice of the ureter. The bladder should be irrigated before the instrument is inserted. He has found that little if any irritation follows its use.

Dr. H. M. Christian considers these instruments of value in determining pyuria but the catheterizing cystoscope always requires careful work to be of service. In one instance he obtained cloudy urine from both sides of the bladder, by the Harris segregator. The great fallacy in the use of these instruments is in the liability to draw off material from the vesical trigone instead of the ureter. He thinks the instrument exhibited by Dr. Downes has some advantage over the Harris instrument, since it permits a wider separation of the parts about the vesical trigone.

Dr. W. L. Rodman expressed the opinion that Dr. Downes' instrument possesses some advantages over the Harris.

EAR DISEASE IN CHILDREN.

Dr. George C. Stout, in his paper on this subject, detailed the anatomy of the external ear in children and its difference as compared with that of adult life. He thinks fully two-thirds of the diseases of the middle ear met with in adult life result from neglected diseases of the parts during infancy. The most common cause in children is measles, scarlet fever, diphtheria, typhoid fever and influenza. Furunculosis is a common condition met with. In this incision should be practiced, and afterward the parts should be rubbed with oxid of mercury ointment. The use of sweet-oil and laudanum introduced into the ear is to be deplored. In removing hardened wax, it might be best to first moisten with a weak solution of bicarbonate of soda in water and afterward syringe out carefully. Foreign bodies should be removed carefully with a syringe with a long point. As a rule poultices are not to be advised for inflammatory diseases in this region.

Dr. B. A. Randall spoke of the fees of specialists in diseases of the ear. He thought the patient's circumstances should be stated by the attending physician, and in that way often prevent overcharging. Regarding examination of the ear, often no instruments are necessary, as the child may be carried to a window and examined by direct sunlight—the latter falling over the shoulder of the examiner.

Dr. Solomon Solis Cohen advises that the child be placed in a horizontal position, when the parts will often come into view without much difficulty.

Baltimore County Medical Association.

Catonsville, Md., March 15, 1900.

LEGAL ASPECTS OF INSANITY.

Judge N. Charles Burke, of Towson, presented this subject. That insanity increases with the advance of our civilization out of all proportion to population, he said, seems to be a well-established fact. In 1850, in Great Britain, there was one lunatic to about 1000 persons, and only thirty years later the Lunacy Commission of Great Britain reported one to 357 in England and Wales, that is, nearly three times as many. In New York there is one to 384 persons. His personal experience on the bench is that mental diseases are yearly becoming more frequent. This experience justified the statement that the aid and assistance of the upright, conscientious and competent physician is of the greatest value and importance, and in some cases absolutely indispensable to the administration of justice. He defined insanity in a general sense as mental unsoundness. Insanity, its causes and effects may be more exactly defined and indicated as an abnormal state of one's superior mental powers, he said, viz.: his reason, intellect and will, produced by disease of the brain, which state of the mental faculties is manifested by disorderly and unsound or abnormal actions. It is with illusional or delusional insanity that the greatest difficulty, perplexity and obscurity is experienced by the legal and medical professions. And such questions must be approved by the physician, the judge and the lawyer, with clear and well-defined conceptions as to the nature and characteristics of the disease. Clear distinctions must be drawn and recognized between what is known as medicine and law as an insane delusion and peculiarities and eccentricities of character, and the thousand and one species of delusions entertained by men on all manner of subjects. As so many people have become of late the victims of this latter species of delusions, there may be much truth in the declaration of the Hon. Champe Clarke, that what this country most stands in need of just now is a strong, vigorous and robust fool-killer. Such a man would have a big job on hand. The judge has examined many definitions on insane delusions, but to his mind the clearest and the most satisfactory is the one given by Judge Cox in the Guiteau case: "An insane delusion," he said, "is an unreasoning and incorrigible belief in the existence of facts which are impossible absolutely, or at least impossible under the circumstances of the individual."

Certain schools of medicine have maintained the existence of a moral insanity which should exempt from all criminal responsibility—in which a man's reason, intellect and understanding may be perfectly sane and unimpaired; in which he may know exactly what he is doing; in which he may know the consequences of his act as implied to himself; may know that it is morally and legally wrong, and yet, by reason of a perversion or disease of the will, he can not help doing it. This species of insanity is maintained by Pritchard, Mandsley and their followers, and results from the false and materialistic assumption that the will is merely a nerve-center, and that in consequence of the disease of this nerve-center, the will becomes diseased and insane, "though the reason is at the same time perfectly sane, knows the action to be wrong, and reprobates the deed." He said that such insanity, it is manifest, if it existed or could exist, would be most dangerous to society. When all other defenses fail, or when there is no other defense to be made, it would become the ready and safe refuge for the most atrocious criminal. He therefore denies the existence of such insanity, as the first principles of a sound psychology demonstrate the impossibility of such a state, and every principle of sound ethics forbids it. It is not recognized in England and has been repudiated by most of the courts in this country. It has been recognized in one case in Iowa and one in Connecticut, also in one or two other states, and has taken its firmest hold exactly where we should expect to find it do so—in Kentucky. It has been expressly repudiated by the Court of Appeals of Maryland.

His conclusions were: 1. Strictly and properly speaking, insanity is not a physical disease, but is the abnormal state of man's higher mental powers produced by disease of the brain. 2. The general test of mental disease is lesion of the brain. 3. The general test of insane mental action is insane delusion. 4. The law of Maryland does not recognize mere moral insanity as an excuse for crime. 5. Where the defense of insanity is interposed, the accused is entitled to an acquittal if, on the whole evidence, the jury has a reasonable doubt as to his criminal responsibility as defined by the law.

A dinner followed the meeting and the members and guests inspected the hospital, the methods of water-cure for nervous diseases and the electrical apparatus, under the guidance of Drs. J. Preston and T. W. Keown, physicians in charge.

New York County Medical Association.

Feb. 19, 1900.

REPORT OF CASE OF RUPTURE OF PERINEUM IN COITUS.

Dr. R. Abrahams reported this case occurring in a woman of 26 years, who had been recently married. After about six weeks of married life, during which sexual intercourse had been had six or eight times, there had been, on one of these occasions, a considerable hemorrhage, associated with moderate pain. The next morning the woman had been surprised to find feces escaping through an opening above the anus. On examination, Dr. Abrahams found that although the external genitals, the vagina and the uterus appeared to be normally developed, and there was no evidence of her having had prolapsus recti, hemorrhoids, ischiorectal abscess or any inflammation of the perineum; there had been a complete and clean-cut rupture of the perineum as though it had been made with a surgical instrument. Two fingers could be passed through an opening which was most accurately described as a rectoperineal fistula.

The patient could not be kept under observation, so alarmed had she become at the prospect of an operation for the relief of her condition.

Dr. Edwin Gaillard Mason said that he had seen a similar case at St. Mary's Hospital, only that in that instance the rupture had taken place at the first coitus. The case had not come under obbservation for some months, and during this time sexual intercourse had taken place through the rent.

ANESTHETICS.

This was the subject for special discussion at this meeting. Dr. John A. Wyeth read a paper on "The Selection of the Anesthetic in Surgery," Dr. Thomas L Bennett discussed "The Amount of the Anesthetic;" Dr. S. Ormond Goldan read a paper on "Nitrous Oxid and Its Modifications for Prolonged Surgical Operations;" and Dr. James P. Tuttle took up "Experience with Ethyl Chlorid in General Anesthesia." These papers were printed in last week's JOURNAL, the discussion accompanying.

Cincinnati Academy of Medicine.

March 5, 1900.

CONGENITAL MILIARY TUBERCULOSIS.

Dr. B. T. Lyle presented specimens illustrating this affection. On Dec. 2, 1899, Bettie P., colored, aged 32 years, single, was admitted to the Cincinnati Branch Hospital for Consumptives. She complained of a severe cough, sore throat and incontinence of urine. She had never been sick before, but admitted alcoholism. Two years ago she had hemoptysis, and for about a year night sweats. She was pregnant, believing herself seven months advanced. One child, 18 months old, died four months before she applied for admission. Physical examination revealed cavities in the upper and middle lobes of the right lung, and areas of consolidation throughout the remaining lung tissue. She died on December 17, and a post-mortem examination confirmed the above.

Two days previous to death she gave birth to a female child which appeared to have been born at full term. The child weighed 3½ pounds, and was very weak. In the course of two months its weight increased to five pounds, and then declined. The temperature, which was subnormal during the first month, increased during the remainder of its life, running as high as 102 degrees at times. The child died March 3, 1900. Postmortem showed a general tuberculosis, the lungs, liver, and, spleen being filled with myriads of miliary tubercles. The kidneys also shared in the change, similarly. The bronchial glands were greatly enlarged. Unfortunately the Doctor had not seen the placenta, and the nurse described it as normal, but he thought that the infection was *in utero*, and for that reason presented the specimen.

Toronto Clinical Society.

March 7, 1900.

CASES ILLUSTRATING PROCEDURE IN TUBERCULOUS DISEASE OF THE KNEE.

Dr. A. Primrose presented two male patients, one of 19 years, the other of 8. The first was a complete excision and the second erasion. In 1897 the disease first appeared in the man and was apparently cured under the ordinary treatment of rest and the application of the Thomas splint. The trouble reappeared in February, 1894, when he first came under the care of Dr. Primrose. The disease was very far advanced in the joint, flexion to the extent of 100 degrees existing, with very little pain. Improvement was noted until February, 1899, when the trouble broke out afresh. One sinus existed in the popliteal space and one to the outer side of the joint, both discharging pus. The specimen of bone exhibited consisted of the lower end of the femur and the upper end of the tibia, each about an inch in length, together with the posterior part of the patella. The operation was performed with an U-shaped incision, the large flap being turned up, the joint exposed, and the mass of diseased bone removed. Excavations were scooped out in both bones until healthy bone was reached. The anterior wound healed up well. In order to secure union and osseous ankylosis wiring was performed, but on one side alone, owing to the collapsed condition of the patient under the anesthetic. There is now present just the amount of flexion one would wish to have, and firm ankylosis, so that he can put the foot firmly on the ground. In December, 1899, he had a small sinus in the popliteal space, and it was determined to enlarge it. A small cavity in the bone was found and curetted. The sinus was stretched forcibly, and in the procedure the external popliteal nerve was implicated, setting up an extreme neuritis with great pain on touching the sinus; there was complete paralysis of all parts supplied by that nerve. This subsequently returned to normal. He had reaction for faradic electricity, and while at first it took 25 milliamperes to cause any contraction, the muscles now react to less than 12, which gives an extremely favorable prognosis. Sensation has returned, but he can not extend the toes.

The case of the boy was one with tuberculosis of the synovial membrane, apparently confined to the membrane alone. After the ordinary treatment for a considerable time, with no improvement, the patient getting progressively worse, the surgeon decided, in May, 1898, to do erasion as described by Mr. Cheyne, viz., the H-incision. The patella was sawn across and two flaps turned up and down. The disease had invaded the membrane, the lateral and the crucial ligaments. The joint was thoroughly cleaned out and a plaster-of-Paris splint put on. The wound healed by first intention. Dr. Primrose stated that he had expected ankylosis, but the boy has a good degree of movement, and is walking wonderfully well. The limb on the affected side is half an inch longer than on the sound side. The surgeon thought this due to irritation at the line of the epiphysis, causing increased growth, not going on to disease or destruction of the bone—an extremely interesting point.

SERIOUS WOUND OF SKULL AND ACROMION.

Dr. William Oldright exhibited a boy of 12, who had sustained nine scalp wounds in the occipital region, inflicted by a bread knife having a blade thirteen inches in length. A triangular piece of bone 1½x1¾x1¾ inches was cut out in the cranium. There was also present a large cicatrix over the acromion process, which had been cut through. The strength of the shoulder-joint was not impaired in any way.

SYMPOSIUM ON HYSTERIA.

Dr. J. T. Fotheringham read notes of a case of hysteria occurring in a woman of 18 years. As regards her family history, the eldest child is living at 23 years, an imbecile. Two others died in infancy, of tuberculous meningitis. Two months before the attack of hysteria, the patient was suffering from rheumatism, in the ankles, shoulders and other joints of the body. The present condition developed gradually. The breath was occasionally stertorous on inspiration. The circulatory and genito-urinary systems were normal. Ankle-clonus was especially marked in the right leg, an unusual symptom, because not usually seen in hysterical cases. Peculiar postures were adopted while in bed; and all speech was conducted in whispers. She apparently suffered from severe photophobia; but when the windows were darkened she would be noticed watching from under the bedclothes. Hearing was abnormally acute. The treatment consisted in removal to a private hospital; hyoscin; and valerianates of iron, quinin and zinc; and plenty of good food. She has been well for some months and now works in a shop. Other points noticed in the case were the absence of the hysterical fit, no serious moral perversion and no delusions.

Dr. W. H. Pepler contributed notes of a case of hysterocatalepsy occurring in a girl of 5 years. The family history was negative, though the father is of a neurotic temperament. She was a full-term child, walked at 10 months, talked at 9, had measles at 2 years, with no complications and no sequelæ. One evening she refused some article of food, and suddenly fell forward with the head and arms on the table. On the arrival of the physician, she presented the normal appearance of health, but was seemingly asleep. When raised the arm would remain in the horizontal position about thirty seconds, and then gradually fall. The condition in the lower limbs was not so marked. An enema and quiet secured return to consciousness in two hours, with no other attacks since.

THE JOURNAL OF THE
AMERICAN MEDICAL ASSOCIATION.
61 MARKET STREET, - CHICAGO.

SATURDAY, MARCH 31, 1900.

WHAT SHALL WE CLASS AS ETHICAL PREPARATIONS?

With the assembling of the Convention for the Revision of the U. S. Pharmacopeia, in Washington, D. C., May 2, next, there is a revival of interest in therapeutic matters. With the specialization in medicine there is a tendency toward medical nihilism, which it may be well for the profession to guard against. The situation pharmaceutically is not encouraging, and it is hoped that the revision of the Pharmacopeia will at least afford an opportunity to awaken interest among medical men to the anomalous condition that exists in medical prescribing. The great increase in the number of proprietary remedies, often of secret composition, designed for medical prescription, is becoming a burden to the physician—not that there is no room for new remedies of merit, as well as for improved processes and forms of administration, but the endless multiplication of all sorts of medicinal mixtures which present neither novelty nor improvement over many an old-time combination is exceedingly trying. Many of these preparations have been exploited at the expense of the medical profession, which stood sponsor for them, only to enrich their manufacturers, who in most instances secured the formula from the prescription of some well-known physician. Their use, moreover, has a tendency to make prescribing a lost art and add to the difficulties of the young and inexperienced practitioners. In addition to this feature there has also been a tremendous increase in the so-called synthetic products, which are placed on the market under fancy or arbitrarily-selected names, in such great variety as to cause confusion in the many nearly similar terms and, in fact, make it quite impossible for anybody to keep in touch with the literature of this so-called "modern therapeutics."

Medical and pharmaceutical associations have endeavored, more or less successfully, to tentatively correct these abuses. The Board of Trustees of the American Medical Association and The Journal have at various times made honest efforts to discriminate in these products, with special reference to excluding such of them from the advertising pages of The Journal as may not respond to the standard of ethics of the medical and pharmaceutical sciences. The difficulty has always been, however, to know where to draw the line, as a literal interpretation of professional ethics applied to the patronage and the advertising of medicinal articles would exclude the vast majority of them.

In these days of competition the cost of exploitation is too great and the returns too uncertain to be depended on without some degree of reasonable protection; hence the desire to preserve the absolute control of medicinal specialties through the use of the copyright or trademark laws. These laws were designed simply to protect the priority rights of inventors under the common law to the ownership of certain designs, devices and symbols indicative of the origin or brand of some special manufacture. As such they serve a useful purpose, but in the United States the idea has been perverted and the trademark principle has been utilized to cover the name of the article. Therefore, since often the only name of the article is the arbitrarily-selected fancy one bestowed on it by the manufacturer, unlimited control and monopoly are frequently created.

The abuses of our patent laws originate chiefly from this source, and it is to this evil that a committee appointed by President McKinley, now sitting, should direct its principal attention and thereby evolve a plan to foster invention and protect investments within such reasonable limitations as may be in the interest of public welfare and in accord with the progress of medical science and pharmaceutical art. That a new process showing originality and improvement in chemical art is entitled to patent protection no one can deny, since through the attendant publicity improvement and invention are stimulated, and on expiration by limitation the process reverts to public use. In quite a different category must the so-called "product-patent" be placed, since new or improved process may be devised for an article which, however, can not be utilized because the law forbids anybody to make the same product, no matter under what name or by what process. Many of the synthetic chemicals come under this head, being further protected by trade-mark names.

The French laws governing these products are perhaps the best, practically making the National Academy of Medicine censor for new medicines. The American Pharmaceutical Association, at its 1899 meeting, took the advanced position relative to the recognition of articles in the U. S. Pharmacopeia: 1, that no letters nor words used as the generic or descriptive name of a medicine should be used as trade-mark, but that such protection should be confined to symbols and figures; and 2, to approve process-patents. The Convention for Revision of the U. S. Pharmacopeia will probably indicate the "Scope of the Pharmacopeia of 1900" on the following lines: To admit "any product of nature of known origin, and any synthetized product of definite composition in common use by the medical profession, the identity, purity and strength of which can be determined by physical and chemical tests. No compound nor mixture shall be introduced if its composition or mode of manufacture is kept secret, or if it is controlled by unlimited proprietary or patent rights."

With this summary of the situation at the present time, The Journal, after a careful analysis also of the position of all parties interested, submits this tentative policy through which it will endeavor to eventually exclude all medical advertising that may be objectionable or not in accord with the high ideals of the American Medical Association—the medical profession of America—and scientific pharmacy.

SHALL ALCOHOL BE RECOGNIZED AS A FOOD?

The experiments of Prof. W. O. Atwater, of Wesleyan University, Conn., and the discussions growing out of them have opened up afresh the old questions: "What is Food?" and "Is Alcohol Food?" The experiments in question consisted in observations on the metabolism of a man who was confined in a respiration-calorimeter during successive periods. The calorimeter used by Professor Atwater is one of the most complete in existence, and the technique of his experiments is elaborate and as free from error as it is possible by present facilities to make such extensive analyses. The observations include not only a quantitative analysis of the various foods and beverages consumed by the man during the period of confinement, and the various excreta, but also a careful estimate of the energy represented by ingested material as well as the energy liberated from the body in the various excreta, in heat, and in mechanical energy.

Through the means of the respiration-calorimeter an experimenter is able to verify the law of the conservation of energy as applied to the animal organism. Professor Atwater has brought new and conclusive evidence to prove that every unit of energy which enters the body as potential energy of the food will leave the body in potential energy as excreta, in heat radiated from the body, or in mechanical work done by the muscular system. The material income of the body must balance the material out-go, and the energy-income of the body, in accordance with the law of conservation of energy, must balance the energy out-go, however many transformations it may undergo within the body.

Professor Atwater substituted for a portion of the nonnitrogenous foods a quantity of ethyl alcohol equivalent in energy to the food which it replaced—2½ oz. of absolute alcohol per day in six does. In harmony with what has been known for many years, he found that the alcohol is nearly all oxidized within the body. A necessary result of its oxidization is a liberation of its energy, which is added to the total energy of the body. In these respects alcohol is similar to foods because all foods are oxidized within the body, giving up their energy to it. His conclusions that the body held its own as well when alcohol was made a part of the diet as it did with a normal diet is discussed in detail and with evident fairness in another column of this issue, by Professors Woodbury and Egbert, of Philadelphia.

The question at issue is whether its oxidization in the body entitles alcohol to a position among the foods. If all substances which are oxidized in the body and give up their energy are to be classified as foods we shall be obliged to list with the latter many substances which are more or less noxious in their influence on the system. The fallacy of the reasoning which would place alcohol among the foods is very apparent when we put it in the form of a syllogism: All foods are oxidized in the body; alcohol is oxidized in the body; therefore, alcohol is a food. As logically might we say: All birds are bilaterally symmetrical; the earthworm is bilaterally symmetrical; therefore, the earthworm is a bird. Oxidization within the body is only one of several important properties of a food; as bilateral-symmetry is only one of several important characters of a bird.

If we possessed a generally-accepted definition of a food, it could be very quickly decided whether or not alcohol conforms to the several conditions which foods must fulfil. There are almost as many definitions of food in our language as there are writers on nutrition. No definition yet proposed is generally acceptable. The difficulty which physiologists experience in formulating a definition of foods is similar to that which biologists have experienced in formulating a definition of life. The advance which physiologists, biologists, pathologists and neurologists have made in the study of the inner life of the cell—that ultimate structural unit, and life-unit—ought to give us in our attempt to define a food advantages incomparably greater than those which Liebig enjoyed half a century ago.

The alcohol-a-food fallacy emanated, along with other notable fallacies, from the chemist, Liebig. From his rather restricted point of view he propagated three doctrines which have been very difficult to dislodge. These were: 1, that the nitrogen of the urine is a measure of muscular work; 2, that meat extract—Liebig's Fleisch Extrakt—contains nourishment for the living tissues of the body; 3, that alcohol is oxidized in the body and must therefore be a food. Fick and Wislicenus proved the error of the first doctrine, Voit and others the untruth of the second, while numerous physiologists, notably Fick and Bunge, and many members of the medical profession have exposed the fallacy of the third. But like Banquo's ghost, "it will not down." Great commercial and social interests are involved in this particular fallacy, therefore the tenacity with which it clings to existence.

A definition of food must include a statement of its general effect on the inner life of the individual cell. In this regard alcohol stands far removed from all recognized foods. Advocates of the alcohol-a-food dogma try to evade the main issue by contending that "as alcohol is oxidized in the body it is to a certain extent a food" or that it possesses "a limited food-value." This method of reasoning is just as fallacious as it would be to contend that because an earthworm possesses one of the requisite characters of a bird it is therefore to a certain extent a bird. The claim that alcohol is a food, in any proper sense of the term, is not in our opinion sufficiently proved.

The half-crown fund being collected by the *British Medical Journal*, for the South African contingency, is now over £207.

CEPHALIC INDEX AND HEIGHT, WEIGHT, STRENGTH AND MENTAL ABILITY.

A statement of Dr. John Beddoe, in regard to the dolichocephalic and brachycephalic types of races and the superiority of the former, forms the text of a recent research and article by D. A. Sargent.[1] In order to test the question as to which of these types predominates and what its physical and mental qualities are, he made a study of 1100 Harvard students recently examined. The numerical strength of these groups, according to their cephalic indices, is given as follows. Those who had indices of 75 and less were classed as dolichocephalic, and numbered 116, those between 75 and 77.77 as subdolichocephalic, this group numbering 284. Those who had indices between 77.78 and 80 numbered 331 and were classed as mesaticephalic, and between 80.01 and 83.33 as subbrachycephalic, there being 261 of these. Those with indices of 83.33 and over were considered brachycephalics, their number 108. These different groups were arranged according to their average height, and it was found that the mean dolichocephalic stature was 5 feet 9 inches, and that of the brachycephalic 5 feet 7½ inches, the other intermediate types coming between the two. As regards weight, the same was also true, the dolichocephalic showing the mean of 138.9 pounds, and the intermediate, subdolichocephalic and subbrachycephalic, showing 135.6 pounds. The average height and weight are usually considered as indications of physical strength in the normal man, but the American college test applied leaves nothing to be taken for granted, and consists in actual tests of weights lifted with legs straight and legs bent, the strength of grip, of expiratory power and of the weight in kilos multiplied by the number of times the person can raise his weight by dipping between the parallel bars and pulling his weight up to his chin on a horizontal one. All candidates for the athletic team at Harvard are required to show their ability or make a certain number of points according to these tests. Candidates for the university teams are required to make a total of 700 points, those for class teams 600, and so on. Grouping the racial types according to these tests, the mean strength of the dolichocephalic class was 575 points and of all other classes about 550. Over 5 per cent. of the dolichocephalic class surpassed the test of 800 points, while only 5 per cent. of the brachycephalic class surpassed 700 points. In looking up nationality it was found that the dolichocephals claimed 81 per cent. of their grandparents were Americans, while 57 per cent. only of the grandparents of the brachycephals were natives, other intermediate groups ranging between these two extremes. The occupation and residences were also studied. As regards the latter, 60 per cent. of the dolichocephalic and 56 per cent. of the brachycephalic classes were born and bred in cities of over 10,000 inhabitants. In answer to the question, "are your father and mother living?" 18 per cent. of the dolichocephalic type replied, " father dead," and 11 per cent., "mother dead." In answer to the same question, 11 per cent. of the brachycephalics gave the former answer and 11 per cent. the latter. In college standing the brachycephals stood a little ahead, but in athletics the dolicocephals had 23 per cent. to only 21 per cent. of the brachycephalic class in the college athletic teams. The ratio of blond and brunette in the two types was about the same, but the predominance of brunettes was striking in both. Dr. Sargent considers the facts very suggestive, and it may be admitted that in most respects the dolichocephalic type takes the lead in physical development. The superiority in studies in the brachycephalic type is, he says, perfectly consistent with Dr. Beddoe's conclusion that the long-headed type has a greater intellectual force. High standing in school is dependent more on patient industry than natural intelligence. Athletes frequently fail to take high rank because they give too much of their time while at college to other pursuits, but in later life their superior mental power brings them to the front. The paper does not give as full data as would be interesting in regard to those who are between the two extreme types. It would be of interest could we know just what proportion of the mesaticephals excelled in these different tests as compared with those here reported. One thing is prominent, that the American race does not appear to have degenerated in this country and that foreign blood, even in the third generation, seems to be inferior to the older American stock. A still more important criticism might be made, viz., that the Harvard student does not represent the average young man in this country, but is of rather a selected class, taken mainly from the well-to-do urban residents. It would be of decided interest could athletic directors of colleges in the several sections of the country make similar studies, and by comparison some valuable points might be developed. If the institution at West Point, N. Y., for example, or the naval school at Annapolis, Md., could be thus examined, it would have its special value for comparison with those of the extreme and middle West with those figuring in these Harvard statistics. This line of inquiry is certainly worthy of being followed up more generally than has been the case heretofore.

TUBERCLE BACILLI IN MARGARIN.

It has been satisfactorily shown that tubercle bacilli may occur in butter and other dairy products. Morgenroth[1] found, by careful methods of experimental investigation, that in a large percentage (8 in 20) of samples of margarin living tubercle bacilli occurred. The most likely source of tubercle bacilli in artificial butter would seem to be the milk used in its manufacture; this milk is skimmed milk, largely the remains of centrifugalized whole milk and consequently rich in bacteria. A second source might be diseased lymph-glands in the fat used in making margarin. This demonstration shows the necessity of pasteurization of the materials used in manufacturing oleomargarin and similar products. A series of painstaking investigations along these lines of the food products offered the American public would undoubtedly lead to a more lively interest in their freedom from disease-producing germs than now seems to be the case.

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[1] Journ. of Boston Soc. of Med. Sci., February 20.

[1] Hyg. Rundschau, 1899.

SAN FRANCISCO'S PLAGUE.

On account of the charges and criticisms of a certain portion of the local press, even repeated in the pulpit, the president of the Board of Health of San Francisco has sent out an official statement giving the facts as to the recent occurrence of bubonic plague in that city. The tests made by competent authorities leave no doubt as to the existence of the disease in the one case that was first examined, and since then three other bodies which had been concealed till it was no longer possible to hide them have been found, as noted in our News columns this week. These gave the same bacillus and the postmortem findings indicating plague. If, as this would indicate, the bubonic plague has found a footing there, and is being concealed by the slippery orientals of that city, the condition is serious enough. It is satisfactory, however, to know that the local health authorities are alive to the danger and will do their duty in spite of irresponsible newspapers, and they deserve praise for their straightforward and courageous conduct, so far, in this matter.

DISPOSITION OF OUR DEFECTIVES.

Health resort states, such as Colorado and California, are beginning to complain, and with some cause, that they are made the receptacles of the physical outcasts of the country, for such they may be called. It is the custom, altogether too general, to shift public burdens without regard to justice, and the sending of consumptives to California and Colorado to become public charges is a practice that ought to be stopped. The benefits to the individual are too dubious and slight to even give it the color of justification. It has been the practice of many local charity officials to shift their insane to other communities. Some years ago the superintendent of one of our insane asylums in the Middle West published the records of a patient under his care, who had been sent by the authorities from one to another state so that he had been a public charge in not less than twenty different places and several times more than once in one asylum. We naturally object to Europe dumping her paupers and criminals on our shores, but we are to a certain extent guilty of a similar thing ourselves. A recent case where a Massachusetts court, in lieu of sentence for forgery, condemned the man to absent himself from the state for two years, is in point and is no more than shifting a criminal on to another community, in itself a judicial crime. What is done with criminals is done many times with insane and the hopelessly diseased paupers, and a little agitation on this matter would be healthy, as a stimulant to better public morals.

GREAT BRITAIN'S DRINK BILL.

The drink bill of Great Britain is evidently a matter of enough moment to cause serious national alarm. According to *The Lancet* of March 10, the cost of alcoholic drinks in 1899 in the United Kingdom was £162,163,474 or £6,169,455—about $30,000,000—more than in 1898, and the estimated expenditure for alcohol per family of five persons is about £20, or $100, certainly a large figure. When it is considered that this outlay for the most part represents only the gratification of an appetite, often by those who can least afford it, and that it can only very exceptionally meet any want of the system, the unprofitableness of the expenditure is sufficiently manifest. One hundred dollars a year for drink would be considered a large amount in this country, where the average income of a family is probably considerably higher than in Great Britain, at least among the laboring classes. How large a burden it is on this class in Great Britain can only be imagined, but it is evidently great. From a purely economic point of view, taking into account the disqualifications for work due to even moderate excesses, as well as the absolute lack of return for the expenditure, it would appear that, excepting in war, there could hardly be a greater waste of national wealth than is insured by this drink bill. In a purely medical—not economic—point of view physicians, with the exception of Dr. Archdall Reed and his co-thinkers, can see in it other still more effective inhibitors of national prosperity.

THE JOURNAL AND ITS ADVERTISING POLICY.

On February 26, last, the following letter was handed to the advertising manager by the editor of The Journal, and a copy sent to all advertisers. It explains itself, and also the leading editorial in this issue.

Dear Sir:—At its meeting held Feb. 16, 1900, the Board of Trustees of the American Medical Association adopted a resolution to the effect that the rule adopted by the American Medical Association at Baltimore in 1895, in regard to printing the formulæ of proprietary medicines advertised in The Journal, shall be hereafter strictly enforced. This makes it necessary that each insertion of an advertisement of a proprietary medicine must be accompanied with a statement showing the active ingredients it contains, and the amount of each ingredient to a given dose.

The Board also adopted a resolution to the effect that no proprietary medicine advertised directly to the laity shall be admitted to the advertising pages of The Journal.

You will please see that these resolutions are carried out consistently with existing contracts.

As a result of this action contracts amounting to nearly $2000 annually have already been refused or canceled, and others will be during the next few weeks. We expect to say more on this subject in future issues of The Journal.

INSANITY AND WARS.

It is a common opinion that the periods of great social or political stress and commotion are productive of insanity. The war in South Africa, affecting as it does so many British families, has been expected to have already established a record in this regard, but so far as can be learned no cases of insanity attributable to this cause have yet been seen. The superintendent of a large British asylum is said to have explained this by what he calls "the selfish and unaltruistic nature of mankind." This would almost seem as capable of an interpretation that he regretted the lack of boom to his special business, though certainly nothing could have been farther from his mind. It is probable that Great Britain has not as yet all the effects of this kind from the Transvaal War. The immediate results are often slight, but the remoter effects begin to be apparent months and years later. The excitement at the time of national disturbance is not so especially favorable to the immediate production of mental disorders. These will come later when all the results are what we may call physically and mentally better appreciated. The real effects of bereavement are not often directly after the loss. The excitement and sympathies of the friends and all the other numerous matters that arise at that time divert the mind, and it is only when quiet comes that the distressing consequences begin to appear. The war referred to has only lasted five months and is as yet hardly to be counted a great war, but whatever such effects there may be they will probably be some time in manifesting themselves.

CIRRHOSIS OF LIVER WITH FORMATION OF MULTIPLE ADENOMAS.

The occurrence of a nodular adenomatous hyperplasia in the liver in connection with ordinary cirrhosis has given rise to considerable discussion as to the origin of the adenomas and their relation to the cirrhotic process. It is quite generally agreed that the cirrhosis is the older of the two conditions because, while the cirrhotic changes appear to be chronic and of long standing, the adenomatous proliferations seem to be younger and to result from a more rapid process. Numerous investigators have shown that the adenomatous nodules are undoubtedly primary in the liver. Recently Schmieden reviewed this subject and added the results of the investigation of a new case.[1] He concludes that the primary change in the liver is the cirrhosis; this is followed by a compensatory or adaptive hypertrophy of the liver cells, that [illegible]ally results in adenomatous growth. The early [illegible] of the process before distinct nodules have formed correspond closely with hypertrophic and regenerative changes on part of the liver cells in general, as seen in experimental regeneration, and in regeneration after acute yellow atrophy. It is of great interest to note that proliferations of this kind in cirrhosis of the liver may terminate in carcinomatous growth—a course of events that would speak against the parasitic origin of this form of cancer. In this case the primary cause of the proliferation would seem to be the previous loss of parenchyma.

WELL PAID VOLUNTEER SURGEONS.

The British are not neglecting the medical care of their soldiers in the present war. According to the *Practitioner*, there are, besides the regular force and the local additions to the medical corps, not less than seven "consulting surgeons" in the field, each drawing pay of $25,000 a year. While Sir William MacCormac and Frederick Treves, and perhaps one or two others of the seven, are of world-wide reputation, we have the authority of the *Practitioner* that some of these appointees "had blushed unseen within the walls of their hospitals before this greatness was thrust upon them." In one case it relates, the appointee asked to be allowed to take out a junior surgeon as an assistant, which request was refused as it was impossible to officially recognize such an anomaly as an assistant, "so the fortunate junior was appointed a consulting surgeon on the same footing as the others with a salary of £5000 a year." We usually consider everything done better abroad than at home, and there is therefore a little comfort, such as it is, in seeing such criticism of British officialdom, not that we regret to see such plums fall into deserving mouths, but because it makes us feel that after all our neighbors are not so very much better than ourselves. One of the most eminent and best-known of American surgeons served in practically the same capacity during our Spanish War, with only the pay of his temporary rank of colonel; if he had been paid $25,000 it would probably have been made the occasion for a howl in the yellow journals whose editorial capital consisted of the whining private letters of the homesick volunteers and the office-inspired indiscriminate criticisms of their correspondents. We do not wish to disparage by comparison the patriotism of the higher paid British consultants. We are glad to see them well paid, but merely note the fact that even in the admirable medical management of the Transvaal War there are yet some things that do not escape home criticisms.

DEMONSTRATION OF TYPHOID BACILLI IN DRINKING WATER, CAUSING AN EPIDEMIC OF TYPHOID FEVER.

Generisch[1] describes the bacteriologic investigation of suspicious water in a local epidemic of typhoid fever, in a Hungarian town by the name of Pécs. The facts are briefly these: After a heavy rain storm, in December, 1898, the water from two reservoirs became turbid and stinking; an epidemic of typhoid fever broke out suddenly in the parts that received their water from these sources; 209 cases developed, with 28 deaths; the suspected reservoirs were demolished and three weeks later the epidemic subsided. Generisch was sent from Budapest to examine the water bacteriologically. He made a large number of plate cultures on which grew something like 157 colonies suspiciously like those of bacillus typhosus; of these 103 resembled typhoid bacilli in gelatin stabs, and of the 103 stained preparations and hanging drops corresponded to typhoid bacilli in 61 instances; inoculations on potato, of the 61 growths, gave cultures like typhoid cultures in 31 cases, and these 31 cultures seemed typical in glucose-agar and milk, and not one gave the indol reaction, 9 of the 31 died out; of the remaining 22, 11 agglutinated typically with typhoid serum diluted to 1:50, so that by this laborious method of exclusion 11 cultures of typhoid bacilli were obtained. Further experiments with animals were made, the main result being that many of the 11 cultures appeared to be less virulent than cultures obtained from patients dead from typhoid fever, the blood-serum of rabbits and guinea-pigs inoculated with bouillon cultures acquiring less agglutinating power than after similar inoculations with cultures from other sources. In 1890-91 two epidemics of typhoid fever appeared suddenly in the same town, but confined themselves to parts that received their water from other sources than those affected by the present epidemic. The number of cases was 1128, the mortality 7.5 per cent. Typhoid bacilli were demonstrated in the suspected water at that time, by assistants in Professor Fodor's institute.[2] The conditions surrounding the epidemics of 1890-91 and 1898-99 are similar. The pipes conveying water from springs to the reservoirs were faulty in both cases, superficially located and leaky, hence contaminated surface water reached the reservoirs, the water from which precipitated the epidemics.

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[1] [illegible]

[1] Centralbl. f. Bakt., 1900, xxvii, 241.

A THALLOPHYTIC BLOOD PARASITE ASSOCIATED WITH REMITTENT AND OTHER FEVERS.

E. W. von Tunzelmann describes a protean febrile disease said to be prevalent in China, which many medical men there regard as an unnamed fever peculiar to the East.[1] The febrile attacks range from slight to those of the utmost severity, lasting many weeks, but the clinical picture does not seem to be clearly defined, and nothing is said concerning any anatomic lesions. Human beings are thought to acquire the disease from food animals. The disease is apparently more or less pandemic in China, and seems to break out now and then in more acute, rapidly spreading endemics. The parasite described by von Tunzelmann as associated with this disease is an interesting one. It is a parasite of the blood, but totally different from the organisms of malaria. The red corpuscles are described as studded with circles, crescents, and rods provided with a hopping motion; hyphæ laden with spores are also present in the blood and are revealed by prolonged staining with carbol-fuchsin; the progress occasionally induces thrombosis. Colonies are obtained by placing aside dried films of the blood, under aseptic precautions; in such are large plasmodial masses produced by fusion of swarm-spores. Three kinds of spores are recognized in the blood: zoogonidia—actively motile bodies of varied shapes; simple tubular bodies; and zygospores, reddish-brown, uniform and circular bodies with a clear central space. The rather complicated structure of the organism is described and illustrated in detail; germ-organs and reproduction by a sexual and by an asexual process are described. The spores are extremely resistant to noxious influences; not only do they withstand boiling for half an hour for three successive days, but an old growth is best rejuvenated by boiling for a few seconds; the spores develop in various antiseptic solutions, except bichlorid of mercury and methylene blue. The organisms grow readily in various media. The parasite occurs within a wide range; von Tunzelmann has searched in vain for nearly two years for a single specimen of blood, from any warm-blooded animal, which is free from it. Gravy from a hot roast joint and boiled milk have been found swarming with it. Animal inoculations do not seem to have been made. Naturally we must await further publications in which the disease and the thallophyte referred to will be described in greater detail before these remarkable observations can be fully accepted.

Twenty-four surgeons and 70 hospital-corps men sailed on the *Meade*, on March 20. Twenty additional surgeons, it is announced, will sail shortly from New York City. Some go to relieve others in the Philippine Islands.

Medical News.

A pathologic laboratory is to be established on the Congo, at Leopoldsville, the terminus of the Congo Railway. A bequest of 50,000 francs has been left for this purpose.

A bill has been introduced in the Italian parliament favoring Italian physicians at the expense of all others, by limiting the practice of foreign physicians to foreign patients.

The German Emperor has offered a prize of nearly $20,000 for an automobile that can be used in war. Competition for this may bring the "medical automobile" nearer realization.

The candidates for the chair of medicine at Edinburgh include: Drs. John Wyllie, Byrom Bramwell, Alexander James and G. A. Gibson, all fellows of the Royal College of Physicians at Edinburgh, besides Dr. Wm. Osler of Johns Hopkins, as previously mentioned in The Journal.

None are now received at either of the two convalescent homes to which patients are sent from the Paris hospitals, unless with a medical certificate stating that there are no indications of tuberculosis of the respiratory passages. The creation of a national institute for experimental and practical research in regard to tuberculosis is being urged in France.

According to a communication in the *British Medical Journal*, March 17, with tables showing Ladysmith's rations during the latter part of the recent siege, the food value of the rations only amounted to half what older authorities had considered normal diet, and only about 40 per cent. of the modern standard (Atwater's). Compared with prison and poorhouse diets the rations were of much less food value.

Two professors in Europe have recently been requested to resign their chairs by the political authorities: Professor Shenk, of Vienna, as already mentioned in The Journal, and Professor Arons, of Berlin. The resignation of the former was demanded at the request of the local medical associations, while Professor Arons was involved in a merely political conflict of opinion with the authorities.

The name of the long-anticipated medical insurance society in Belgium is the "Co-operative Médicale." It is hoped this will turn into the pockets of the profession the stream of money which has been pouring into the coffers of the lay officers of the sickness insurance societies. The capital has been fixed at 1,200,000 francs, and the 12,000 shares, at 100 francs each, have been taken by a thousand physicians throughout the country. The final meeting for organization and election of officers was called for March 12, at Liège. Dr. L. Merveille, editor of the *Gaz. Med. Belge*, has been a leading spirit in the matter.

Scotland's Consumption Sanatoria.—According to *The Lancet* of March 17, The Orphan Homes of Scotland and the Consumption Sanatoria of Scotland form, at the present time, a group of 58 buildings on an extensive site near the Bridge of Weir, within easy access of Glasgow. About two years ago the founder of the former erected a building for the poorer classes of phthisical patients, some distance from the orphanages, but for females only. It has thirty beds and is so full that more than forty suitable cases are waiting for admission. Each patient consumes about three pounds of butcher's meat (weight before cooking) daily, with fish, ham, milk, eggs, fruit, etc., in addition. The cost per person is about $2 a week. A second similar sanatorium is to be opened to accommodate forty, also for females. Admission is free and none but necessitous patients are eligible. With an average residence of four months, it will then be possible to treat about 240 a year.

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[2] Deutsche Med. Woch., 1892, No. 33.

[1] Journal of Path. and Bact., 1899, vi., 28.

SUNSTROKES IN MARCH.—The extreme heat prevailing in portions of South America this month has been reported by cable. The *Semana Medica*, just arrived, states that in Buenos Ayres there were 93 deaths from sunstroke on March 3; 134 the next day, and 27 on the 5th—a total of 254 deaths out of 427 succumbing to the heat and the effect of the "hot north wind," in three days. The temperature was not as high as in some other places; 104 degrees was the extreme, while at Rosario the mercury rose nearly to 110, but there were only a very few fatalities. At Buenos Ayres the deaths seemed to be due to suffocation, and the syndrome resembled more that from over-exertion in sport. Most of the subjects were workmen employed out of doors, but in a number of cases the patients had been attacked while at home, quiet, not making the slightest effort. The editorial suggests that possibly the excessive perspiration may have induced autointoxication by reducing the quantity of urine, as the poisons ordinarily excreted in the urine are not thoroughly eliminated through the skin, as fifty times more sweat than urine is required to eliminate the same amount of poisons. A number of common heart and nervous troubles were also aroused to fatal exacerbations by the heat.

PROGRESS OF THE PLAGUE.—According to the *British Medical Journal* of March 17, the total number of deaths in Bombay City, during the week ending February 20, was 2701, or 64 more than the preceding week and 1380 more than the corresponding periods in the preceding five years. The plague deaths of the week numbered 641, or 71 more than the previous week. The present plague epidemic has been in evidence sixteen weeks, which is three weeks longer than the previous epidemics. Of the 2793 deaths in Bombay during the sixteen weeks 5018 were due to plague. The disease is also increasing in Nagpur. There were 10 deaths there February 16. Calcutta also shows an increase, the deaths increasing from 24 on February 16, to 40 on February 21. Reports from Hongkong are that the efforts of the sanitary authorities to destroy the rats in the city of Victoria have been more or less unsuccessful, only 36 of those animals being brought in during the month, while 157 rat traps were issued. In Japan, on account of a few cases of plague continuing to occur in several of the cities, a small sum has been offered to persons bringing in dead rats. Three fresh cases of plague were reported in Sidney, Australia, March 12, 15 persons having been attacked since the outbreak, with 6 deaths. In Mauritius, [illegible] new cases with 7 deaths were reported for the week ending March [illegible]

PENNSYLVANIA.

DR. WILLIAM [illegible] gave a reception and banquet to the members of the [illegible] County Medical Society at his home, March [illegible], in commemoration of his golden anniversary [illegible]

Philadelphia.

[illegible] for the benefit of the Germantown Hospital, was held on March 24.

THE FOLLOWING physicians have been appointed medical inspectors of the public schools: H. W. Hassell, Miller of Colwyn, [illegible]

DR. JOHN V. SHOEMAKER recently gave a dinner in honor of Dr. L. Blanc of Aix-les-Bains. Others present were: Drs. Ernest Laplace, Charles W. Burr, Frank Woodbury, W. C. Hollopeter, E. B. Gleason, George W. Pfromm, Joseph K. Weaver and H. Halberstadt.

DR. JOHN MADISON TAYLOR recently delivered a lecture before the Philadelphia Nurse Supply and Medical Dispensary, on "A Short Course in Nursing."

THE THIRD lecture of the series now being given for the benefit of the Cuban Orphan Society was delivered by Dr. Edward Martin, the evening of the 21st, on "Immediate Treatment of Some Emergencies."

THE SUM of $100 has been given the Jewish Hospital, and $50 to the Jewish Foster Home, by Miss Emily Phillips, who makes this contribution annually.

AN ILLUSTRATED lecture on "Paris and The Exposition" was given by Mr. Charles H. Adams, the 26th, for the benefit of the Pay Hospital for Contagious Diseases.

THE SEVENTEENTH annual report of the Philadelphia Polyclinic shows a gain of $6030.79 over the former period. Over 24,000 patients were treated, the majority charity.

STUDENTS OF the different classes of the University have on foot a movement looking toward the establishment of a dispensary for their use in connection with the Southwestern Dispensary of this city.

A SEVERE explosion and fire in a building adjacent to the Jefferson Medical College Hospital occurred March 22. It killed one person, wounded twelve others and seriously menaced the hospital building, though but one patient was injured.

THE SUM of $3000 has been given the following named institutions: University of Pennsylvania Hospital, Jefferson Hospital, Southeastern Dispensary for Women and Children, and the Women's Directory, from the Charity Ball of 1900.

MARYLAND.

DR. J. W. HERING, comptroller of the State of Maryland, delivered a lecture to the students of the Western Maryland College, Westminster, Md., on the 17th, on the government of the state, executive, judicial and legislative. Dr. H. has been connected with the College since its inception in 1866, first as secretary and now as president of its board of trustees.

Baltimore.

DRS. JOHN RUHRÄH and Melvin S. Rosenthal, lately connected with the Quarantine Station here, sailed for Europe March 21, on the *Hanover*.

DR. WILLIAM OSLER has been confined to his bed for some days with la grippe, which, however, so far presents no serious symptoms.

THE NAME of the Second Hospital for the Insane at Sykesville has been changed by act of the legislature, to Springfield State Hospital.

THE COMMITTEES of the two branches of the legislature have voted down the request of the three medical schools, noted in THE JOURNAL of March 17, p. 699, for an appropriation.

THE FOLLOWING physicians have been appointed coroners of the city: Jos. Saunders, Otto M. Reinhardt, Wm. M. Requardt, Wm. T. Riley, John C. Witshire, C. Frank Jones, John H. Scalley and Silas Baldwin.

DR. LEWELLYS F. BARKER, of the Johns Hopkins Hospital, delivered an illustrated lecture on the Philippines, March 26, for the benefit of the Clifton Mothers' Mission, Northeast Baltimore. A musical program was rendered, in which Dr. B. Merrill Hopkins, baritone; Dr. Philip Ogden, accompanist, and others, took part.

THE MORTALITY for the week ended March 17 embraced the following diseases: pneumonia, 42; bronchopneumonia, 10; consumption, 29; influenza, 8; heart disease, 16; Bright's disease, 15. The death-rate was 22.49 per 1000, showing the usual proportion of two of the negro population to one of the white.

SHIPPING OF THE DEAD.

The body of a colored man, en route from Philadelphia to St. Mary's County, Md., was stopped by the authorities of the Baltimore & Ohio R. R., who refused to allow it to be removed from the station without a burial certificate from Health Commissioner Bosley. The casket was marked "contagious." It is learned that an agreement has been entered into by the Pennsylvania and Maryland health authorities, making a state permit from Pennsylvania sufficient for carrying a body through Baltimore for burial in any portion of Maryland, and the undertakers and the railroads have been so notified.

RABIES.

A DEATH from rabies at the City Hospital's Pasteur department, has been reported—that of a boy from Roanoke, Va., aged 9, who was bitten on the head and left shoulder, February 1, by a buldog. He was brought to Baltimore three days later. February 5, after receiving only one treatment, he was taken home by his father, because he had been vaccinated and it was taking severely. The removal was against the advice of Dr. N. G. Keirle, chief of the laboratory. Brought back to the hospital February 25, the disease developed March 14, with vomiting and pains in the head, and the boy died in great agony on the morning of the 17th. This is the first death in more than 100 cases treated at this institution, since its establishment, April 14, 1897. The rabbits inoculated from the dog developed rabies February 20, and the lad's father and physician were at once notified, but too late to allow the preventive treatment, death occurring three days before the completion of treatment and eighteen before the establishment of immunity, which means the production of sufficient antitoxin to antidote the toxin.

OHIO.

DR. W. G. COOPER, first assistant physician of the Toledo State Hospital, has resigned to resume general practice.

THE HEALTH report of the Columbus city schools, for the month of February, shows that 3877 cases of sickness were reported, of which 2000 were sore throat, headache and unclassified diseases. The largest number of cases of one disease was that for measles, there being 248.

ACCORDING to the annual report of the Youngstown Health Department, the total mortality was 848. There were 352 cases of typhoid fever reported and 54 deaths. The health officer urges the rapid completion of plans for a better water-supply, and recommends the passage of a suitable ordinance regulating the disposal of garbage.

Cincinnati.

DR. H. J. WHITACRE left the latter part of this month for a four-months' trip abroad.

DR. CHARLES F. BEESON, resident surgeon to the Cincinnati Hospital, who went west some months ago for his health, has again resumed his duties.

DR. E. O. MCKEE has sailed for Naples via Azore Islands and Gibraltar. He will visit the Paris Exposition.

DR. WILLIAM SIMON, professor of chemistry in Johns Hopkins University, gave a lecture with practical tests, on "Liquid Air," March 22.

DR. W. E. LEWIS, professor of anatomy in the Cincinnati College of Medicine and Surgery, will begin his annual course of lectures on anatomy, April 4. These lectures are designed to be of a practical and semipopular character, to meet the needs of those of both sexes interested in this branch from the standpoint of medicine, dentistry, midwifery, art, physical culture and calisthenics.

THE PRESENT legislature will be asked for an appropriation of $25,000 for the erection of additional buildings for the branch hospital established for the treatment of consumptives, as the hospital is becoming overcrowded. If the bill is passed the cottage plan will be adopted.

DR. ROBERT T. MORRIS, of New York City, delivered an address on appendicitis before the Cleveland Medical Society, March 23.

THE TRUSTEES of Lakeside Hospital have received $5000 from Mr. and Mrs. Harvey H. Brown for the endowment of a bed in the hospital to be designated as the "Brown bed."

ILLINOIS.

THE TRAINING school for nurses, in connection with St. Anthony's Hospital, Rock Island, has been opened.

DR. E. A. FOLEY, of the Northern Illinois Hospital for the Insane, Elgin, has been promoted to the vacancy caused by the resignation of Dr. Lucius Foote, second assistant physician.

THE SUM of $50,000 has been presented to the Evanston Hospital by Mrs. Herman D. Cable. Half of the amount is to be used for the erection of the Herman D. Cable memorial building. The other $25,000 is to be devoted to the maintenance of a children's ward as a memorial to the donor's daughter.

Chicago.

THE CHICAGO Woman's Club has inaugurated a movement to establish a hospital which will include in its course of instruction the training of women for the work of the Red Cross Society.

THE WILL of Dr. E. L. Holmes was admitted to probate March 26. The estate is valued at $55,000, of which $50,000 is personal property. It was directed by the testator that all of the estate should be converted into cash as soon as possible, and divided in equal shares among his five children.

THE REPORT of the superintendent of compulsory education on medical inspectors of schools from February 19 to March 16, shows that 21,404 examinations were made during this period. The reports of the individual medical inspectors show that the number of cases of mumps has largely increased, while there is a decrease of scarlet fever and diphtheria.

EXCLUSION OF PUPILS.

The authority of the Board of Education to exclude pupils from the schools under the medical inspection act was upheld in the superior court, March 26. Some weeks ago a child returned to school after an absence of several days, and presented a certificate from a physician stating that the child was free from contagious or infectious disease. The certificate was not accepted by the Board, as the examination had not been made by an official examiner, and admission to the school was refused. The parent then applied for a writ of mandamus to compel admission to the school without an official examination, which was denied by the court. An appeal to a higher court has been taken.

MORTALITY STATISTICS.

During the past week there were 640 deaths, which is the greatest number ever recorded during any week in the history of the city, according to the Bulletin of the Health Department. This increased mortality is attributed to influenza, which has been prevalent since last fall. Although only 4 deaths are recorded from this affection alone, it is reported as a fatal complication in the majority of the 159 deaths from pneumonia, the 72 from consumption, the 54 from heart disease, and the 154 of persons over 60 years of age. The Department reports a great laxity in the preventive care of la grippe, and states that the infectious character of the disease does not seem to be recognized. It also calls attention to the prevalence of smallpox and urges the vaccination of those who are unprotected.

INDIANA.

DR. ERIC CRULL has been appointed a member of the Fort Wayne pension examining board, vice Dr. Herman A. Duemling, resigned.

IT IS reported that the Board of State Charities is preparing a recommendation to the state legislature relative to the establishment of an epileptic colony.

THE ANNUAL report of the Deaconess Hospital, Evansville, shows that 253 patients were treated during the past year. The receipts were $9011 and the disbursements $8956.

A GRADUATE from a school of hypnotism has applied to the State Board of Medical Registration for license to practice the art in "curing" all diseases.

MINNESOTA.

ONE HUNDRED patients from the State Hospital for the Insane, at St. Peter, were transferred to the new asylum at Anoka, March 14.

THE PROPOSITION to vote $10,000 for a public hospital was adopted by a large majority in the municipal election at Owatonna, March 13.

DURING THE past week the sum of $2500 has been contributed to the Winona Hospital, for the purpose of liquidating a debt of $4,000

WORK ON the new building of the Asbury Hospital in Min repairs will be commenced at an early date. Over $1500 is in the hands of the treasurer of the fund.

THE BECKER County Infirmary at Detroit was destroyed by fire March 18. All of the patients, eleven in number, were rescued. The building and contents were valued at $7000; there was $5000 insurance.

DRS. C. L. [illegible], St. Paul; W. E. [illegible], Wabasha, and C. O. [illegible], Madelia, have been appointed members of the State Board of Inspectors of Insane Hospitals. Drs. Louis A. Fritsche, New Ulm, and C. J. Ringnell, Minneapolis, have been appointed to the State Medical Board.

VESSEL OWNERS in the cities are being petitioned to subscribe to the fund for enlarging St. Luke's Hospital in Duluth. There is no marine hospital in that city, and all sailors are cared for at St. Luke's, which is inadequate for their care. The citizens of Duluth have raised $30,000 but lack $10,000, which the marine men are asked to make up.

NEW YORK.

A BILL was passed by the Assembly on the 22d chartering the New York State Medical Association.

THE SLATER bill to permit members of the Women's Prison Association to visit public institutions for women has been defeated by a vote of 59 to 45 in the Assembly.

THE EXTENSION of the consumption ward of the Erie County Hospital, Buffalo, was burned March 21. There were sixty patients in the ward when the fire occurred, all of whom were removed without injury.

IT IS reported that among the bills passed by the legislature is one by Assemblyman Henry, to improve the public health of New York City by a systematic endeavor, under the supervision of the Department of Parks, to preserve the trees, and plant and cultivate trees in the city streets. A similar bill was presented at the last session, but failed.

DRUG CLERK'S BILL.

It is understood that the reason the drug clerks' bill for shorter hours failed to be advanced was that political opposition was aroused by the clause providing for the enforcement of the act by the State Factory Inspector instead of by the City Board of Health. Governor Roosevelt is heartily in favor of the bill, and says he would be willing to allow the inspection to be done by the City Board of Health if by so doing the passage of the bill could be insured, but he would prefer the original provision.

PURE BEER BILL.

The pure beer bill, previously mentioned in THE JOURNAL, seems to have been favorably received so far in the legislature, although the brewers have opposed it. Assemblyman Stevens, who introduced the bill, says he can not understand why the brewers should be injured when all that was asked of them in this bill was that they be honest. The bill provides that all beer containing any material other than pure barley, malt, pure hops, pure extract of hops, pure yeast, pure water, or pure cereal products, made only of wheat or corn, shall be branded as "inferior."

TENEMENT-HOUSE LEGISLATION.

Bills have been introduced into the Senate by Mr. Stranahan, and into the Assembly by Mr. Fallows, which are strongly backed by the organized charities. Their object is to secure some much-needed reforms in our tenement houses. The necessity for such legislative intervention was recently pointed out and strongly emphasized by the interesting and instructive exhibit of the Tenement-House Committee of the Charity Organization Society. These bills authorize the governor to appoint a tenement-house commission to make a careful investigation into the construction of tenements, rentals, the effect of these houses on the health and morals of their occupants, and kindred problems. The present tenement-house laws are greatly in need of revision.

New York City.

DURING THE month of February the United Hebrew Charities received 4209 applications for relief, representing about 14,000 persons. In 942 cases relief was refused for cause. In addition to the above figures, monthly allowances were given to 380 cases. Work was found through the employment bureau for 233, and the average attendance at the industrial school was 193 girls.

A SMALLPOX CASE.

A student of Columbia University (School of Law) is ill with smallpox, at first thought to be measles. The announcement of his condition was a prelude to a wholesale vaccination, which the health authorities at once undertook. The Dean gave notice that all who would not submit to vaccination at that time would be prohibited from coming on the grounds of the University. Most of the faculty and many of the students of the other departments have already been vaccinated. Three or four students who had been to visit the patient before the nature of his malady was known have been excluded from the University until able to show a clean bill of health from the inspectors of the Health Department.

STATISTICS OF RABIES TREATMENT.

The record of the New York Pasteur Institute, founded in December, 1889, shows that during its first decade 1367 cases have been treated, with 19 deaths, 3 of the latter being before completion of treatment, and 7 within fifteen days after its completion. According to the rule established by Pasteur, these 10 are therefore to be excluded, making the mortality 9. Of the patients, 154 were bitten on the head or face, 746 on the hands and 467 on other parts of the body. In 1287 the wounds were inflicted by dogs, in 70 by cats, in 5 by man, in 2 by horses, in 2 by cows and in 1 by a polecat. In 447 instances the animals inflicting the wounds were proved rabid by inoculation into rabbits or guinea pigs. In 268 cases the animals were declared rabid by clinical or veterinary examination. In the remaining 652 the animal had disappeared or had been killed, in each instance action leading to the suspicion of rabies.

DISTRICT OF COLUMBIA.

HEALTH OF THE DISTRICT.

The report of the health officer for the past week gives the total number of deaths as 130, of which 96 were white and 34 colored persons. At the close of the week there were 30 cases of diphtheria and 65 cases of scarlet fever under treatment.

Washington.

THE TONER lectures at Georgetown Medical School began on the 22nd inst., by a lecture by Surgeon-General George M. Sternberg, on the "History and Etiology of the Bubonic Plague."

DR. JOSEPH M. HELLER, formerly resident physician at Garfield Hospital, now acting assistant-surgeon, U. S. A. in the Philippines, has been highly praised by his superior officer for valuable and faithful services rendered the sick and injured soldiers in his charge.

LOUISIANA.

THE MOBILE Bay Quarantine Board has declared quarantine from April 1 to December 1 against Cuba, Porto Rico and Latin America. Vessels from suspected ports will be detained three days; those from ports known to be infected, fifteen days.

New Orleans.

DRS. ALLEN JUMEL and Will H. Woods have been appointed fruit inspectors of the Louisiana State Board of Health, the former going to Bocas Del Toro, the latter to Port Limon.

DAIRY REGULATION.

War is being waged here against filthy dairies. A large proportion of the dairies have been found to be unhygienic in their management, the water-supply to the cows coming from wells situated near the manure piles and the family water-closets—uncemented. Two dairymen are being prosecuted by the attorney for the city board of health.

MICHIGAN.

THE STATE Board of Medical Examiners met in Detroit on March 20, for the examination of twenty-five candidates desiring to practice in the state.

THE CONTRACT has been awarded for building two cottages for the Upper Peninsula Hospital for the Insane, Newberry. The buildings will cost about $38,000.

CONNECTICUT.

AT A recent meeting of the Bridgeport Medical Association a resolution was adopted excluding newspaper reporters from its meetings.

THE MEDICAL Examining Committee held a meeting in New Haven, March 13. Ten candidates desiring to practice in the state were examined.

COLORADO.

Denver.

DR. I. B. PERKINS and several other prominent workers identified with the Baptist churches in Denver are endeavoring to transform the Baptist college building, which has never been completed, into a well-equipped sanatorium for consumptives. The grounds embrace nearly thirty acres, in an admirable location.

FUMIGATION OF PULLMAN CARS.

Health Commissioner Carlin intends to have the board of aldermen adopt a sanitary measure of wide-reaching import, one requiring the Pullman sleepers, compartment, and other dormitory cars which enter the city to be fumigated daily with formaldehyde before departure. Consumptives come to Denver daily in sleeping cars which are occupied the next day by healthy persons on outgoing trains. Although the linen is supposed to be changed daily, a careless porter may neglect this, and infection may result. The blankets, mattresses and curtains are never changed. The Commissioner hopes that the Pullman Company will not object to the movement, which is intended as a measure of protection to the health of its patrons.

CALIFORNIA.

DR. C. W. EVANS, Modesto, has been re-elected physician of Stanislaus County.

A CHINAMAN suffering from leprosy has been discovered and isolated by the health officers of Los Angeles.

THE FUNSTON Sanatorium Association proposes to build a sanatorium at North Ontario, for sick and disabled soldiers and sailors of the late war.

AT A meeting of the Oakland Board of Education, March 19, a resolution was introduced debarring consumptive teachers and pupils from the public schools. Action was deferred until the next meeting of the Board.

IN HIS annual report to the Board of Managers of Agnews State Hospital for the Insane, the superintendent recommended the erection of three additional cottages for the better accommodation of the less violent patients.

CONSUMPTIVES' HOME.

Frederick Sellick, a Santa Monica organist and composer, has formulated a plan for the establishment of a home for consumptive organists, in Southern California. Of the $14,000 needed, over $7000 has been provided, through the personal efforts of Mr. Sellick, who has given the proceeds of numerous recitals for the benefit of the project.

SAN FRANCISCO'S PLAGUE.

Since the first case of bubonic plague was discovered in the Chinese quarter, three bodies have been found, all, the city bacteriologist thinks, dead from the same disease. These cases are apparently being concealed, for when they were reported to the authorities they were in an advanced stage of decomposition, and concealment was no longer possible. The first of these three suspects was found in a very much bloated condition, the tissues greenish-black, macerated and soft. The heart walls were thin and the ventricles distended with gas and blood. The spleen was enlarged, and there was turbid fluid in the pericardium and peritoneum. A bacillus was found in the blood, pericardial fluid, and spleen, morphologically identical with the bacillus pestis. The second body showed the same general appearance as the preceding one, but decomposition had not advanced so far. The heart walls were thin, though there were no valvular lesions, there was an excess of fluid in the pericardium; the left ventricle was empty, but there was a little blood in the right. The lungs were congested. The spleen was not enlarged. There was evidence of peritonitis. The blood contained the same bacillus found in the preceding case. In the third instance the body had the same general appearance, and the blood from the heart showed the same bacillus. The smear preparations from the spleen, which was also enlarged, also showed the same bacillus. There was considerable peritonitis in this case. Rats and guinea-pigs were inoculated with cultures made from all these cases, and one rat died on the morning of the 22d, thirty-six hours after inoculation. The city bacteriologist thinks that this rat died as a result of an excessive amount of toxins formed in the material injected. The other animals, at the present writing (March 23), are alive. The board of health has been making a house-to-house inspection of the infected district and with a largely increased force, composed of twenty-five physicians, seventy-five inspectors and fifty policemen. The entire district can thus be inspected in one day, and the inspection will be repeated from day to day until such time as the board believes the danger has passed. J. M. Williamson, president of the board of health, says there is no use evading the issue, the Chinese quarter is infested with plague. Every nook and cranny in the district will be ferreted out, and the whole neighborhood drenched with disinfectants. Suspicious cases will be isolated and their development awaited. The sewer system of the quarter, comprising 3½ miles of sewer, will be antisepticized, flushed and fumigated.

WISCONSIN.

THE STATE Board of Medical Examiners completed its session in Milwaukee, March 22, and issued licenses to 2800 practicing physicians. About 200 physicians have failed to comply with the law, and each is subject to a fine of $500.

WISCONSIN LEAGUE OF MEDICAL LICENTIATES.

Pursuant to a call, a number of Wisconsin physicians met at Milwaukee, March 6, as a temporary executive committee, to prepare for and call a convention for the purpose of forming the Wisconsin League of Medical Licentiates. The objects of this League are: 1. To unite the licensed physicians of the state into an association which may assist in securing a thorough revision of the present medical laws and an endeavor to so formulate them as to make them more effective in the accomplishment of the legitimate purposes they were intended to serve. 2. To encourage all duly qualified physicians to obtain licenses and join the league. Membership qualifications were fixed at "the possession of a license" issued by the Wisconsin Board of Medical Examiners, and being "engaged in the practice of our profession as resident physicians in a strictly ethical manner." A convention is called to meet at Milwaukee, June 22, 1900, at 2 p. m., at the Plankington House, to form a permanent organization. The secretary-treasurer is J. V. Stevens, Jefferson.

TENNESSEE.

THE PREVALENCE of influenza is reported throughout the state. Reports from several counties show over 3500 victims.

THE TENNESSEE Medical College at Knoxville will erect a new building to cost $8000, on the site formerly occupied by the college which was recently destroyed by fire.

CANADA.

DR. P. J. L. BISSONNETTE, M.L.A. for Montcalm, has been appointed a member of the Provincial Board of Health of Quebec.

AN ANTIVACCINATION meeting in Victoria, B. C., last week, conducted by a "reverend Christian scientist," broke up in a free fight.

THE PROVINCIAL Insane Asylum of Manitoba is very much overcrowded; the grand jury advises increased accommodation.

THE SISTERS of the Hotel Dieu, Montreal, are to be given a considerable strip of the Mountain Park property for hospital purposes.

DR. J. J. GIBB WISHART, Toronto, has been appointed laryngologist to the Muskoka Cottage Sanitarium, Gravenhurst.

THE CANADIAN ARMY MEDICAL SERVICE.

The control which politics exercises over our military affairs has recently been well evidenced in the circumstances leading up to the recall of Major-General Hutton. From one end of the country to the other, all the government organs, major and minor, without any true conception of the attending circumsances of the points at issue, have applauded the government's action, although in military and more especially medical military circles its action has been considered most unwarrantable. Confidence engendered for better things in the future has thus been destroyed "at one fell swoop," and it is stated that hope has given way to bitter disappointment, despair and even anger. Shortly after the withdrawal of General Hutton, an order was issued from the militia department which states "that hereafter any medical officer may be compelled to recoup out of his own pocket any expense to which the public may be put on account of transport, etc., of a recruit who turns out subsequently to be unfit for service, physically." The attention of the Hon. the Minister of Militia, himself a medical man, has been drawn to this order, as it is understood that it may have emanated from a less responsible source.

UNIVERSITY OF TORONTO AND MEDICAL COLLEGES OF ONTARIO.

It is a long time since such intense feeling has been abroad amongst the profession in this city and province as that precipitated the other day by the introduction into the local legislature of a bill, by Dr. Angus MacKay, M.L.A., of the greatest importance to every medical college affiliated with Toronto, which is the provincial university. In order to put the whole matter in a fair and honest light before the readers of this journal it will be necessary to go back in medical history to the year 1887, when the old Toronto School of Medicine, by special act, became the medical department of the University of Toronto. At that time amalgamation of Trinity and Toronto was mooted, but on mature and careful consideration it was deemed impracticable and unpractical, as, even if carried out, the medical department of the provincial university would still have consisted of one teaching faculty alone, and would therefore have been as non-provincial in its character as it is now claimed to be, as not one of the other teaching medical faculties of the province would have any voice in the governance of the institution. However, the act was at that time passed through the legislature, and the medical department of Toronto University or the provincial university set up and constituted, depriving the provincial university of its provincial character. Something like five or six years ago, the agitation for the nullification of this legislation lapsed to a certain degree, to break out afresh on the introduction of the bill referred to at the outset. The proposition of Dr. MacKay, who, by the way, is a strong supporter of the present government, and equally strong in the confidence of the government, is as follows: It will provide that the medical department of the provincial university—which now consists of one set of medical teachers only—shall, after the passing of the act, consist of the medical faculties of all medical colleges, or medical schools, affiliated with the University of Toronto; also, that the examining board for degrees in medicine in the provincial university shall consist of an equal number of examiners, selected from each teaching medical college or school in affiliation with the University. These examiners shall be recommended to the senate by the respective teaching bodies to which they belong; also, that each affiliated medical college or school shall have *one*, and only *one* member, who shall represent it in the university senate, who shall be named by the body he represents—this is to secure equality of representation in the senate. Under the existing state of affairs, it is felt to be a great wrong to the other medical colleges, that one should have been especially selected by the legislature in 1887 to constitute the medical department of the University, thus shutting out all the others from taking any interest in the University of their own province, although they contribute just as much, more, in fact, to the state aid extended to the University. Just why the provincial university should be de-provincialized in this manner, will tax the ability of the adherents to the medical department as at present constituted to answer. Prior to 1887, students in large numbers from the respective medical colleges of the province went up to the University for their examinations to receive the degree of M.B. from the provincial university, but since that date all this has been changed, and for the very reason that the students of the other colleges would hardly care to be examined by the teachers of a rival school, as all the examiners heretofore have been chosen from members of the faculty of the medical department of the University or from its adherents. A further reason lies in the fact that the curriculum of the University required a course in biology, which certain of the other colleges deemed unnecessary, and in this respect would not comply with the curriculum of the University. Now, it has been claimed, on the part of the medical department of the provincial university, that these examiners were all appointed by the senate alone and that the medical faculty had no voice nor say in the matter, that the senate had the power to appoint whom they saw fit. Surely, if this be the case, it is an admirable argument in favor of a change, as a senate so partisan—no doubt composed of many of the medical department—that they would not in all this time appoint an examiner from any but their own department, needs rapid reorganization. Of course, Trinity Medical College and the Woman's Medical College, Toronto, come in for a good deal of adverse criticism at the hands of the medical faculty or, to be precisely correct, at the hands of some of the medical faculty of Toronto University, as being the prime instigators of this legislation. However that may be, it is not for us to say, but a leading member of the medical faculty of the provincial university in the numerous interviews appearing in the daily city press has given out that he will welcome closer relations with the other colleges of the province, although totally opposed to one particular in the bill, and that is the creation of a new medical department from all the medical faculties of the medical teaching bodies in the province. In connection with the proposed change in the status of the medical department, the educational committee of Trinity Medical College, consisting of leaders in the profession in the city, viz., Drs. W. B. Geikie (the Dean), Luke Teskey, John L. Davidson, N. A. Powell, George A. Bingham, and D. J. Gibb Wishart, has issued a circular letter to the profession throughout the city and province calling their attention to the advantages and the fairness of the proposals of the legislation, disclaiming any idea of wishing to obtain any special favors for their college, but simply as an act of justice to all the medical colleges and to the provincial university itself, as if such legislation becomes law, the University will profit by it to the extent of fees derived from other medical students who would go up for their examinations at the provincial university. It is further cited on behalf of the educational committee of Trinity Medical College that in so far as her arts department is concerned, the provincial university is really provincial, as she has a cluster of independent arts colleges, teaching, closely connected with her, each of which with its own faculty is doing its own work in its own way; and it is on these lines that the committee would have the medical colleges placed. Trinity Medical College, affiliated by special act of the provincial legislature by unanimous voice, with the provincial university, is also affiliated with Trinity University, a non-state-aided institution, and it is from this latter source that all the students of Trinity Medical College and the vast majority of those from the Woman's Medical College have received their degrees since 1887, the disadvantages of going before a rival faculty prohibiting the students of Trinity seeking degrees from the provincial university. True, each year, a dozen or a score of Toronto students present themselves before the examining board of Trinity University, mostly constituted from Trinity's faculty, but the reason of that is that these students from Toronto desire to secure at once the degree of M.D., C.M., which Trinity University grants, so as to have something in addition to the Bachelor of Medicine which Toronto bestows. The bill of Dr. MacKay is up for its second reading the coming week, and there is likely to be stirring times among the profession for some time to come.

Pemphigus of Mucous Membrane and Consequent Adhesion of Soft Palate.—G. Avellis reports the fourth case on record of adhesion of the soft palate in consequence of pemphigus limited to the buccal cavity. He suggests that possibly it may have occurred oftener and been ascribed to syphilis. (*Munch. Med. Woch.*, March 6.) He cured the case by gradual dilation with a set of Hegar's dilation sounds, bent to suggest an S, after severing the adhesions. The patient continued the dilations for four months, six to ten times a day, until the stenosis was completely conquered and he could blow his nose and breathe through it freely, the first time in five years.

Book Notices.

THE CRIMINAL: HIS PERSONNEL AND ENVIRONMENT. A Scientific Study. By August Drähms, Resident Chaplain State Prison, San Quentin Prison, San Quentin, Cal. With an Introduction by Cesare Lombroso, Professor of Psychiatry, University de Torino, Italy. Price $2. Cloth. Pp. 402. New York. The MacMillan Co. 1900.

This work is written by the chaplain of the California State Prison, and is an interesting study of crime by one who has certainly had a chance for observation. The author considers crime as a social disease, but we can hardly say with him that it is not a misfortune, at least in one important significance of the term. There is a debatable territory between the mental and moral phases of the problem as it hedges on the material, not entirely cleared up by the author's studies, as he admits. The subject of his observations on the criminal type in the order given are: the instinctive criminal, the habitual criminal, the single offender, recidivation or relapse or repeated criminality, the increase of crime, the juvenile offender and hypnotism and crime. His conclusions are such as will be generally accepted. He believes in the reformatory idea where practical, but his opinions are not expressed too dogmatically. His ideas in regard to the relation of alcohol to crime will certainly suit the reformers of the present day, though he is clearly not a prohibitionist, since he considers the South Carolina system an ideal one. The book shows quite extensive reading on this subject, but a notable omission is that of all reference to the papers of Dr. E. S. Talbot, who has perhaps done more scientific work on criminal anthropology than any other man in this country. Drähms appears not to have been aware of their existence. The introduction of the work by Lombroso is most complimentary to the author and an excellent send-off to the work.

THE NERVOUS SYSTEM OF THE CHILD: ITS GROWTH AND HEALTH IN EDUCATION. By Francis Warner, M.D., F.R.C.P., F.R.C.S., Physician to and Lecturer at the London Hospital. Cloth. Pp. 233. Price $1. New York: The MacMillan Company. 1900.

This is a work specially written for teachers, and in particular those who have the care and training of young children. It is one, however, the reading of which will be profitable also to the physician whose duties overlap in this respect those of the teacher and parent. The proper evolution of the child, the training him up in the way he should go, has been too often a haphazard or merely routine proceeding, and such an aid as this present volume ought to be welcome. It takes up only a point of the general subject of child training, that in relation to the school and education, but one that is a sufficiently extensive field. The author has given special attention to the hygienic aspects of education, and noted particularly where the functions of the teacher and the physician are interrelated. Child study, while in its present aspects comparatively a new study, is one that is worthy of the fullest attention of our profession, and this book is one that is in many ways suggestive to the thoughtful physician.

A TREATISE ON SURGERY. By American Authors for Students and Practitioners of Surgery and Medicine. Edited by Roswell Park, A.M., M.D., Professor of the Principles and Practice of Surgery and of Clinical Surgery in the Medical Department of the University of Buffalo, Buffalo, N. Y. Condensed edition, with revisions. With 625 engravings and 37 full-page plates in colors and monochrome. Cloth, $6, net: leather, $7, net. Philadelphia and New York: Lea Brothers & Co. 1900.

This condensed edition of Park's "Surgery by American Authors" is the evident result of a call by the profession for a briefer but equally authoritative and valuable treatise. The earlier edition in its two-volume form has already been noticed in THE JOURNAL, and its merits acknowledged. The present work, while abridged, has also been revised, though no extensive changes have been required or made. It will not supplant the larger work for those who wish its fuller information, but it will have a larger circulation among the mass of the profession, which will be insured, if by nothing else, by the difference in price.

Association News.

Railroad Rates for the Atlantic City Meeting.—The Committee on Transportation will shortly report on railroad rates to the meeting of the ASSOCIATION in June next. Considerable correspondence has been carried on and the Committee expects to be able to announce the final action of the railroad associations shortly.

National Legislative Conference.—At a recent meeting of the Legislative Committee of the AMERICAN MEDICAL ASSOCIATION, consisting of Drs. H. L. E. Johnson of the District of Columbia, William H. Welch of Baltimore, and W. L. Rodman of Philadelphia, it was decided, in consequence of the prolonged session of Congress, to defer the meeting of delegates in general conference until later in the session. It was definitely decided to call the delegates to meet in Washington on May 1 and 2, so their meeting will correspond with that of the American Physicians and Surgeons. Due notice will be sent to each. The Committee regrets to announce that the following state and territorial societies have so far failed to nominate or appoint a delegate to this important conference: Alabama, Arizona, Arkansas, California, Colorado, Delaware, Georgia, Idaho, Indian Territory, Iowa, Kansas, Louisiana, Maine, Massachusetts, Michigan, Minnesota, Mississippi, Montana, New Hampshire, Nevada, New Mexico, New York, North Dakota, Oregon, South Carolina, South Dakota, Tennessee, Utah, Vermont, Virginia, Washington, Wisconsin and Wyoming.

Section on Stomatology.—The following is the program of this Section for the next meeting of the AMERICAN MEDICAL ASSOCIATION:

SYMPOSIUM ON DENTAL EDUCATION.

1. Relations of Dental and Oral Surgery to General Medicine: Professional Status of Properly Educated Practitioners of Dental and Oral Surgery. N. S. Davis, Sr., Chicago.
2. Preliminary Qualifications. J. Taft, Cincinnati, Ohio.
3. Course of Study. W. A. Evans, Chicago.
4. Methods of Teaching—Didactic or Recitational. A. H. Peck, Chicago.
5. Shall the Dental Student be Educated Independently of General Medicine? G. V. I. Brown, Milwaukee, Wis.
6. Is Medical Education a Necessary Qualification for Dental Practice? Alice Steeves, Chicago.
7. Practical Value of a Medical Education in Dental Practice. W. B. Hill, Milwaukee, Wis.
8. Technical Training versus Theoretic. John S. Marshall, Chicago.
9. Should the Medical Undergraduate be Instructed in the Principles of Dentistry? M. L. Rhein, New York City.
10. Post-Graduate Study in Dentistry and Degrees Therefor. W. E. Walker, Pass Christian, Miss.
11. Handwriting on the Wall: What Does It Portray? A. E. Baldwin, Chicago.
12. Limitations. Eugene S. Talbot, Chicago.

SYMPOSIUM ON INTERSTITIAL GINGIVITIS OR SO-CALLED PYORRHEA ALVEOLARIS.

13. Etiology. G. Lenox Curtis, New York City.
14. Neurotic Affections. J. G. Kiernan, Chicago.
15. Indigestion Autointoxication. Eugene S. Talbot, Chicago.
16. Chemical Factors in Etiology. W. L. Baum, Chicago.
17. Constitutional Treatment. J. H. Salisbury, Chicago.
18. Local Treatment. M. H. Fletcher, Cincinnati, Ohio.
19. So-Called Glands in the Peridental Membrane. M. H. Fletcher, Cincinnati, Ohio.
20. Evolution of Decay Continued. Arch C. Hart, San Francisco, Cal.
21. Co-operation of Public Schools in Teaching. Good Teeth, Good Health. Whatever We Wish to See Introduced into the Life of a Nation Must First Be Introduced Into Its Schools. Richard Grady, Baltimore, Md.
22. (Subject to be announced). Vida A. Latham, Chicago.

Detection of Blood for Forensic Purposes.—Ipsen states in *Viert. f. Ger. Med.*, 1, that potassium acetate and alcohol applied to the suspected blood and left to digest at a temperature of 38 to 40 C., will form alkaline hematin if blood is present, easily recognized with the spectroscope.

Deaths and Obituaries.

Richmond A. Lewis, Richmond, Va., died March 18. He was born in 1824 and was graduated from Transylvania University in 1847. He was a member of the Medical Examining Board of Virginia for several years, and was at one time a professor in the Medical College of Virginia. He served as surgeon of the Twenty-first Virginia Regiment during the Civil War.

Robert M. Girvin, M.D., Philadelphia, died March 17, aged 64 years. He was a graduate of Jefferson Medical College, class of 1862, and one of the founders of the Presbyterian Hospital, a member of the College of Physicians and of the Philadelphia County Medical Society.

John D. Leckie, M.D., principal of Grammar School No. 22, and a graduate of the Baltimore Medical College, Baltimore, Md., died March 20. He was about 56 years old, served three years in the Confederate service, and suffered, up to the time of his death, from a wound received in one of the battles in the Virginia Valley.

John F. Jackson, M.D., died at his home in Richmond, Va., March 16. He was born in Richmond in 1825, and was graduated from Jefferson Medical College in 1847.

J. W. McDonald, M.D., Jackson, Tenn., died March 16, aged 35. He served during the late war as assistant-surgeon of the 4th Tennessee regiment.

Amy S. Barton, M.D., Philadelphia, died March 19, aged [illegible] years. She was a graduate of the Woman's Medical College of Philadelphia, class of 1874.

John R. Church, M.D., of Aylmer, Quebec, died recently. He was 41 years of age, and a graduate of McGill University.

I. C. Brown, M.D., Columbus Junction, Iowa, March 21. He was a graduate of Jefferson Medical College, class of 1861.

We also note the following deaths:

Israel S. Bigelow, M.D., Buncombe, Iowa, March 21, aged 81.

William Megee, M.D., Rushville, Ind., March 17, aged 40 years.

James H. Green, M.D., Seymour, Ind., March 19.

T. H. James, Cheraw, S. C., March 16.

DEATHS ABROAD.

Lorenzo Brun, professor of surgery at Turin, and Senator.—Dr. T. Sauer, of Bonn, from autopsy lesion.—Dr. Nieberding, of Varel, in his 97th year.

Miscellany.

Masturbation in a Nursling.—Dr. Landa reported, at a recent meeting of the local medical society at Santiago de Chile, that he has observed a 9 months' girl babe who made rhythmic movements of the pelvis against its mother's side, for three minutes, terminating in a condition of complete relaxation. He has observed two other cases of evident masturbation in nurslings.

Technique of Diazo Reaction.—Burghart calls attention to the fact that ingestion of iodin and tannin and of creosote occasionally, will abolish the diazo reaction, likewise the presence of phenol in the urine. In cases of unexpected absence [illegible] there may be an unusual amount of phenols, and they should be taken out with amyl alcohol. The urine then will frequently give the expected diazo reaction.

Zomotherapy.—Héricourt and Richet reported, at the meeting of the Paris Academy of Sciences, February 26, that in the course of research in respect to the action of raw meat in the therapeutics of tuberculosis, they found that the only active principle in the meat in this case is the muscle plasma, not the pulp. It is therefore the principles soluble in water which represent the active portion of meat. It is not a phenomenon of alimentation, as the quantity of nitrogen in the plasma is very insignificant, but rather, an immunizing action analogous to that of animal products inoculated into the veins. It is an actual muscle opotherapy, and they propose for it the term "zomotherapy."

Orthopedic Institute at Naples.—The Italians are taking high rank in their orthopedic work. The Duchess of Ravaschieri has given funds to construct and endow an orthopedic institute at Naples which is to be a model of its kind, following the outlines of the similar institute at Bologna. The surgical hospital for children at Naples is a previous gift of the duchess to the municipality. The orthopedic institute is to have three departments entirely separated: one elegantly fitted up for well-to-do patients; another for persons with moderate means, and a third free to the poor. Another department has charge of the construction of orthopedic appliances and will be prepared to fill orders from outside. Dr. A. Curcio is physician-in-chief.

Carbon Dioxid for Disinfecting Ships.—According to the *Canadian Jour. of Med. and Surg.*, March, Dr. Apery of Constantinople intends to make scientific use of an accidental discovery in disinfecting holds of vessels. A seaman on the *Polis Mytilini* died of bubonic plague. When disinfection was being carried out afterward, no dead rats were found until, in removing some casks of fermenting molasses, large numbers dead from inhaling its carbon dioxid fumes were discovered beneath the casks. The Doctor therefore advocates placing an apparatus for generating carbon dioxid in vessels' holds, when the air at the bottom will be displaced by this heavier gas, and the lowest portions being filled with this, the rodents will be asphyxiated. Repeating the generation two or three times on alternate days will, it is believed, secure certain results, as the rats, beginning to be inconvenienced by lack of oxygen, become paralyzed and die on the spot.

Improved Physiologic Solution with Natrium Saccharate.—A. Schuecking announces, in the *Therap. Monatsheft* of December, 1899, that infusion of a solution of natrium saccharate neutralizes or renders harmless, in some way, the accumulating carbon dioxid in the blood, which he considers the cause of the accidents in uremic and septic conditions. He is now testing it internally, and has already established that it has a tonic effect on the heart, and will even make the isolated heart of a frog commence to pulsate anew sixteen hours after it has stopped beating. He finds a .03 per cent. solution of natrium saccharate with .6 per cent. salt the most effective combination. He relates a number of observations in which immediate relief and prompt recovery followed the subcutaneous injection of 250 grams, after the same amount of salt solution had been injected without effect, one a case of post-abortum vomiting, in the second day; others were acute anemia, and various uremic and septic accidents.

Prophylaxis of Malarial Infection.—Di-Mattei describes a series of experiments in regard to malarial infection, which he observes are the first on man carried out with all the precision of a true scientific experiment. The railroad authorities afforded him every facility, and for thirty-five days last fall he had five healthy young men from Catania, who had never been in a malarial region, conveyed after their day's work, to Valsavoja, the most notorious malarial district in the country, arriving at dusk, spending the night in the car sheds and taken home the next morning. Every person residing at Valsavoja, connected with the railroad, was infected with malaria, but none of the five subjects experienced the slightest ill effect from the experiment. Those persons who smeared themselves with turpentin to drive away mosquitoes also escaped malarial infection. He states that mosquitoes in the "dead angles" of cars may be a source of infection, and adds that they can be easily destroyed when they are attracted to the lights at certain hours.

The New Bibliographica Medica.—The success of such an undertaking, which seems to be flourishing—now that medical literature has assumed such vast proportions—is only possible with the facilities afforded by some such institution as the Institut de Bibliographie, which combines a library, a press-clipping bureau, a card catalogue of periodical and other current literature, a catalogued collection of illustrations from books and current literature, also of abstracts, summaries, *résumés* of articles and works in literature, and a collection of unpublished articles, drawings, MSS. and photographs, and a printing and engraving plant. All the articles in the Institut are circulating, that is, loaned to subscribers on demand. It was conceived and founded by Dr. Marcel Baudouin on his return from our Columbian Exposition and is unique in the world, although it is being imitated now in Switzerland and Belgium, where similar institutions have recently been founded. Its scope is international science, but it is especially equipped for the medical sciences.

Expenses of Army Medical Department in Philippines.—The cost of the war in the Philippines has been given officially in a statement of expenditures by the U. S. War Department covering the military operations in the Philippine Islands and including outstanding liabilities, so far as can be determined, for the period from May 1, 1898, to Nov. 1, 1899. The information was sent to Congress in response to a resolution passed Jan. 30, 1900. The total amount reported is, in round numbers, $49,000,000, and of this sum the charge against the medical department is $1,206,137.13. The *Army and Navy Register* of March 17, in discussing the various items constituting the total, compliments Surgeon-General Sternberg in the following terms: "The expenditure under the medical department is another surprise. It is entirely to the credit of the Surgeon-General of the Army that his admirable administration of his well-organized and efficient department in the Philippines has been conducted at no greater cost. This economy does not in any sense approach parsimony, and there is no evidence that the health of the troops has suffered, or the wants of the sick and injured have been ignored on account of any false harboring of public funds under the medical department."

Iowa Medical and Legislative Comments.—The effect of organization in the medical profession is well illustrated by the events recently in progress in Iowa. We can best demonstrate this by the following quotation from the *Iowa Medical Journal*, February, quoting the *Des Moines Leader*:

There can be little question that, in proportion to his number, the Iowa medical practitioner is about the liveliest citizen of this commonwealth when it comes to mixing himself in affairs of state which directly affect him; even the lawyers, who are presumed to have a copyrighted privilege of running political and legislative affairs, have to take a back seat when the doctors come forward and undertake to do or prevent the doing of something. The doctors furnished a speaker of the House from among their number, and they have within the past few days been giving some excellent pointers to other classes of legislative managers.

Senator Hayward introduced a harmless looking bill to allow graduates of the state university medical department to be admitted to practice without the formality of examination. At present the law requires that all applicants for the right to practice in Iowa must be examined by the State Board of Medical Examiners, sitting in Des Moines, and must pay a $20 examination fee. The medical students at Iowa City wanted this changed. They maintained that if the state university was worthy of its name, its diplomas ought to be prima facie evidence of ability to practice. Accordingly, Senator Hayward introduced their bill, to do away with the examination for university graduates. It was favorably reported in the upper House, and seemed to have a smooth road.

And then the doctors mixed. They did not propose to accept any institution's diploma as prima facie evidence, or any other kind of evidence. They insisted that everyone must pass an examination. They did not propose, either, that the state university medical department should be given special benefits in this way, and other medical colleges be denied them. They set about to instruct the legislature as to public opinion in this matter. The legislature had never suspected that there was any opinion on the subject; it scarcely had an opinion of its own. But the doctors soon convinced it. Remonstrances came in from all over the state! they came singly and in bunches, and in basketfuls; some of them were mailed and some were sent by express; still others came in person. Delegations of physicians and representatives of medical college faculties swooped down on the legislature. The reading clerks of the two Houses almost lost their voices reading the titles to petitions, protests and remonstrances. The Senate had caused all the trouble but the House had to suffer with it. The doctors were directing things and the petitioners were doing the rest. The Senate relented; it recommitted the bill, and yesterday afternoon the committee decided on a new report, which preserves the examination requirement, but reduces the fee to $10 and requires the Board of Examiners to meet at the seat of each medical college. In this form the bill will likely pass. But it occasioned the most remarkable and rapid crystallization of public opinion that has been known for a long time. The doctor, when he finds his interests concerned, is all on one side; he gets together and makes himself felt. The Senate now understands something the House learned a couple of sessions ago, after toying with the Prentis homeopathy bill: that the doctor is very active when he gets started: and that he is liable to start suddenly.

From the same source, quoting the Keokuk *Gate City*, we also take the following:

About every other time the name of a member of the legislature is used it has the prefix of doctor. In no state in the Union are the doctors so active in politics as in Iowa. Everywhere they are natural politicians, but in Iowa they get more for themselves, while in other states they seem more content to help the other fellow. The doctor, especially in the country districts and smaller towns, is close to the people, knows what they are thinking, and has a chance to talk to them and air his own views and learning, and it is the most natural thing in the world that he should make a good representative and be trusted in the legislature by the same people who trust him with their lives.

These extracts show what the physician can do and we venture to say that legislation other than medical will be safe in having the physician take such a prominent part in it. Of course there is a danger of the doctors becoming politicians, but if they restrict their actions to subjects of professional interest this objection will be a very insignificant one. Doctors are generally good citizens. They are nearer the people than almost any other class, and there is no reason why they should not be good legislators and speak on matters where their knowledge and qualifications are in demand. The example of the Iowa physicians should be followed in every state in the Union and then we would hear less of some of these frauds and public nuisances that are so prominent at the present time.

BOOKS AND PAMPHLETS RECEIVED.

Acknowledgement of all books received will be made in this column, and this will be deemed by us a full equivalent to those sending them. A selection from these volumes will be made for review as dictated by their merits, or in the interests of our readers.

BOOKS.

Diseases of the Nose and Throat. By J. Price Brown, M.B., L.R.C.P.E., Member of the College of Physicians and Surgeons of Ontario. Illustrated with 159 Engravings, Including 6 Full-Page Color Plates and 9 Color Cuts in the Text. Extra Cloth, $3.50 net. Philadelphia, New York, Chicago: F. A. Davis Company. 1900.

Irrigation Treatment of Gonorrhea. Its local complications and sequelæ. By Ferd. C. Valentine, M.D., Professor of Genito-Urinary Diseases. Illustrated by 57 Engravings. Muslin, $2 net. New York: William Wood & Co. 1900.

Ohio Medical Society. Transactions of Fifty-fourth Annual Meeting, held at Springfield, Ohio, May 10, 11, 12, 1899. Edited by P. Maxwell Foshay, M.D., Cleveland.

Transactions of Medical Association of State of Alabama. Session at Mobile, April 18-21, 1899. Montgomery, Ala.: Brown Printing Co. 1899.

Transactions of Medical Society of New Jersey. 1899. Newark, N. J.: L. J. Hardham. 1899.

The Soul of Man. By Paul Carus, M.D. Second Edition, With 182 Illustrations and Diagrams. Paper, pp. 482. Price $.75. Chicago: Open Court Publishing Co. 1900.

PAMPHLETS.

Case of Blastomycetic Dermatitis Engrafted on Syphilitic Ulcers. By Henry G. Anthony, M.D., and M. Herzog, M.D., Chicago. Reprinted from Jour. of Cut. and Genito-Urinary Dis.

Case of Cerebral Hemorrhagic Pachymeningitis with Pseudobulbar Palsy. By Chas. W. Burr, M.D., and D. J. McCarthy, M.D., Philadelphia. Reprinted from Jour. of Nervous and Mental Dis.

Diabetes and Its Constitutional Treatment. Functional Gastric Diseases and Their Treatment. Sleeplessness, Its Causes and Treatment. Differential Diagnosis of Neurasthenia and Its Treatment. By Elmore S. Pettyjohn, M.D., Alma, Mich. Reprints.

Diagnosis of Nervous Syphilis. By Charles W. Burr, M.D., Philadelphia. Reprinted from University Med. Mag.

Fatal Perforation of Uterus Partially Adherent Post Partum. Medicolegal Case. By C. S. Bacon, M.D., and M. Herzog, M.D., Chicago. Reprinted from Am. Jour. of Obstet., Etc.

[illegible] Theory of the Neurone. By J. N. Upshur, M.D., Richmond, Va. Reprints.

Hospital Reports, San Francisco Polyclinic. Three Cases of Ectopic Gestation. Torsion of Pedicle of Ovarian Tumor With Acute Symptoms. By Henry J. Kreutzmann, M.D., San Francisco. Reprints.

How Far Has Specialism Benefited the Ordinary Practice of Medicine? [illegible] Diseases of the Skin. By L. Duncan Bulkley, A.M., M.D., New York City. Reprints.

Notes on [illegible]. A Study of Recent Literature. By [illegible] M. [illegible], B.S., M.D., Chicago. Reprinted from Medicine.

[illegible] a Factor in Post-Operative Ileus. By H. O. Pantzer

M.D., Indianapolis, Ind. Reprinted from Am. Jour. of Obstet., Etc.

PATHOGENESIS OF FUNCTIONAL NERVOUS DISEASES AND THEIR [illegible]. By John Punton, M.D., New York City. Reprinted from Medical Record.

[illegible]. By W[illegible] O. Nance, M.D., Chicago. Reprints from the Chicago [illegible].

PROCEEDINGS OF PATHOLOGICAL SOCIETY OF PHILADELPHIA, February, 1900. Paper. Published by the Society, 1900.

SIGNIFICANCE OF [illegible]. By H. O. [illegible], M.D., Memphis, Tenn. Reprinted from Memphis Lancet.

[illegible] SANATORIUM [illegible], N. Y. Reprinted from Phil. Med. Jour.

TWENTY-[illegible] ANNUAL REPORT OF MANAGERS AND OFFICERS OF N. J. STATE HOSPITAL AT M[illegible], for the Year Ending Oct. 31, 1899. Trenton, N. J.: [illegible] & Quigley, 1899.

A [illegible] OF OPHTHALMOSCOPY. By William F. C[illegible], B.S., M.D., Chicago. Reprints.

X-RAY [illegible] IN PULMONARY DISEASES. By J. Edward Stubbert, M.D. Reprinted from Philadelphia Med. Jour.

ESSENTIALS OF [illegible]. A Practical Guide to the Clinical Examination of the Blood for Diagnostic Purposes. Illustrated. Paper. Yonkers, N. Y.: Palisade Manufacturing Co., 1900.

[illegible] MATERIA MEDICA. Presented to Physicians with Compliments. Yonkers, N. Y.: New York Pharmacal Association.

Queries and Minor Notes.

SHALL A "RANK ADVERTISER" BE DEFENDED?

PITTSBURG, PA., March 19, 1900.

[illegible] is a member of the regular profession, either medical or dental, who is in good standing in the societies, justified in testifying in cases of malpractice suit in behalf of a rank advertiser? I should be pleased to have a brief answer in the next issue of the Journal. Very truly yours,

S. L. McC.

ANSWER.—The question is too categorical for a direct answer, [illegible] "No."

The Public Service.

ARMY CHANGES.

Movements of Army Medical Officers under orders from the Adjutant-General's Office, Washington, D. C., March 9 to 15, 1900, inclusive:

[illegible], major and surgeon, U. S. A., member of examining boards in Washington, D. C., and Fort Meyer, Va., relieving [illegible], U. S. A.

Emilio F. Cabada, acting asst.-surgeon, from Denver, Colo., to [illegible].

R. E. Caldwell, acting asst.-surgeon, leave of absence from the [illegible] extended.

[illegible], major and surgeon, U. S. A., from the Division [illegible] N. Y.

[illegible] D. [illegible], major and surgeon, Vols. (captain and asst.-surgeon, U. S. A.), surgeon 11th Cavalry, U. S. V., honorably discharged from the volunteer service on tender of resignation, to take effect March 14, 1900.

Charles E. B. Flagg, captain and asst.-surgeon, U. S. A., relieved from [illegible] at San Francisco, Cal., and assigned to duty [illegible].

[illegible], major and surgeon, U. S. A., from Fort [illegible], to San Francisco, Cal., and thence to Manila, P. I., for duty in the Department of the Pacific and 8th Army Corps.

Philip F. Harvey, major and surgeon, U. S. A., member of a board [illegible] officers for promotion.

James M. Kennedy, captain and asst.-surgeon, U. S. A., member [illegible] San Francisco, Cal.

[illegible], lieutenant and asst.-surgeon, U. S. A., from [illegible] *Missouri* to duty with troops on the first available [illegible] Manila, P. I., reporting on arrival for duty in the Department of the Pacific and 8th Army Corps.

[illegible], acting asst.-surgeon, from Slayton, Minn., to the [illegible].

[illegible]ey, acting asst.-surgeon, from the hospital ship *Missouri* [illegible] with troops on the first available transport leaving [illegible] I., reporting on arrival for duty in the Department [illegible] 8th Army Corps.

[illegible] Merrill, major and surgeon, U. S. A., from Fort Totten, N. Y., to San Francisco, Cal., and thence to Manila, P. I., for duty in the Department of the Pacific and 8th Army Corps.

[illegible]

[illegible] H. R. 9707 [illegible] has been introduced into the House of Representatives by Mr. McClellan, of [illegible] provisions, so far as they relate to the medical department [illegible]

[illegible] medical corps shall consist of one chief surgeon [illegible] rank, the pay and allowances [illegible] the relative rank, the pay and [illegible] relative rank, the pay [illegible] and fifty hospital [illegible] of hospital stewards [illegible] the prescribed examination, be [illegible] provided [illegible].

Acting assistant surgeons may be appointed by the chief surgeon, with sanction of the Secretary of War and under such regulations as may be prescribed by him, for temporary service whenever imperatively necessary, at a compensation not to exceed $150 per month: Provided, That no one shall be appointed until he shall have passed a satisfactory professional, mental, moral and physical examination.

The number of medical officers in service under existing laws is 192. Mr. McClellan, therefore provides for an increase of 305 officers, to comprise 4 colonels, 10 lieutenant-colonels, 60 majors, and 235 captains and lieutenants.

NAVY CHANGES.

Changes in the Medical Corps of the United States Navy for the week ended March 17, 1900.

Asst.-Surgeon B. L. Wright, commissioned assistant-surgeon from May 13, 1899.

Asst.-Surgeon R. W. Plummer, commissioned assistant-surgeon from June 17, 1899.

Asst.-Surgeon O. M. Eakins, commissioned assistant-surgeon from Oct. 31, 1899.

Asst.-Surgeon H. E. Odell, commissioned assistant-surgeon from Nov. 8, 1899.

Asst.-Surgeon J. S. Taylor, commissioned assistant-surgeon from Nov. 8, 1899.

Asst.-Surgeon E. Davis, commissioned assistant-surgeon from Nov. 21, 1899.

Surgeon O. Diehl, detached from the naval recruiting rendezvous, Philadelphia, Pa., and ordered home and to wait orders.

P. A. Surgeon C. H. T. Lowndes, ordered to the Naval Academy, March 14.

Asst.-Surgeon F. E. McCullough, order of March 8, detaching from the *Nero* and ordered to the *Philadelphia* immediately.

Asst.-Surgeon T. M. Lippitt, detached from the *Baltimore* and ordered to such other duty on the Asiatic station as the commander-in-chief may assign.

Pharmacist F. Wood, detached from the Washington navy yard and ordered to be examined, March 15, for retirement, and thence home and to wait orders.

P. A. Surgeon C. F. Stokes, detached from the Naval Hospital New York and ordered to the *Buffalo*.

P. A. Surgeon B. R. Ward, detached from the *Independence* and ordered to the Naval Hospital, Mare Island, Cal.

P. A. Surgeon C. D. Brownell, detached from the *Solace* and ordered home and to wait orders.

Asst.-Surgeon R. Spear, detached from the *Constellation* and ordered to the Naval Hospital, New York.

Asst.-Surgeon O. M. Eakins, detached from the Naval Academy and ordered to the *Buffalo*.

Asst.-Surgeon J. T. Kennedy, ordered to the *Independence*.

Asst.-Surgeon J. Stepp, detached from the Naval Hospital, Mare Island, Cal., and ordered to the *Solace*.

MARINE-HOSPITAL CHANGES.

Official list of the changes of station and duties of commissioned and non-commissioned officers of the United States Marine-Hospital Service for the 7 days ended March 15, 1900:

P. A. Surgeon H. S. Geddings, to assume temporary charge of the hygienic laboratory.

P. A. Surgeon G. B. Young, granted leave of absence for four days from March 20.

P. A. Surgeon H. S. Cumming, to proceed to Millboro, Va., for special temporary duty; then to rejoin station.

Asst.-Surgeon C. W. Wille, upon being relieved from duty at Boston, Mass., to proceed to the Cape Charles quarantine station and report to the medical officer in command for duty and assignment to quarters.

Acting Asst.-Surgeon B. W. Goldsborough, granted leave of absence for 5 days from March 15.

Hospital Steward F. A. Southard, relieved from duty at the port of New York City and directed to proceed to Baltimore, Md., and report to the medical officer in command for duty and assignment to quarters.

Hospital Steward C. A. Warhanik, upon being relieved from duty at Baltimore, Md., to proceed to New York City and report to the medical officer in command for duty and assignment to quarters.

CHANGE OF ADDRESS.

Alford, J. M., from Gallman to Fernwood, Miss.
Bird, J. H., from 102 S Ewing to 511 N. Garrison, St. Louis, Mo.
Bixby, J., from Kansas City Mo., to Diller, Neb.
Bettman, B., from London, England, to 2522 Michigan Ave., Chicago, Ill.
Cone, D. E., from Binghampton, N. Y., to 938 S. Main, Fall River, Mass.
Cutzmeyer, C. H., from Iowa City to Waverly, Iowa.
Carver, S. C., from 413 Ogden Ave, Chicago, to Winterset, Iowa.
Dowell, G. S., from Kansas City to Chillicothe, Mo.
Evans, M. H., from Spring Valley, Ill., to Joplin, Mo.
Harbeck, J. H., from Cuernaraca, Mexico, to Boulder, Colo.
Lodge, A. V., from Kansas City, Mo., to Erie, Kan.
McVicker, W. D., from Kansas City, Mo., to McPherson, Kan.
McPherson, O. P., from Kansas City, Mo., to McPherson, Kan.
Marty, L. A., from Kansas City to Jamestown, Mo.
Miller, Wm., from Rio Grande to Vinton, Ohio.
Marvel, H. V. from 4612 Cedar to 5046 Baltimore Ave., Philadelphia, Pa.
Miller, C. B., from Keats to Scranton, Kan.
Omer, W. J., from Kansas City, Kan., to Lamon, Iowa.
Prioleau, W. H., from Thomasville, Ga., to 5 E Battery, Charleston, S. C.
Porter, George, from Kansas City to Lathrop, Mo.
Poole, M. H., from Indianapolis, Ind., to Sanitarium, Battle Creek, Mich.
Reagin, C. G., from DuQuoin, Ill., to Elizabeth, Colo.
Rieman, W. H., from Cass City, Mich., to Millersburg, Ind.
Shaw, J. C., from Topeka to Horton, Kan.
Sjoquist, J., from 23 Ashland Boul. to 603 W. Foster Ave., Chicago, Ill.
Swink, W. T., from Nashville to Jackson, Tenn.
Woodruff, L., from Alton to 2805 W. Broad, Columbus, Ohio.

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